

COLORADO STATE UNIVERSITY AESTHETIC GUIDELINES



Main Campus
South Campus
Foothills Campus

Wallace Roberts & Todd, LLC

October 4, 2006

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EXECUTIVE SUMMARY

Following the adoption of a Strategic Direction and subsequently a Campus Master Plan for Colorado State University’s Main, Foothills and South Campus (Veterinary Research), the campus embarked on an Aesthetic Guidelines Program to prepare design standards and guidelines for campus development and redevelopment. Simply stated, if the Master Plan is the “Why and What” of campus physical development, the Aesthetic Guidelines represent the “How”.

The Aesthetic Guidelines Program is meant to implement the recommendations of the campus master plan by:

- Establishing the framework to incrementally build new facilities.
- Reinforcing the patterns of campus open spaces, edges and features.
- Setting criteria for building composition and materials.
- Developing a consistent palette of site furnishings, including signage, paving, lighting, and furniture (benches, trash, etc.).

The Aesthetic Guidelines Program is intended as a tool to be used in:

- Program development
- Site selection
- Facilities design and construction direction
- Design review and evaluation

Location diagram of the three campuses addressed in the Aesthetic Guidelines.

These Aesthetic Guidelines are divided into five chapters:

I. Introduction, defining the background, purpose, methodology, principles on which these guidelines were developed and how to use them;

II. Main Campus

The Campus Context, discussing the rules for the framework of districts, spaces and connections;

The Campus Composition, establishing the patterns of open space, circulation, and building envelopes;

The Campus Materials, defining the consistent materials for buildings, landscape, and site furnishings;

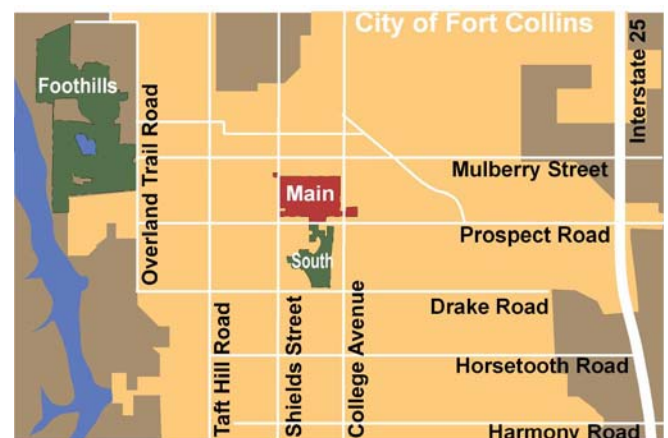
III. South Campus

Following the same format as chapter II, Context; Composition; and Materials.

IV. Foothills Campus

Following the same format as chapter II, Context; Composition; and Materials.

V. Implementation, summarizing actions necessary to move forward in developing the three campuses.



I. INTRODUCTION

A. Background and Purpose

Colorado State University has long been about the land. Following a territorial bill in 1870, and the dedication of up to 110 acres the following year, what is now known as Colorado State University emerged with an agrarian landscape – the seeding of 20 acres of wheat at College Avenue and West Laurel Street. The first significant structure “Old Main” coincided with its 1879 designation as Colorado’s land grant college for agricultural and mechanical arts. Early years of campus development concentrated around the Oval, where 13 of the 14 campus historic buildings remain in use.

World War II veterans and the subsequent “baby-boom” generation sparked an aggressive building program during the 1950s through 1970s. With limited funding and exceptional demand, two and three story residential halls and classrooms sprung up southwest of the Oval. Reflecting the design tradition now referred to as “mid-century” modern, the buildings did not follow the architectural traditions, materials or the siting of those original structures.

Today, many students describe the campus as “open” and “rural” even though the campus’ 451 acres are mostly covered with its 146 buildings, albeit at a relatively low density. The preservation of the historic Oval, the Campus Green and the views west to the foothills all contribute to this tradition of openness that one student even described as “friendly.” While new buildings have reflected the style of their era, they have maintained the low scale development pattern based on the old street grid and implied in the original campus.

With the adoption of the 2004 Campus Master Plan “Foundation for a New Century,” CSU recognizes that change is occurring and that many buildings will either be remodeled, renovated or replaced as

they reach their life expectancy. New buildings will infill interior surface parking lots. The Campus Master Plan establishes the principles for this change but it was recognized that guidelines would be necessary to translate those principles into specific recommendations for site development, composition and use of building and landscape materials.

Rather than maintain the Quadrangle model (similar architecture around a common space, such as how the campus started); or the Matrix model (a collection of disparate buildings in a unified landscape), CSU has emerged as a “University Community” – a campus that has expanded from a small cluster to a framework of buildings along a grid pattern of streets. Much like its host city Fort Collins, CSU has developed main pedestrian malls or streets flanked by buildings of similar mass and scale. The campus’ stylistic variety indicates its progression over time. It has become a **metropolitan** campus and its future development must recognize this evolution while promoting quality and sustainability.

The purpose of these Aesthetic Guidelines is to celebrate CSU’s role as a University Community, improve the overall aesthetic character and visual unity, and create a more cohesive, quality environment. These guidelines form the direction to designers, reviewers and administrators who will oversee the campus evolution.

B. Methodology

The CSU Administration and Campus Facilities Management Department instigated the preparation of the Aesthetic Guidelines in January 2006 per the direction of the Board of Governors. The campus planning and design firm of Wallace Roberts & Todd LLC was hired to facilitate the preparation of the guidelines. The process initiated with an understanding of strategic direction and master planning principles along with a visual survey of the campus environment. Tasks included interviews with the Vice President for Administrative Services and focus group discussions with those interested in campus planning and design (Facilities Development Committee and Department of Landscape Architecture students).

In addition, an open forum was conducted at the Student Union to elicit staff, student and professor opinions on CSU's aesthetic quality. An examination of Design Guidelines and Design Review Boards from other campuses was undertaken. The outline was determined to address campus context, composition, materials and implementation. An intent was developed for each subject and specific recommendations followed. The draft guidelines were then reviewed by Planning Design & Construction staff and the Vice President for Administrative Services.

C. Strategic Direction

The Aesthetic Guidelines Program is fully rooted in the strategic direction for the University as well as the Master Plan for the Campus. Its mission is to reinforce the strategic direction and fulfill the master plan direction.

Colorado State University established a Strategic Direction in August of 2005 entitled "Setting the Standard for the 21st Century". In this document, a vision was formulated: "the Colorado State University System will be the premier system of public higher education in the nation". Goals were established to reach this vision and a number of these goals relate to the physical development plan of the campus.

Goal 34: Master Plan Building Plan

"Maintain and upgrade the overall campus environment. In addition to improved learning and research facilities (Goal 5 and Goal 21) we must maintain a campus environment that meets the needs of a flourishing academic community, including support facilities that range from parking to residential living/learning facilities. This goal will be achieved in ways that complement the aesthetic character and environmental commitment of our campus through a design-review process based on established criteria. Funding will come from a variety of sources: State, Federal, donors, students and users."

D. Principles

From these established campus commitments, the Aesthetic Guidelines presents three over-arching principles that establish the intent and execution:

1. Strengthen CSU's unique sense of place through the design and maintenance of the physical campus environment.
2. Define the Campus Framework as an interdependent system of buildings and gathering places linked by a hierarchical network of circulation and sharing a common palette of materials.
3. Make the campus a model of sustainability through design composition, materials, construction operations and campus maintenance to optimize limited resources and protect our environmental future.

These principles will ensure that the CSU campus maintains and improves its physical character and campus quality. It will reinforce the campus' purpose of uniting diverse people and ideas in a forum that promotes scholarly and social exchange. It will ensure that future decisions regarding the built environment respect the campus context, address the necessary functionality, encourage both the intellect and the community; consider the cost effectiveness and the quality; and advance sustainability for long-term operational efficiencies.

E. How to Use the Aesthetic Guidelines

The design standards and guidelines established in this document build upon the Master Plan recommendations. The two documents should be viewed as companion pieces and not independently. Additionally, these Aesthetic Guidelines are meant to be complimentary and supplementary to the University Building (Design) Construction Standards Manual. This Manual references applicable codes and standards for building projects.

It is the interrelationship between the campus' framework of open space, circulation, and buildings that creates the urban form and physical environment of the campus. Development is typically focused on building projects but the quality and functionality of open spaces are critical to the public realm and life of the campus. Open spaces serve to create an understandable, attractive, and cohesive environment of unifying social spaces. Consistent lines of street trees, pedestrian pavement, and distinct courtyards and plazas all contribute towards these spaces.

While each project must contribute to the character of the campus in a coordinated manner, there are many different ways that an appropriate contribution is realized in detailed design. The guidelines, therefore, are generally expressed in descriptive, qualitative terms that indicate an intended design character that will achieve a necessary addition to the campus' social space. The guidelines leave room for the inventive interpretation by the campus in consultation with planners, designers, architects and landscape architects. The purpose of these guidelines is not to limit the creativity but to ensure that creativity is working in a desired direction and within a range of acceptable choices focused on achieving the goals and objectives of the Strategic and Master Plans.

Together with the Master Plan, the design standards and guidelines make up the design requirements for projects within each campus, from the planning vision to detailed project design. A designer or project reviewer should be familiar with both levels of direction, starting with the Master Plan. Both levels are critical to understanding the context from which the design standards and guidelines were framed, and the significance of these to the intended urban design character of the neighborhoods.

As projects are implemented, design or review of a specific proposal requires decisions on the architectural and landscape details of the project in relation to the design standards and guidelines. In using this chapter, greater emphasis should be placed on effective interpretation of the statements of intent rather than the particular examples used to illustrate how the intentions can be realized.

For ease of use, the design standards and guidelines are presented in six sections, addressing development on the Main Campus, South Campus and Foothills Campus separately. Each section is divided into two parts: 1) Composition, and 2) Materials.

The items identified with a solid box ■ are standards—either required by prescriptive controls that must be met or recommendations that are firm in principle, but nonspecific in detail. Those identified with an open bullet □ are guidelines—concepts that present an opportunity to contribute to the character of the campus, but are not required.

To begin, the first standard is:

- Require all professional design or planning teams, CSU Facilities Management project managers, and members of each development committee or Design Review board to be familiar with the Master Plan, Strategic Plan and the design standards and guidelines prior to the planning and/or approval of a campus development project.

F. Expectations of Design/ Engineering Consultant Teams

The design team is expected to follow the LEED process and use the LEED rating system as a project guide, regardless of the actual requirements set by the University for specific projects (At the start of the project, the University will determine whether a project will be certified under one of the LEED programs and which level is to be achieved). For all projects, the design team is required to organize the design and coordination efforts to follow the intent of an integrated and collaborative design process. The design charrette process shall be integrated to develop and review design alternatives, perform first cost analyses, gain resolution on the project approach, determine the evaluation criteria, and to develop programmatic and sustainable design goals.

II. MAIN CAMPUS

A. Campus Context

The main campus is within defined within the boundaries of College Avenue, Laurel Street, Shields Street and Lake Street. Near the core of Fort Collins the campus shares a town scale that is well suited for further development of multiple use facilities, transit, walking and bicycling.

The following section – B. Main Campus Composition– defines standards and guidelines for these elements followed by materials in section C.



Library Plaza and University Mall is at the crossroads of the main campus. Views of the mountains are framed by Morgan Library and the Lory Theater.

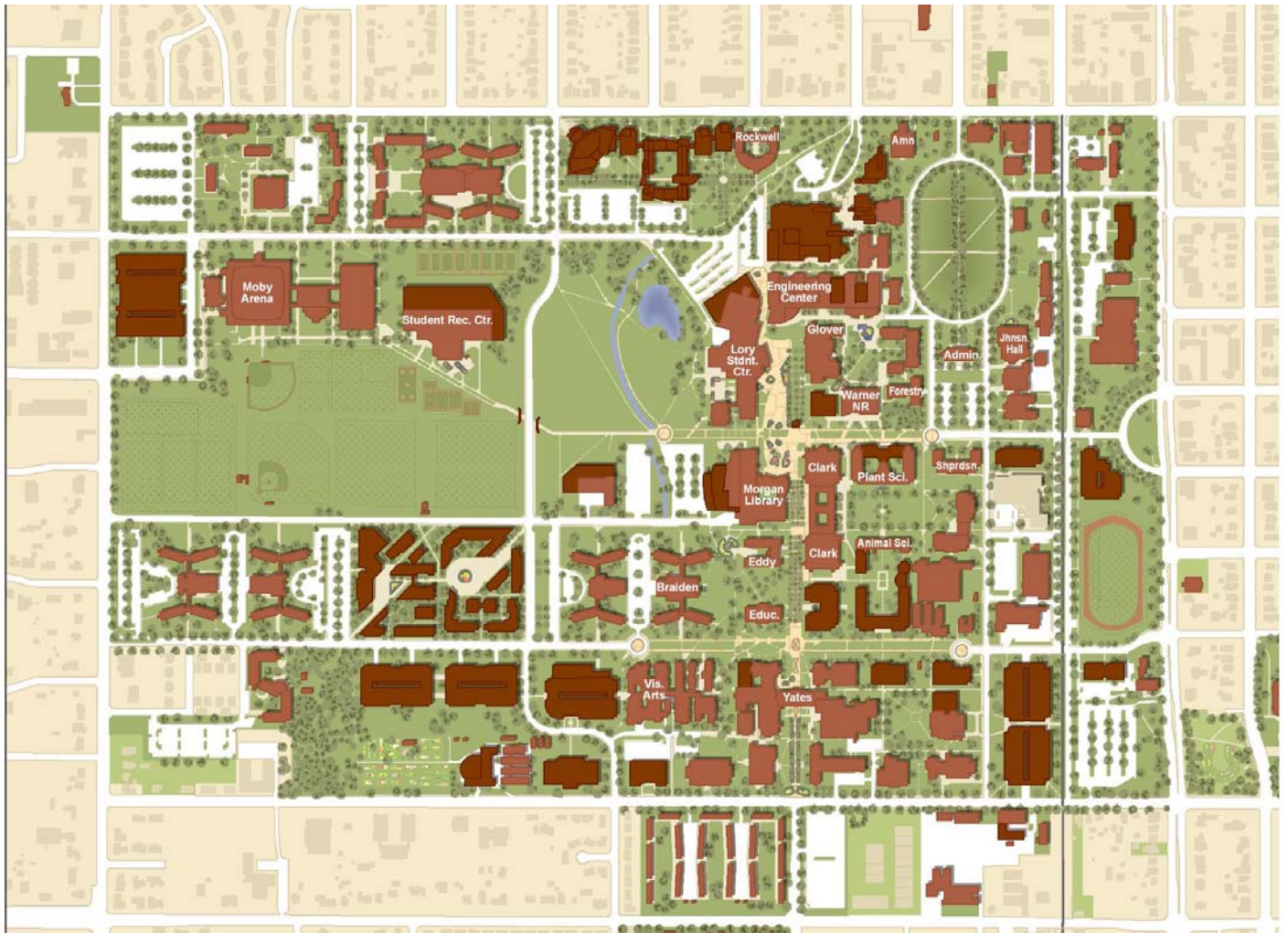


Figure 2.1 The 2004 Master Plan for the Main Campus illustrates existing and planned buildings, open spaces and circulation corridors.



Historic buildings and open space distinguish the northeast corner of the campus.



Residence halls line the athletic fields west of the academic core..



The academic core spans the campus from north to south.

B. Main Campus Composition

The main campus is composed of districts, each having a specific interface with the surrounding community and within the campus. They are distinct not only in architectural style and materials, but in land use, the configuration of open space, and building's relationship to the open spaces and connections. The districts are (see Figure 2.2):

- Historic
- Residential
- Academic
- Athletic
- Support

These districts overlap somewhat in function and character. They are linked by a network of pedestrian circulation corridors. And the facilities and activities of the University's eight colleges are widely distributed across the campus - unconfined by districts. These three factors contribute to the campus character of metropolitan/town - where the collegial exchange of ideas, fundamental to the University, are encouraged by the physical environment.

As the main campus grows, following the 2004 Master Plan, buildings will infill the districts, open spaces will replace surface parking, and the pedestrian spines will be strengthened.

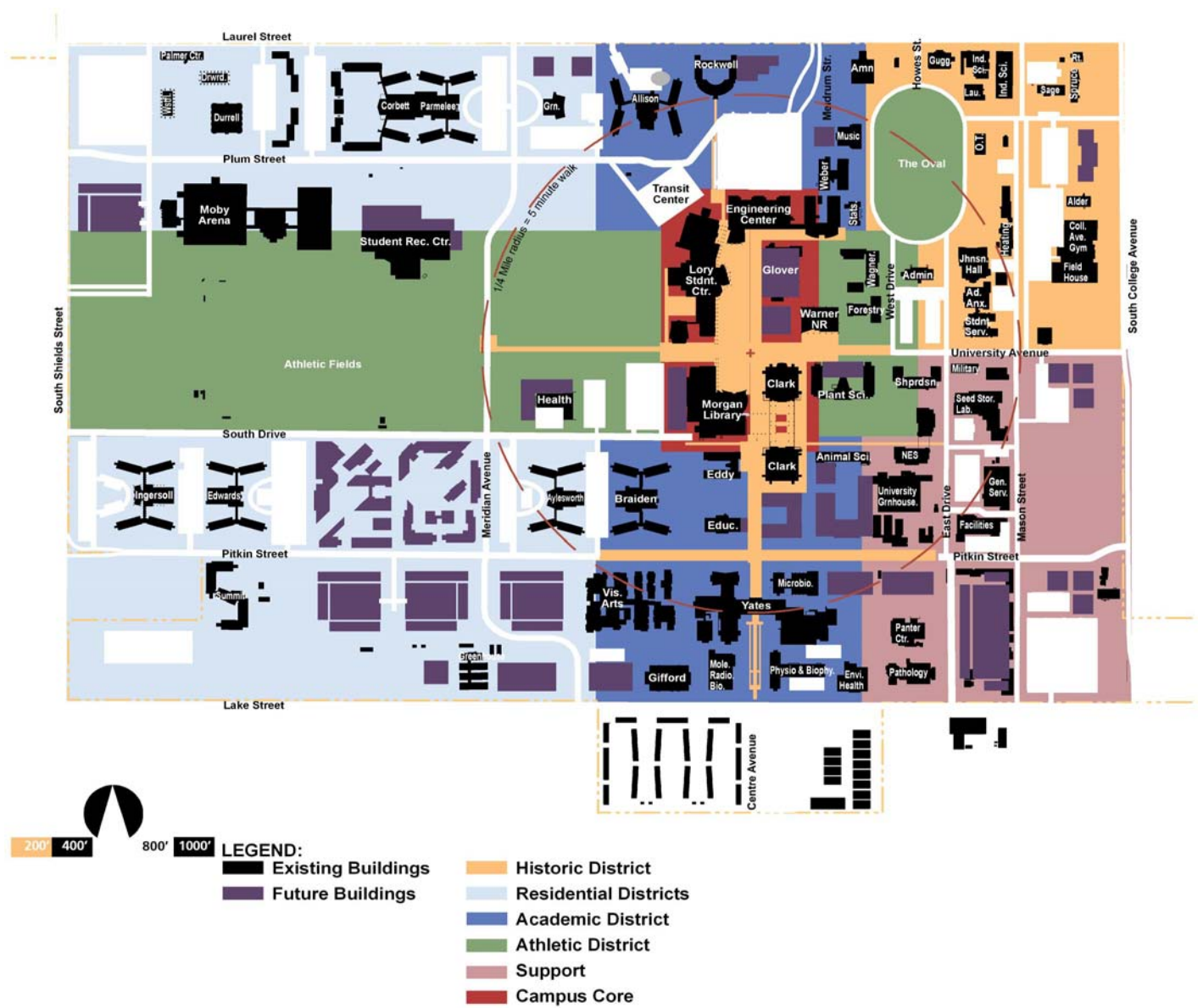


Figure 2.2 Campus Districts

It is the framework of open spaces and connections that link the main campus districts and provide the opportunity to strengthen the character. Buildings house much of the activity of the University and are fundamental to the character and image of the main campus.



The trees and broad lawn along College Avenue

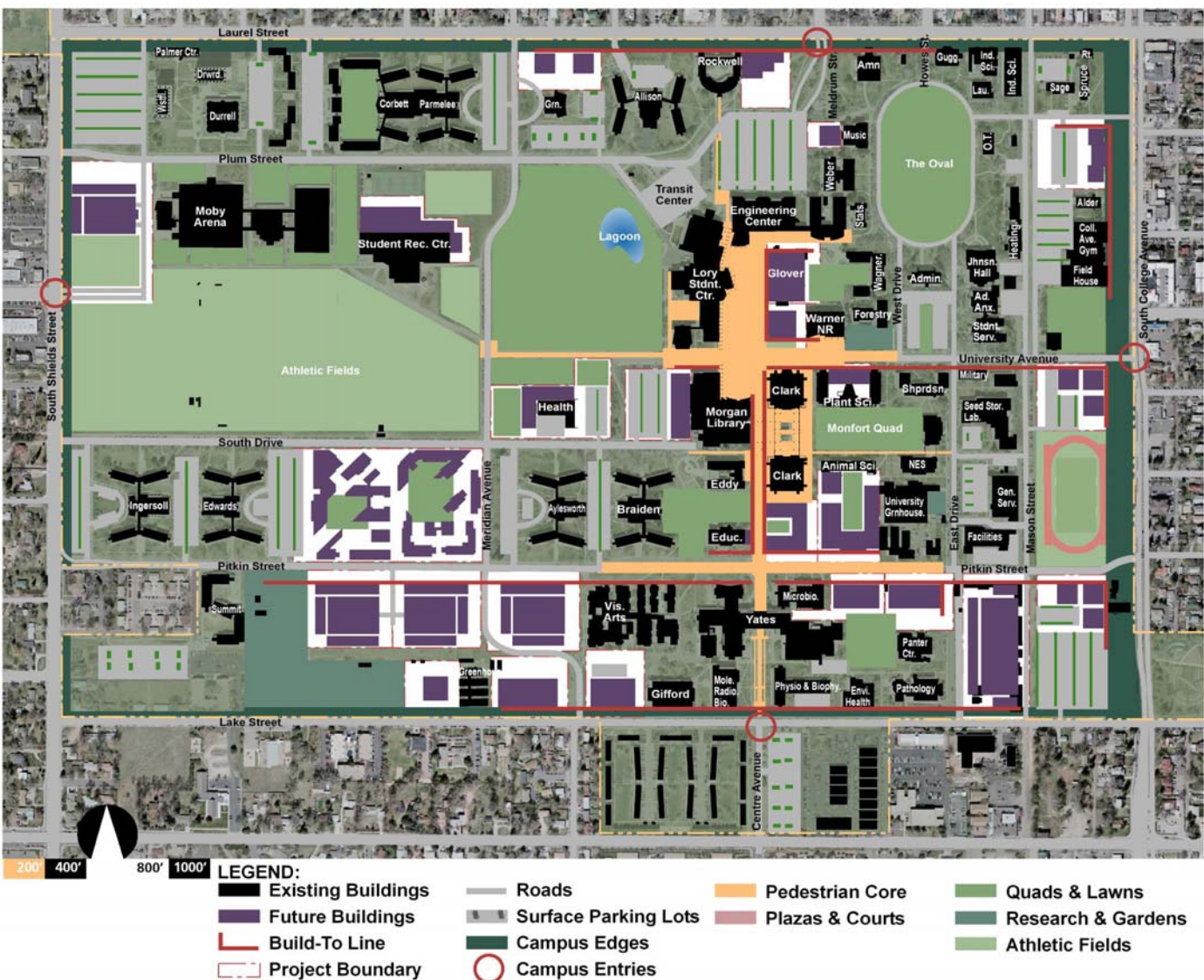


Figure 2.3 Framework Diagram illustrates elements that define campus open spaces, circulation and building siting.

1. Open Space

The tradition of American university campuses is a composition of open spaces defined by perimeter buildings. Monfort Quad and the Oval are excellent examples of the open spaces in this tradition. As a land grant institution CSU has further opportunity for addressing the variety of open spaces.

Every square foot of the campus is valuable, not only in the composition of aesthetics, but also in resource stewardship. The Aesthetic Guidelines intends to include all the open space areas - formal and remnant. Formal spaces such as the quads, circulation corridors and utility yards, and remnants, such as the building perimeter, should contribute to the whole.

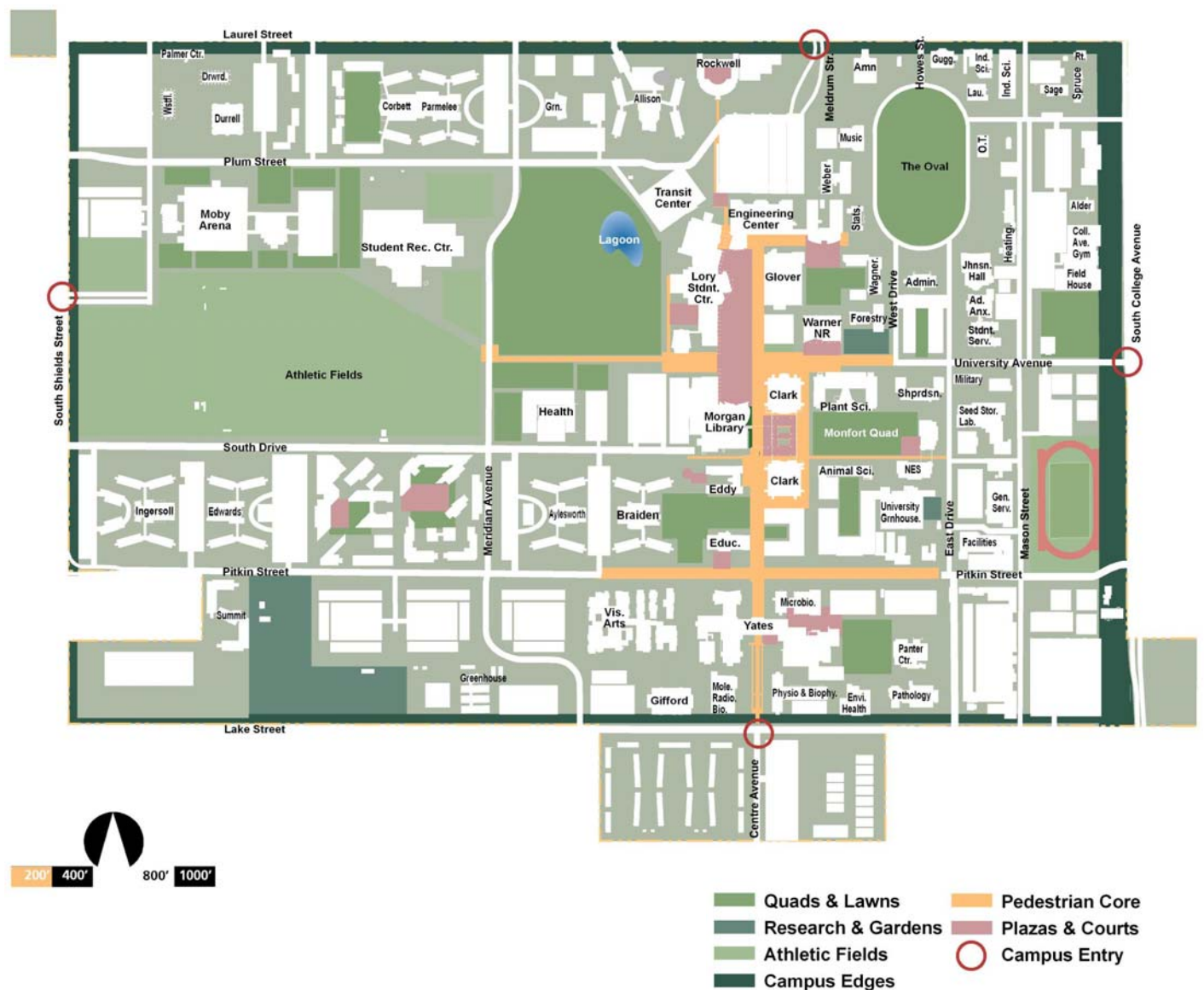


Figure 2.4 Open Space Diagram

This section guides the treatment of open spaces including:

- a. Quads and Plazas
- b. Courtyards and patios
- c. Historic Landscapes
- d. Campus Lagoon
- e. Athletic Fields
- f. Parking Lots
- g. Bicycle Parking
- h. Building Site

All the spaces are actively used in all seasons and must be attractive and functional through day and evening for the university and Fort Collins communities.

Landscape materials composed within these open spaces include trees, site furnishings, and pavement.

Public Art, Gifts and Memorials

The Foundation should carefully coordinate with the Arts Display Committee (ADC) to understand the policy and vision in order to respectfully optimize the generous gifts and memorials. A campus can become overwhelmed with donated sculptures and memorials of varying quality and meaning. Donors should be encouraged to consider gifts for the dedication and maintenance of open spaces, tree groves, and furnishings that are tributes but are consistent in campus character.



The open space, paths and trees of the Oval are character defining features of the historic district.



Sherwood Forest lawn and mature trees offers a quiet oasis at the center of the campus.



Outdoor sculpture can enhance the campus when integrated to frame views, define a place to meet, sit and study.



Monfort Quad is an excellent example of an open space enhanced by the introduction of a new building, Natural and Environmental Sciences.



The site improvements include a variety of places for gathering, study, and relaxation..

- 3. Plant trees, shrubs, and groundcover in areas between the lawn and building in response to microclimate conditions, building design and function.
- 4. Divide lawns and planting areas with a 6-inch wide concrete mow strip.
- 5. Include storm water retention systems in the lawns and planting areas.
- 6. Provide space for snow removal and storage.
- 7. Provide a variety of seating arrangements in sun and shade to allow for study, conversation, people watching, or quiet contemplation.

- 8. Design building entrances to be accessed from the quad or plaza and be supported with site furnishings including seating, trash receptacles, bicycle racks, lighting and signage.
- 9. Locate trash receptacles, as appropriate, in all plazas and quads, at building entries; in high traffic areas, gathering areas, outdoor smoking areas, and seating areas; and adjacent to any shuttle bus shelter. Avoid locations where they interfere with pedestrian movement.
- 10. Locate ash urns in plazas and quads at outdoor smoking areas. Continue to educate the campus community about their appropriate use.
- 11. Move designated smoking areas at least 50 feet from main building entrances and/or air handlers.
- 12. Locate bicycle parking near entrances without compromising access, views, pedestrian activity and gathering opportunities.
- 13. Design utility access within paved areas. Elements such as hatches and grates must be flush with adjacent surfaces so as not to impede access.
- 14. Provide electrical outlets for special activities such as seasonal lighting, performances, etc. Outlets should be located where they are not susceptible to damage and can be integrated into the adjacent landscape.
- 15. Provide conveniently located connections to potable water for temporary use in the preparation or clean-up of approved events.
- 16. Locate Wi-Fi equipment discreetly on adjacent buildings for service in quads and plazas.
- 17. Provide emergency phones in coordination with campus police.



Rockwell Hall courtyard invites outdoor use.

b. Courtyards and Patios

These are small outdoor spaces generally associated with one building.

Intent: to provide courtyards and/or patios as open space resources associated with all major buildings. These spaces should also serve as gathering places and respites.

- 1. Program the uses and facilities of courtyards and patios with building occupants and maintenance personnel.
- 2. Design spaces for flexible use over the life of the building.
- 3. Provide seating and planting to complement the seasonal patterns of sun and wind.
- 4. Provide access for services including power and water for outdoor facilities, Wi-Fi.
- 5. Site on south or west sides where solar access is available.



Elm trees in the historic Oval frame the view of the Administration building.

c. Historic Landscapes

The Oval is treasured for its simple lawn, elm trees, pathways and historic buildings. The limited structured seating areas are an important character defining feature.

Intent: to preserve the historic landscape character of the campus and ensure its renewal over time.

- 1. Preserve and maintain the historic spatial character of the Oval and the surrounding open space.
- 2. Update the National Historic Register to include the landscape, including College Avenue and Laurel Street edges, and Sherwood Forest.
- 3. Follow the NPS Secretary of Interior's guidelines to prepare a resource management plan for the treatment of the landscape's contributing elements (trees, pavement, lights, etc.).
- 4. Continue to replant trees as they age to ensure the character of the historic landscape is maintained for future generations.



Lory Student Center and Theater across the Campus Lagoon



The pond near the Greenhouse is an excellent example of varying the edge with stone, plants and water.



The open character of the athletic fields is important to the campus framework.

d. Campus Lagoon

The campus lagoon sits within the lawn west of Lory Student Center. It is a focus for many formal and informal student activities. It contains water in the summer.

Intent: to maintain and provide for both storm water management and large, informed gatherings.

- ❑ 1. Consider formally naming the area including the grove of trees, lagoon, open lawn east of Meridian north of University Mall.
- ❑ 2. Reconstruct the lagoon with a varied edge to include planting areas for phytoremediation, and native plant riparian species.
- ❑ 3. Define the boundary of the grove and expand the planting of trees to define views and contribute to the campus forest.

e. Athletic Fields

Intent: to maintain the open space and views across the campus.

- ❑ 1. Provide the minimum lighting necessary to conduct athletics while not contributing to light spill or intrusion, especially on adjacent residential districts.
- ❑ 2. Provide the minimum necessary fencing for athletic activities. The area should appear open and unencumbered.

f. Bicycle Parking

Intent: to provide safe, accessible bicycle parking at each building that does not interfere with pedestrian service or access.

- ❑ 1. Integrate bicycle parking into the composition of paths and planting near building entrances.
- ❑ 2. Install enough standard bicycle racks to meet the university's bicycle parking standards according to the type and use of each building.
- ❑ 3. Provide a quantity of bicycle racks to serve each facility based a current ratio of bicycle parking spaces per building type and population. Allow extra room for growth in ridership.
- ❑ 4. Consider shading large bicycle parking areas (outside of view corridors) with trees.
- ❑ 5. Screen bicycle parking (where feasible) with shrubs or walls at a maximum height of 36 inches.
- ❑ 6. Screen bicycle parking on the University Avenue view corridor.



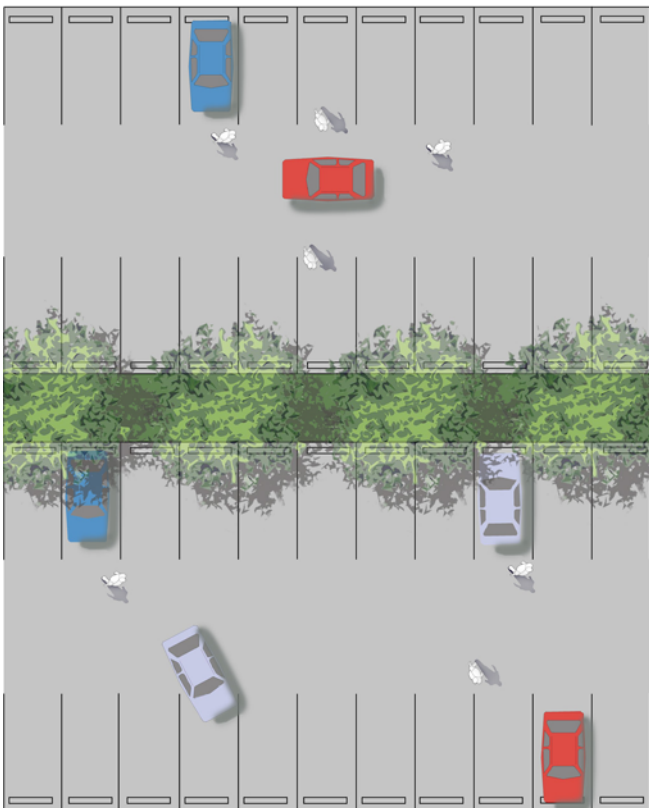
Bicycle parking along the Academic Spine is appropriately consolidated near building entrances, shaded and screened from view.



Recommended planting area and seat wall on University Avenue would partially screen the bicycle parking enhancing the view across the center of campus.



Bioswales in parking lots collect stormwater runoff allowing it some to soak into the ground, slowing flood conditions and adding character to the landscape.



Bioswales are configured to direct water linearly as well as to let it soak into the soil.

g. Parking Lots

Surface parking lots occupy a significant amount of real estate on the Main Campus and are actively used by the university and Fort Collins communities day and evening, throughout the year. These should be improved to enhance the quality and functionality of the campus.

Intent: to provide parking lots that contribute to both the parking space count and limit environmental impact.

Even with the planned addition of structured parking in the future, surface lots will continue to be a feature of the main campus. To better integrate them into the overall campus character:

- 1. Require site improvements as part of the design and construction of all new parking lots to include areas for tree growth, capture storm water and improved vehicular and pedestrian function.

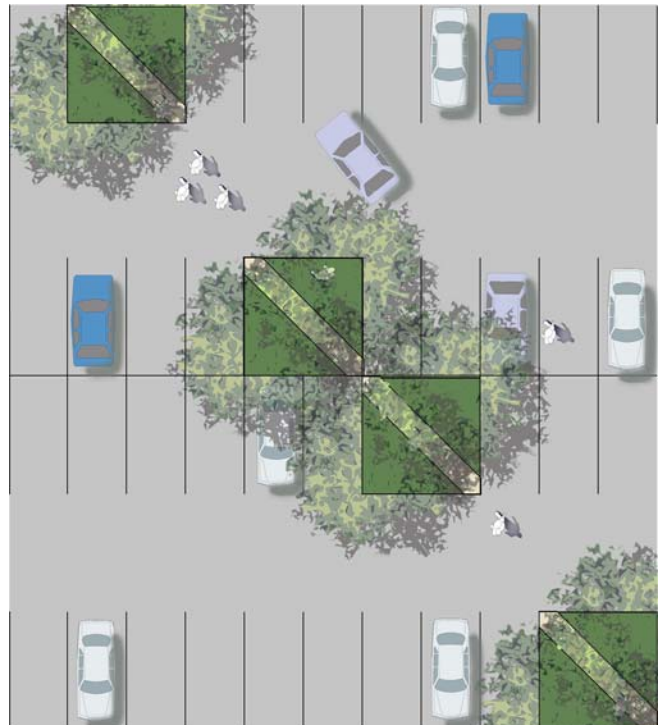
Bioswales and biosquares refer to planting areas in the parking lots.

- 2. Develop a phased approach to reconstruct existing parking lots. Reconstruction should provide areas for tree growth, storm water retention and improved vehicular and pedestrian function.
- 3. Plant groups of canopy trees as landscape islands in parking lots to break up the expanse of paving and cars.
- 4. Orient planting areas to complement pedestrian desire lines. Where feasible, align planting areas to assist in directing pedestrians to destinations, such as transit stops, malls and entries.

- ❑ 5. Select trees to allow 8 foot vertical clearance (clear trunk height) above parking spaces to avoid limb breakage. The shrub under story should be naturally growing to a height less than 30" to maintain visibility.
- ❑ 6. Plant shade trees in surface parking lots to achieve 50% shade coverage of the paved area within 5 years of installation.
- ❑ 7. Design and locate planting areas to collect, retain, and direct snowmelt and stormwater runoff. Use regional water quality standards to determine the ratio of planting area to paved parking; each parking lot is to achieve 25% permeability within the vehicular area.
- ❑ 8. Consider use of permeable pavement for further stormwater infiltration.
- 9. Wheel stops are required to protect planting areas with no curb. Keep plants and irrigation heads 2 feet from the wheel stops or face of curb to allow for vehicle overhang.
- ❑ 10. Provide for a minimum of 100 square feet of planting area for each tree.
- 11. Irrigate all parking lot planting areas.
- 12. Plan for parking lots to be redeveloped as multi-level parking structures. Wrap parking structures with buildings such as housing and or office above street level retail. Plan for adequate space between structures to allow fire separation, ventilation and circulation. Allow for buildings to be constructed in phases to facilitate funding.
- 13. Layout parking bays in efficient direction to promote pedestrian circulation efficiencies.



The parking lot between Lory Student Center and Rockwell Hall should be redesigned to include planting areas for shade and stormwater detention.



Biosquares are openings in the pavement at low points to capture storm water. They may be configured to allow pedestrian circulation across the parking lot in dry times.

g. Building Site

Site improvements are part of the planning and design of a new building or a renovation associated with one or a group of existing buildings. The landscape is key to creating an inviting and collegial environment outside as well as inside the building; to connecting the building with its larger campus setting; and to clarifying circulation and wayfinding.

Intent: to develop building envelopes to enhance the campus experience.

- 1. Require site improvements to be included in the design and construction of all new buildings.
- 2. Use massed plantings of trees, shrubs, and groundcover to integrate the building with its site and the surrounding campus and to make efficient use of irrigation water.
- 3. Coordinate the design of planting areas with roof drains to collect runoff.
- 4. Direct storm water runoff away from buildings and access routes.
- 5. Protect existing trees from damage during construction.
- 6. Limit lawn to areas near building entrances, where they receive full sun and where they can be efficiently maintained.
- 7. Provide a 12 inch wide concrete strip at the base of buildings in planting areas.
- 8. Provide 12 inch wide concrete mow strips under fences.
- 9. Divide lawns and planting areas with a 6 inch wide concrete mow strip.



New understory planting would assist in screening the building services on the north side of Ammons Hall.

- 10. Group site furniture, including benches, trash receptacles and ash urns, at entries, to enhance use and reduce clutter.
- 11. Screen views of loading areas, storage, utilities and outdoor equipment from defined open spaces and circulation corridors.



The corridor between Microbiology and Anatomy/Zoology could be improved with planting.

2. Circulation Corridors

Streets and pedestrian paths linking the spaces and facilities across the campus make up the circulation corridors. They can frame views across the campus and beyond, which is fundamental to orientation and wayfinding.

Intent: to unify the campus character, accommodate pedestrian, bicycle and vehicular traffic safely with inviting places established along the way.

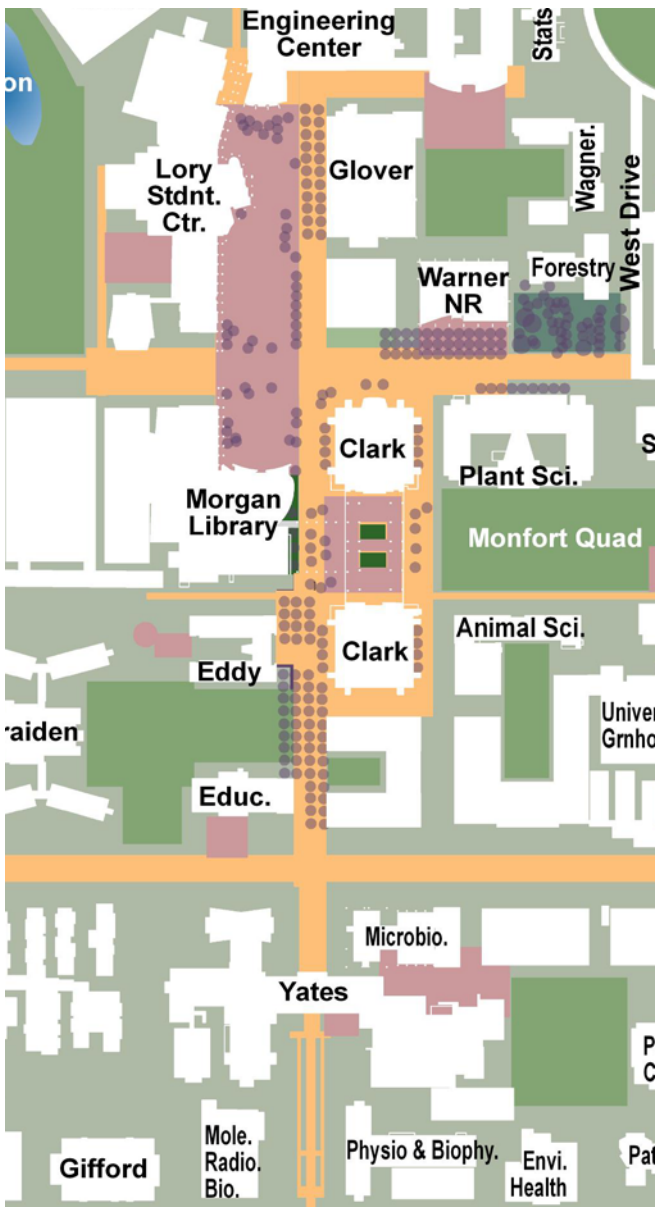
a. General

- 1. Plant trees consistent in species, spacing and alignment at the edges of defined circulation corridors, i.e. 30 feet on center.
- 2. Plant and maintain the understory of shrubs naturally growing to a height of less than 36 inches where visibility across the planting area is important for security.
- 3. Design routes for emergency access, garbage, and snow removal to enhance the pedestrian experience.



Figure 2.6 Circulation Corridors

- 4. Integrate the design of pedestrian and emergency access pavement to minimize the visual impact of pavement. For example, use a form of turfblock with low growing groundcover.
- 5. Design areas off the primary pedestrian paths for gathering.
- 6. Provide site furnishings at all pedestrian gathering areas such as seating, trash receptacles, lighting.



North-south Academic Spine

b. Pedestrian Malls

Academic Spine

The Academic Spine is the central campus walkway through the Main Campus' academic core, from the Engineering Complex south to Prospect Street. While a number of buildings currently have entrances from the Academic Spine, these guidelines recommend additional entries to address the corridor and means to further enliven the campus.

- 1. Expand the pedestrian area in width and length to complete the spine from Laurel south to Lake Street.
- 2. Repave Isotope Drive to match the whole length of the corridor, see section C.2.a Pavement.
- 3. Maintain a view from Engineering to Yates keeping trees out of the central alignment.
- 4. Accommodate emergency vehicle access.
- 5. Replace the lawn in the sloped planting areas of the Clark building with deciduous trees, low growing shrubs and groundcover.
- 6. Consider adding seating and replanting shrubs in the grid west of the Clark building.
- 7. Define the pedestrian route across the parking lot between Lory Student Center and Rockwell with pavement and planting.



Recommended seating and planting along the Academic Spine between Clark and Morgan Library.

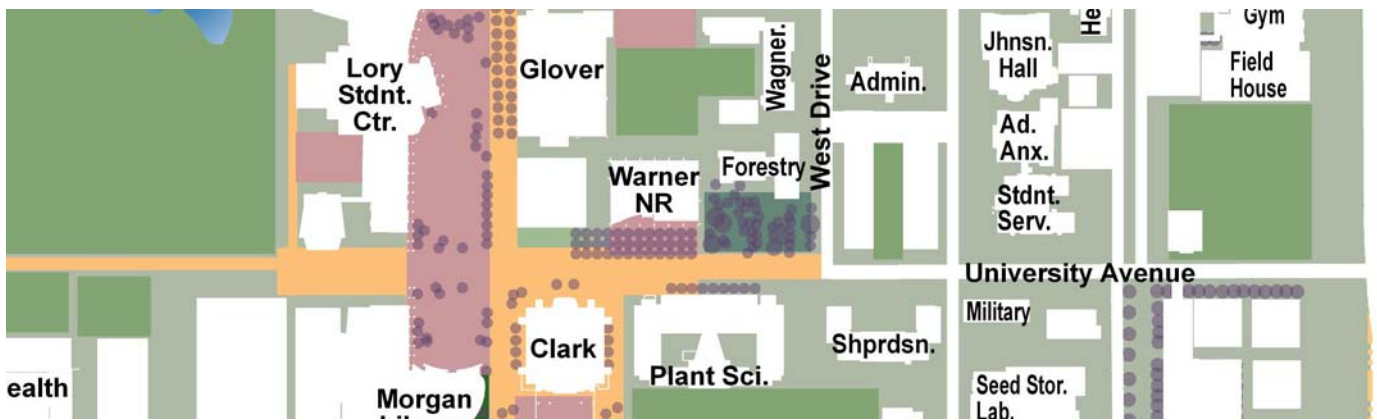


Current view on University Avenue west across the campus.

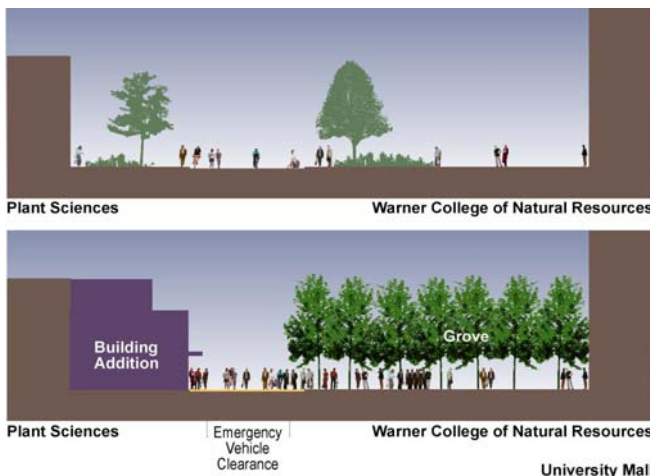
University Avenue

The Master Plan calls for University Avenue to be closed to automobile traffic from West Drive. The resulting pedestrian mall should be improved with the following:

- 1. Maintain the open view west to the mountains.
- 2. Redesign the plaza in front of Warner College to include a grove of deciduous trees to frame the views, and provide shaded gathering space.
- 3. Repave the pedestrian area, see section C.2.a Pavement.



The framework of University Mall defines building edges, pavement and planting opportunities.



Section illustrates the recommended grove of trees at Warner College plaza.



The character of Lory Plaza is to be distinct from the pedestrian malls.

c. Campus Edges & Entrances

The edges of the Main Campus are important to the definition of the university within the city of Fort Collins.

Intent: to reinforce the edges and provide clarity to the points of entry.

College Avenue

College Avenue is a four lane collector street (U.S. Highway 287/Colorado Highway 14). The east side of the street (off campus, with the exception of

the Performing Arts building) hosts a mix of low scale commercial, office and some residential buildings.

The broad lawn and large mature trees between the street and the buildings is important to the character of both the university and the community.

- 1. Maintain the wide open lawn setting buildings back to align with the Field House.
- 2. Include the landscape in the Historic register update.

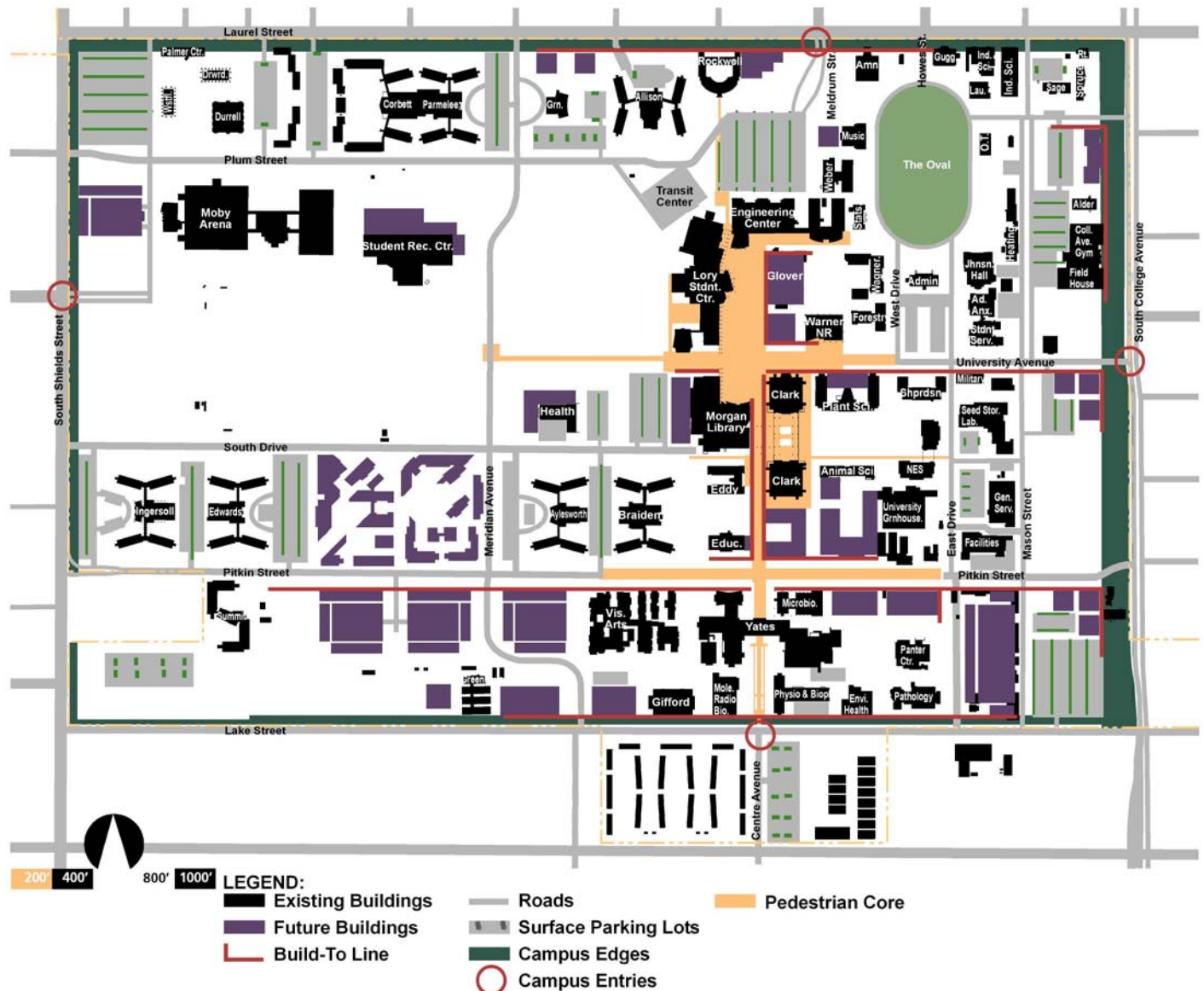


Figure 2.7 Campus Edges and Entrances

Centre Avenue

The southern entrance to the Main Campus is at Prospect and Centre Avenue.

- 1. Add trees along both sides of the street to screen parking and housing.
- 2. Coordinate improvements with those along Centre Avenue and the CSU South Campus.



Centre Avenue at Prospect Street.

Laurel Street

The campus edge along Laurel Street is historic at east of Rockwell Hall. To the west the residence halls sit back from the road.

- 1. Maintain the parkway planting of elm trees along Laurel.
- 2. Redesign the planting areas north of residence halls to enhance student use and stewardship of resources. For example lawn areas could be replanted with drought tolerant–low maintenance evergreen groundcover where it is not used by students.



Laurel Street campus edge at Howes Street entry.

Shields Street

The west boundary is Shields Street. It is a busy vehicular route across town and divides the university's large parking, recreational fields and resident halls from a growing commercial district.

- 1. Replace lawn with drought tolerant–low maintenance shrub bed to screen parking lots.



Open views across lawn to parking could be improved with shrub planting.



Mason Street where the tracks are flush with the road.



Railroad in ballast divides Mason Street.



Parking along Meridian Avenue

d. Campus Streets

Streets convey vehicular, bicycle and pedestrian access as well as provide views across the campus. The design of streets is an opportunity to unify the campus landscape.

Intent: Improve streets to a consistent level of quality across the campus.

- 1. Require site improvements (including sidewalks, lighting, and street trees) as part of the design and construction of all new roadways .

Mason Transit Corridor

Mason Street contains an active freight railroad. It is planned to be converted to a regionally serving commuter rail line with access to the campus.

- 1. Reconfigure and relocate parking along Mason Street to establish bicycle lanes and make way for the commuter rail access.
- 2. Enhance the sloped railroad bed (in coordination with the transit authority) with pedestrian pavement, groundcover planting.

Meridian Avenue

The mid-campus road is a circuitous route from Loomis Street on the north to South Whitcomb Street.

- 1. Consider eliminating the road from South Drive to West Plum Street to improve pedestrian safety and expand the central open space.
- 2. Relocate parking from the street.
- 3. Create a crosswalk for east-west pedestrian and bicycle traffic.

West Plum Street

West Plum Street is lined with residential halls along the north side and Moby Arena and recreational facilities along the south side. This street conveys pedestrians, vehicles and bicyclists between the northeast corner to the campus.

- ❑ 1. Replace lawn areas with drought tolerant - low maintenance evergreen groundcover where it is not actively used by students.



The lawns outside the residence halls could be minimized to reduce maintenance and water use.

South Drive

South Drive connects the Library to Shields Street. The recreation fields are north of South Drive west of Meridian this street.

- ❑ 1. Remove on-street parking and straighten the sidewalk.



Parking and sidewalk on South Drive near the Library should be reconfigured.

Pitkin Street

Pitkin is a corridor from College Avenue west to Shields. The segment near the Academic Spine is closed to vehicular traffic. The street is not straight but views of the mountains are clear and valuable to the campus.

- ❑ 1. Provide contiguous sidewalks, lighting and street trees with the development of future university facilities along Pitkin Street.



Pitkin Street view west from Braiden Drive.

e. Sidewalks

- 1. Provide a minimum clear zone of 5 feet in horizontal width on each side of vehicular street for pedestrians and ensure a minimum of 7 feet in vertical clearance for all sidewalks.
- 2. Make pedestrian paths that are also designated for use by authorized vehicles a minimum of 10 feet wide with space for the 25 foot turning radius of a typical maintenance vehicle. Pavement and subsurface should be designed to withstand the load of snow-removal and cleaning equipment. Design routes of maintenance vehicles should complement the pedestrian environment.
- 3. Design pedestrian paths designated as emergency vehicular routes to meet the city of Fort Collins' standards and to complement the pedestrian environment of the campus.
- 4. Direct snowmelt and storm water runoff away from pedestrian paths.
- 5. Create bioswales to collect surface runoff before it crosses pavement areas and to reduce puddling and damage to walkways. Bioswales may be grass-lined where adjacent to a lawn area, or planted with low shrubs and grasses. They should be graded to direct water away from paved areas.
- 6. Provide pedestrian crossing aids such as push buttons at all signalized street crossings.

f. Campus Bikeway

- 1. Establish a campus bikeway throughout the Main Campus to facilitate safe and efficient riding.
- 2. Develop connections to the city system of bike paths, and regional transit.



Pedestrian path along the lagoon is on top of the levee.

g. Utility Corridors

Utility service of energy, technology, and water/sewer are fundamental to the University. The boxes, hatches and poles are generally unsightly and distracting from the aesthetics of the campus.

Intent: to minimize negative aesthetic impacts of the required utility structures and easements.

- 1. Locate all utilities in the street or pedestrian mall to avoid conflict with street trees.
- 2. Center all utility connections from the street to buildings between street trees (or a minimum of 20' from the center of tree trunks).
- 3. Design and coordinate the location of all above-ground utilities, enclosures, and service areas as part of the adjacent building massing and materials. Do not locate utility boxes, vaults, poles, etc., above ground in the sidewalk. In no case shall a utility box limit the sidewalk clear-zone to less than 5 feet.
- 4. Design hatches for below-ground utilities to match the adjacent sidewalk. Locate hatches away from snow removal path.

3. Buildings

The architecture of the original campus buildings, centered primarily around the oval green, is one where classical elements are incorporated in carefully scaled and proportioned (and often smaller) buildings. Most of these buildings are examples of Neo-classical architecture (1900-1940). Their facades generally follow the ‘tri-partite’ organization of base, column or wall, and capital, roof, or pediment.

The architecture of the later buildings represents more of an eclectic mix of styles. Some buildings follow the International Style of architecture (1950-1980) in which buildings and their spaces are shaped by wall or roof planes and sections of glazed windows and curtain walls. Most of the newer (and mostly larger) buildings do not follow a particular architectural style and often incorporate flat or low-sloped roofs. These buildings often lack the façade organization of the older buildings.



Ammons Hall



Clark Building



Residence Hall



Yates Hall

a. Building Siting / Orientation

The composition of new buildings will enhance the overall campus.

Intent: to contribute to the definition of new and existing outdoor spaces and the enhancement of existing spaces or pathways

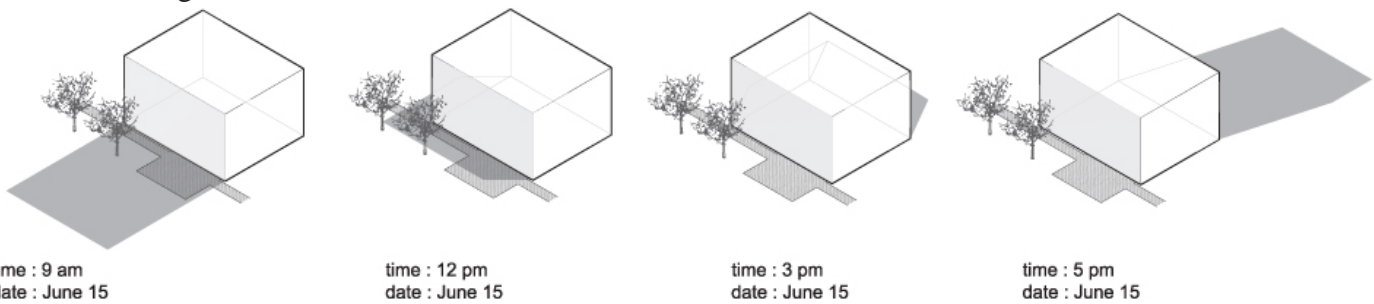
- 1. Locate main building facades and entrances to face a major pedestrian route or open space which is adjacent to the building.
- 2. Establish secondary entrances to provide access from parking areas and service access away from the main public circulation areas.
- 3. Situate key building features, such as a main building entrance or façade, a window for a key interior space (such as a common lounge, reading room, or meeting space) or a significant landscape feature. Service areas or back-of-house areas should not terminate a visual axis on campus.
- 4. When possible, locate new buildings or additions to take advantage of solar orientation to maximize daylighting opportunities, minimize visual glare issues, and to maximize the impact on building climate control systems. Orient the majority of building spaces south or north. Provide passive or active controls to manage direct sunlight on the South side. Minimize the exposure to the East and West. Provide passive or active controls to manage low sun angles on these sides.

- 5. Relate new construction, including additions to buildings to the uses and geometry of adjacent buildings.
- 6. Frame significant views to the mountains.
- 7. Work within the Project Boundary



LEGEND:

- Existing Buildings
- Future Buildings
- Build-To Line
- - - Project Boundary



Solar orientation of buildings.

b. Setbacks and Build-to Lines

Intent: to reinforce the street and/or public open space with setback lines.

- 1. Provide additional setbacks near building entrances to accommodate accommodate outdoor gathering areas near entrances and strengthen the entrance.
- 2. Position building facades to respect the build-to lines along the street or public open spaces.



The north facade of Microbiology establishes the build-to-line on Pitkin Street.

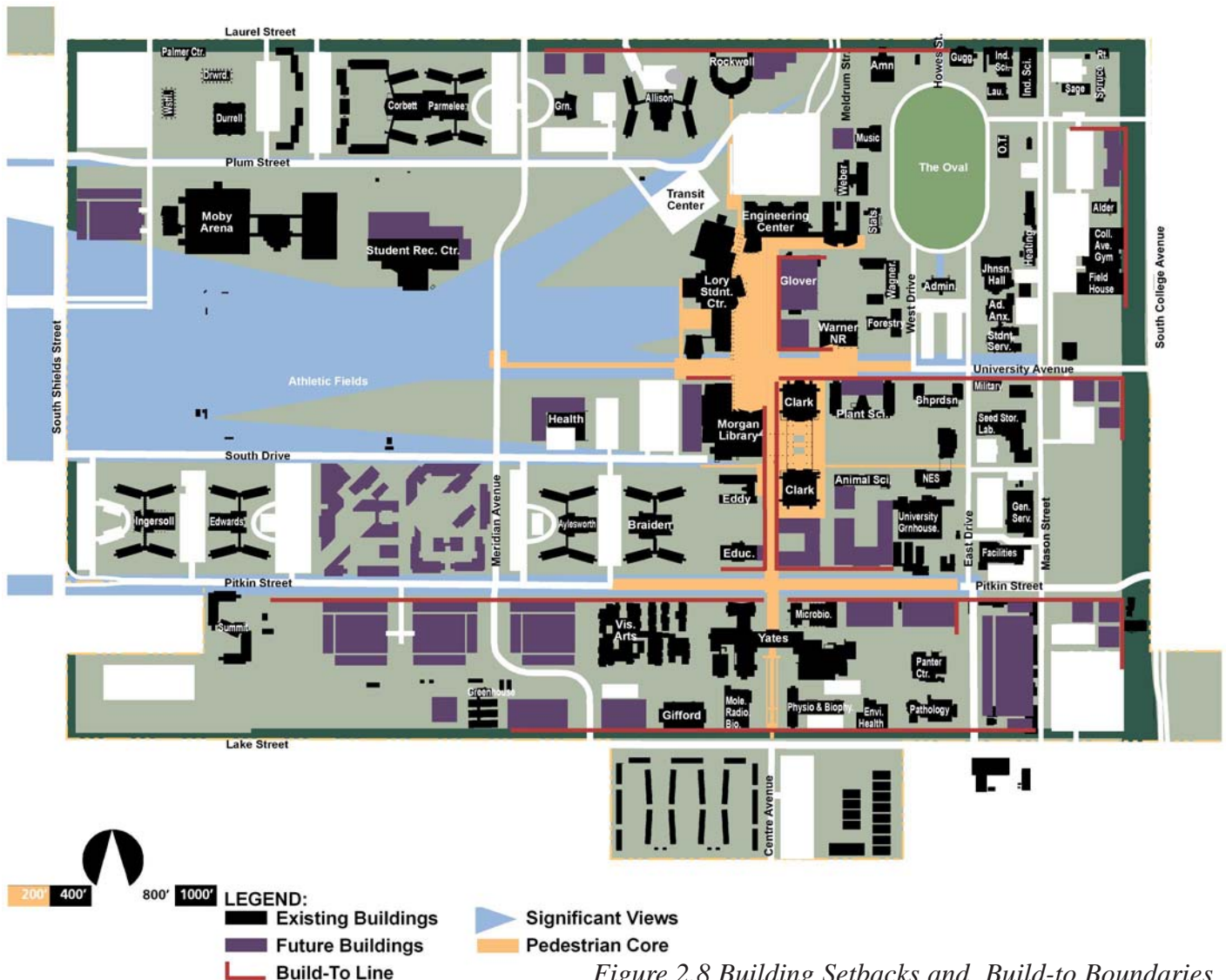


Figure 2.8 Building Setbacks and Build-to Boundaries

c. Building Massing and Scale

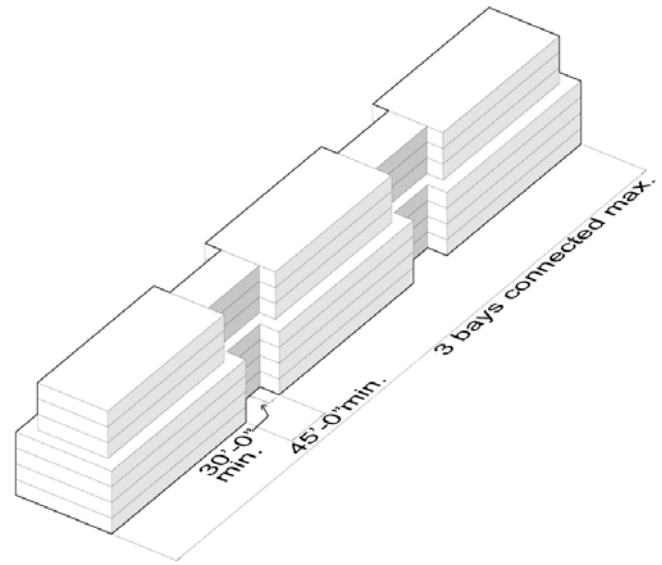
In 2006 the overall massing of the majority of campus buildings is of one to three story structures.

Intent: to model new buildings after existing height and massing patterns to ensure harmony and maintain the current pedestrian scale of the campus. Maximize development on the selected building sites and maintain a pedestrian scale for the street or campus open space and limit the perceived overall building scale and/or massing (limit the size of singular structures or interconnected buildings).

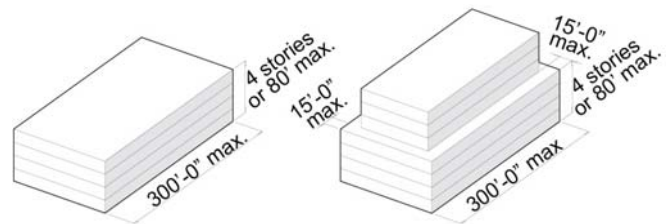
- 1. Limit building length/depth to 300 feet. Restrict the number of attached buildings to three, provided further that the façade of any attached building be visibly offset from the adjoining building at an angle of approximately 90 degrees.
- 2. Require a minimum distance of 45 feet between any two groups of attached buildings, including accessory buildings, and a minimum offset of 30 feet.
- 3. Avoid building one-story buildings.
- 4. Prohibit buildings taller than four stories in order to maintain the current human scale on the campus and to relate well to existing campus structures. Design and program new buildings to maximize a site's potential, provided that the structures are consistent with the height guideline.

Exception 1: allow mechanical penthouses, etc. or projects to exceed the height limit if the following conditions are met:

Exception 2: provide an additional building setback above 80 feet or four stories (whichever is taller) in order to maintain a pedestrian scale environment and maximize the solar exposure of the outdoor spaces



Building length



Building height

Additional review and approval requirements:

- 5. If part of the building or structure serves as an orientation point or gateway on campus, provide a 3-D massing simulation with view studies to demonstrate that it provides visual connections on campus.

Exception: provide a 3-D massing simulation with view studies if the proposed building is taller than four stories to demonstrate that the proposed design maintains the pedestrian scale of the campus.

d. Building Plan and Program Distribution

New buildings are encouraged to establish program elements that could take advantage of adjacent exterior spaces on the ground level.

Intent: to organize buildings and distribute program spaces to maximize activity on campus and to strengthen the relationship between interior spaces on campus and the exterior campus environment.

- 1. Locate common public spaces and functions near building entrances and along main pedestrian walkways or adjacent to plazas, quads, or patios (at the ground floor level).
- 2. Incorporate design solutions that maximize natural day-lighting to improve visibility of the entrance areas and common spaces from the exterior.
- 3. Locate spaces with windows adjacent to public open spaces (on all levels).
- 4. Locate those program spaces on the ground level of the building that can take advantage of or use the exterior spaces (examples: student lounge, lunch area, art gallery, etc.).



Urban cafes and retail are examples of active ground floor uses.



Ground floor access to day light, and pedestrian visibility.



The lobby at Yates Hall is on the primary pedestrian path.



Urban retail example of a clearly defined entry.

e. Building Entrances

Building entrances are the active interface between the buildings and the campus landscape. The interior lobby and associated outdoor spaces to serve as meeting and gathering spaces that encourage and promote interaction between the building users and visitors.

Intent: to situate building entrances so they are visible, prominent and provide an opportunity for visual transparency and connection between interior and exterior.

- 1. Design building entrances to be clearly visible, prominent, and contribute to the life and activity of the pedestrian environment and provide protection against extreme climate and weather conditions through the use of vestibules and overhangs.
- 2. Encourage visual access to academic activities from the pedestrian environment through window and lighting systems that strengthen the connection between indoor and outdoor spaces.
- 3. Use clear or lightly tinted glazing materials around the entrance areas. Avoid using highly reflective glazing.
- 4. Design building lighting or area lighting to prevent glare and incorporate indirect lighting and lighting by illuminating walls and other surfaces.
- 5. When applicable, position lobby security desks to allow security guards clear lines of sight to the building and lobby entrances.

f. Equipment and Utilities

Utility structures that serve the building are required to be accessible for maintenance but should be sited out of the public view.

Intent: to minimize unsightly boxes from the campus landscape.

- 1. Locate equipment and other utility structures out of direct view from the main campus spaces and the main pedestrian areas. Give priority to solutions that incorporate mechanical equipment in the building (vault, basement, mechanical penthouse, etc.)
- 2. Screen service, utility, maintenance and storage areas, including solid waste containers, loading and unloading areas and heating, ventilating and air-conditioning equipment, from direct view (from public view and adjacent buildings) with enclosing walls or buffer planting. Design visual screening to be of sufficient density to appear opaque and of sufficient height to constitute an effective screen.
- 3. Prohibit equipment or utility structures near within 100 feet the main building entrance.

g. Service Access and Trash Management

Service areas are fundamental to the daily function of the building and campus.

Intent: to design service areas with the building and landscape.

- 1. Locate service access areas away from the main pedestrian entrance and circulation and integrate them into the building design, screened from direct public view.



This on-site building equipment is not well screened from the public view.



Trash and equipment is behind the horizontal screen.

- 2. Design screen walls to be consistent with the building architecture or follow the site design guidelines.
- 3. Provide service access out of direct view of the main pedestrian entrance.
- 4. Incorporate trash collection and holding areas into the building and screen them from direct public view.
- 5. Integrate mechanical areas into the building and design them to screen the area from direct public view and to prevent trash odors from entering building areas or the main outdoor public areas.



Spruce Hall

h. Architectural Character

These guidelines do not prescribe a singular style for buildings or additions, but required that all new buildings follow the historic building façade organization and express the base, middle and top. This can be accomplished by using architectural elements, building materials, proportions of the wall fenestration, or building massing (including the roof form).

Intent: to create campus continuity and consistency while communicating the institutional values of the University and expressing the intended program or mission of the building(s). The design teams are encouraged to design team to develop an architectural style that reflects their place in time, while being respectful of the existing architectural texture and fabric.

- 1. Incorporate stone and brick in all new building projects.
- 2. Create architectural character that supports the educational message of the particular project or department (for example: a building for the arts department should provide integrated display opportunities for 3-dimensional art at or near the entrance; a building for the environmental sciences department should incorporate sustainable site or building systems such as photo-voltaic panels).



Murals on the Animal Sciences facade add to the quality of Monfort Quad.



A building detail that supports education.

C. Main Campus Materials

The careful selection and use of materials is fundamental to creating a consistent campus character through many projects over time.

1. Building Materials

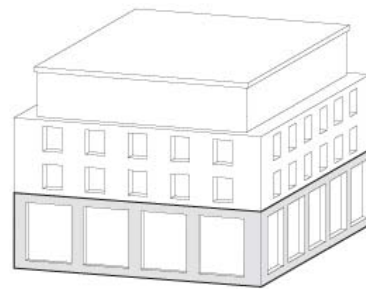
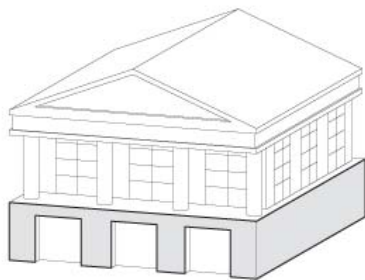
The use of materials new to the market will only be considered if the designer can provide test data sufficient to convince the University’s Facilities Management staff of their durability and reliability. Sustainable materials and systems should be given special consideration whenever possible within the parameters of these aesthetic design guidelines and the University’s Building (Design) Construction Standards Manual.

a. Roofs and Eaves

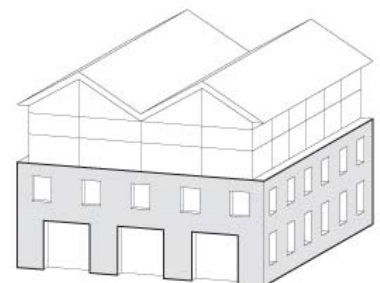
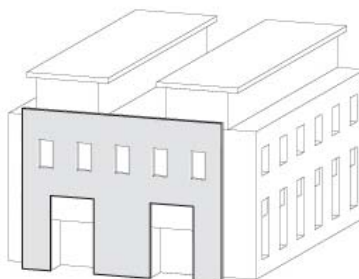
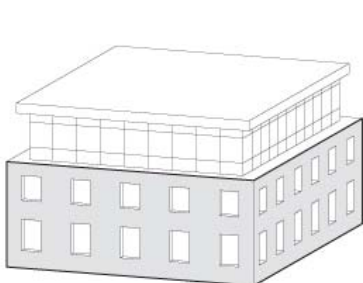
For new buildings in or adjacent to the historic district, follow the institutional character of the historic architecture and incorporate sloped roofs

(with a slope greater than 4 in 12), compatible with the existing buildings. For new buildings in the academic core and in the residential district, incorporate a combination of sloped and flat roof designs to improve the visual connection between these districts and the historic campus.

- 1. For flat or low-sloped roof areas, select energy star roof compliant, high-reflectance and low-emissivity roofing materials or select green or vegetated roofs for all or a portion of the roof area (especially when roof areas are visible from taller adjacent buildings).
- 2. Select slate, artificial slate (recycled roofing product), metal, and terra-cotta roof materials for sloped roof areas.
- 3. Prohibit the use of asphalt-type or fiber-glass roofing shingles.



Roofs and eaves



b. Exterior Cladding Materials

The existing buildings at CSU's main campus exhibit a wide range of materials and colors, although the predominant materials are natural stone, light colored brick and pre-cast concrete. In this context, exterior materials and colors should be chosen to be compatible with the colors within the particular campus district or neighborhood and to be cost effective over the life of the structure.

Intent: to improve the visual unity on the campus as a whole and by requiring integration of the original and more institutional (and durable) materials in all new buildings and structures.

- 1. Preferred primary materials (especially near entrances, along the main pedestrian routes and facing public streets): natural stone, brick, or pre-cast concrete.

If alternate materials are selected for portions of the exterior envelope, ensure that the key campus materials are located close to building entrances and close to the pedestrian environment, in order to maintain the feel of richness, texture, durability and human scale close to where people move and where people approach the building.

- 2. Use natural stone for the dominant building material (>50% of the solid wall surface of the exterior cladding) at and near building entrances.
- 3. Give preference to local sources or locally manufactured materials during the selection process. Use exterior materials with integral colors to minimize maintenance and to ensure durability.
- 4. Integrate metal panel systems and other modular systems such as slate, etc. only as 'secondary' materials. Use these materials near main entrances or along the main pedestrian

open areas is not permitted.

- 5. Prohibit the use of Exterior Insulation and Finish Systems (EIFS) or residential scale siding, such as vinyl or aluminum siding.
- 6. Create building openings that contribute to the day-lighting of the interior spaces and that strengthen the relationship between the indoor and outdoor environments.
- 7. Integrate windows and window wall systems, if compatible with the indoor programs. Avoid highly reflective or dark tinted glass.
- 8. Integrate stone and/or brick materials (used as part of the exterior cladding materials) in selected interior spaces, such as the entrance vestibule and lobby areas.
- 9. Eliminate the use of stucco as an exterior material.



Stone marks the entrance to the Morgan Library

c. Fenestration

Fenestration such as window and door openings in building facades can be used to reflect the heritage of the historic architecture on campus and innovative technologies of new buildings.

Intent: to design detailing to exhibit permanence, human scale, visual richness and proportions sympathetic to the historic buildings.

- ❑ 1. In punched openings in masonry walls, incorporate a stone or cast-stone lintel and sill detail and feature masonry returns to emphasize wall thickness and add depth by the resulting shadows. Locate windows and other glazing systems towards the interior side of the wall to maximize this effect.
- ❑ 2. When walls are terminated to transition into a different material or into a glazed curtain wall, incorporate a masonry return should be incorporated to emphasize the wall thickness.
- ❑ 3. Provide solar screens or roof overhangs on the south side of the structure to manage direct sunlight into building spaces.



Punched windows at the Morgan Library



Overhangs provide shade at the residence halls.

d. Signage

Intent: to assist in way-finding in a manner that compliments the functions and aesthetics of the campus.

- 1. Provide building signage that includes the building name and the departments, and the key use(s) of the building.
- 2. Integrate this signage into the entrance design of the building.
- 3. Provide places in the main entrance vestibule to incorporate donor recognition opportunities (including signage). Incorporate signage into the overall architectural design.
- 4. Provide location for a keystone indicating the year of construction (completion). Acceptable materials: natural stone or cast-stone.

2. Landscape Materials

a. Pavement

Pavement on the Main Campus is important for utilitarian and aesthetic value. Vehicular pavement, roadways and driveways are typically asphalt and consistent with city standards to facilitate emergency services, delivery and community interface. Pedestrian pavement should be seen as separate and distinct from vehicular paving.

Intent: to establish a palette of basic materials that complements buildings and for ease of maintenance, extension or repair through the development of the campus.

- 1. Use pavement materials in their elemental form, such as concrete (plain, colored, scored and/or with exposed aggregate), stone or precast concrete pavers. Stamped concrete is not permitted.
- 2. Use plain gray cast-in-place concrete with a medium broom finish as the standard campus paving for sidewalks and pedestrian areas, except where special paving is designated in gathering places.
- 3. Consider paving outdoor gathering places, such as plazas, courts, and building entries, with other materials following the hierarchy of circulation corridors. Hierarchy of pavement types:
 - a. Courtyard and patio pavement may be stone or precast (concrete or brick) pavers to complement the architecture.
 - b. Academic Spine – heavily exposed concrete, natural gray color.
 - c. Plazas – precast concrete pavers

- 4. Precast concrete pavers – rectangular form, natural gray or beige tones to complement the historic CSU blond brick.
- 5. Stone – Dakota stone may be rectangular or flag.
- 6. Brick pavers may be red or blond brick pavers where they relate to adjacent buildings.
- 7. For colored pavement, use earth tones found in the region. Any deviation from the campus standard gray must provide the specific mix for future repair.
- 8. Design pedestrian pavement of designated accessible routes to meet the Americans with Disabilities Act (ADA) criteria for slopes, width, and finish.



Stone pavement



Heavily exposed aggregate concrete and brick pavers



Pre-cast concrete pavers in an ashler pattern

b. Planting

The plant materials (trees, shrubs, groundcover, grasses, vines and perennials) on the CSU Main Campus are an important opportunity to present the mission and values of the university. With strong programs in agriculture, horticulture, forestry and natural resources, the campus landscape should be a place to actively showcase positive values in management and aesthetics, and conduct relevant forms of research.

Fort Collins native plants are now being valued by the greater community. Many of the trees important to Rocky Mountains forests are found on the campus and could be further employed in meaningful and beautiful compositions. Exotic species have a place as part of what should be a campus-wide arboretum and sacred cultural markers of historic aesthetics.

Intent: to enhance the campus with healthy plants appropriate to the setting, composed in a functional and meaningful way.

- 1. Use color, texture, and form of plants in the composition of landscape spaces.
- 2. Refer to the Campus Landscape Plant Palette in this section.
- 3. Conduct soil testing in the site development stages to obtain recommendations to improve soil fertility and to determine if subsurface drainage and aeration systems are required to maintain the growth of trees.
- 4. Do not use nonnative plants that have been identified as noxious and/or invasive.
- 5. Plant and maintain low-growing (1' - 3' in height), drought-tolerant shrub species that are visually appealing in their natural form (unpruned). These will serve to meet objectives of enhanced security, sustainability, and

low maintenance.

- 6. Create a simple ground plane of lawn in areas of active use.
- 7. Screen undesirable views with larger shrubs and vines on fences and/or trellis where visibility for security is not an issue.
- 8. Use ADA appropriate tree grates (minimum 5 foot X 5 foot) in pedestrian pavement at locations of high pedestrian traffic such as in plazas, quads, and courtyards.
- 9. Provide and design tree grates that allow for the increase of tree caliper and prevent the accumulation of debris.
- 10. Fill the space between the finish grade of the tree and the tree grate with gravel larger than 1/4 inch to limit the accumulation of debris under the grate while still allowing air penetration.
- 11. Make planting areas a minimum of 5 feet by 8 feet for flower, groundcover, and shrub beds.
- 12. Provide 40 square feet of water and air-permeable planting area at the base of each tree, within the drip zone, using either a tree grate (in highly used pedestrian areas) or groundcover or shrubs and mulch (in low-use areas).
- 13. For security, mass trees to allow sight lines and not obscure lighting.
- 14. Maintain trees along sidewalks and in parking lots with a clear-zone (between the top of pavement and bottom limb) of 7 feet above the sidewalk and 13 feet 6 inches above the street.
- 15. Irrigation - Refer to the Building (Design) Construction Standards Manual, Division 2 and Appendix Sole Source Products for standard equipment.

Plant Palette

The Plant Palette is detailed in the following matrices that define:

- Guidelines for locating and composition,
- Characteristics of form, color and habit; and
- Requirements for optimal growth.

Definitions

Bioswale – A planting area that filters pollutants out of storm water.

Screen – Plants that form a visual and/or physical barrier.

Pedestrian Barrier – Plants that form a physical obstruction to pedestrian circulation.

In Lawn Area – Trees that function well in turf.

In Pedestrian Pavement – Trees that function well in small planting areas surrounded by pavement and/or in tree grates.

Landmark Planting – Prominent trees within a landscape.

Showy Flowers/Seasonal Color – Plants that have distinguishing flowers and/or seasonal color.

Evergreen – Plants that have green, persisting foliage year-round.

Colorado Native – A member of a plant species that inhabited Colorado prior to European contact.

Non-Invasive – Plants that will not proliferate and overrun or displace native vegetation.

Historically Significant – Plants with a particular importance in the history of the campus and/or the state.



Tree identification on the Main Campus

Small Shrub < 2' Tall

Medium Shrub 2'-4' Tall

Large Shrub >4' Tall

Small Tree > 20' Tall

Medium Tree 20'-40' Tall

Large Tree > 40' Tall

Full Sun >6 hours of direct sun per day.

Partial Shade 3-6 hours of sun per day.

Shade < 3 hours of direct sun per day.

Drought Tolerant – Plants that can tolerate arid conditions with little or no supplemental water.

Plant Palette	Campus Approval	Appropriate Uses				Characteristics							Growth Rqmts.				
		CSU Facilities Maintenance	Bioswale	In Lawn Area	In Pedestrian Pavement	Landmark Planting	Showy Flowers/Seasonal Color	Evergreen	Shade Canopy	Colorado Native	Historically Significant	Small Tree (>20' Tall)	Medium Tree (20'-40' Tall)	Large Tree (> 40' Tall)	Full Sun	Partial Shade	Shade Tolerant
Trees																	
ABIES CONCOLOR	White Fir						●		●				●	●			
ACER GLABRUM	Rocky Mountain Maple		●	●			●		●		●			●	●		
ACER GRANDIDENTATUM	Bigtooth Maple			●	●	●		●	●		●			●	●		
ACER PLATANOIDES	Norway Maple			●	●	●		●			●			●	●		
ACER SACCHARINUM	Sugar Maple			●		●		●						●	●		
ACER TATARICUM	Tatarian Maple			●					●		●				●		
ALNUS TENUIFOLIA	Thinleaf Alder			●								●		●	●		
AMELANCHIER SPP.	Serviceberry			●	●						●			●	●		
BETULA FONTINALIS	Rocky Mountain Birch		●	●					●	●	●			●	●		
BETULA PAPYRIFERA	Paper Birch		●	●		●							●	●			
CERCIS CANADENSIS	Eastern Redbud			●	●		●					●		●	●		
FRAXINUS PENNSYLVANICA	Green Ash			●	●		●		●	●				●	●		
GLEDITSIA TRIACANTHOS INERMIS	Thornless Honeylocust			●	●		●		●					●	●		
KOELREUTERIA PANICULATA	Golden Raintree			●	●	●			●			●		●	●		
MALUS SPP.	Crabapple					●	●					●		●	●		
PICEA GLAUCA	White Spruce						●							●	●		
PICEA PUNGENS	Colorado Spruce						●		●					●	●		
PICEA PUNGENS GLAUCA	Colorado Blue Spruce						●		●					●	●		
PINUS ARISTATA	Bristlecone Pine						●		●					●	●		
PINUS EDULIS	Pinyon Pine						●		●		●			●	●		
PINUS FLEXILIS	Limber Pine						●		●		●	●		●	●		
PINUS PONDEROSA	Ponderosa Pine						●		●					●	●		
PINUS STROBIFORMIS	Southwestern White Pine						●		●					●	●		
POPULUS TREMULOIDES	Quaking Aspen					●			●			●	●	●	●		
PRUNUS CERASIFERA 'NEWPORT'	Newport Plum			●	●		●				●			●	●		
PRUNUS MAACKII	Amur Chokecherry			●	●						●			●	●	●	
PSEUDOTSUGA MENZIESII	Douglas Fir								●		●			●	●		
PYRUS CALLERYANA	Callery Pear 'Redspire's			●	●						●			●	●		
QUERCUS GAMBELII	Gambel Oak			●	●						●			●	●		
QUERCUS ROBUR	English Oak			●	●	●								●	●		
SORBUS AUCUPARIA	European Mountain Ash			●	●		●		●					●	●		
TILIA CORDATA	Little Leaf Linden			●	●		●		●					●	●		
ULMUS AMERICANA	American Elm			●	●	●	●		●	●				●	●		

Plant Palette	Campus Approval	Approp. Use							Growth Rqmnts.					
		CSU Maintenance	Bioswale	Showy Flowers/ Seasonal Color	Evergreen	Colorado Native	Pedestrian Barrier	Attractive to Wildlife	Small Shrub (<2' Tall)	Medium Shrub (2'-4' Tall)	Tall Shrub (> 4' Tall)	Full Sun	Partial Shade	Shade Tolerant
Shrubs														
AMELANCHIER SPP.	Serviceberry		●	●								●	●	
ARCTOSTAPHYLOS UVA-URSI	Kinnikinnick			●	●	●							●	
ARTEMISIA TRIDENTATA	Big Sagebrush				●	●	●					●		
CEANOTHUS FENDLERI	Fendler Ceanothus					●		●				●	●	●
CERCOCARPUS LEDIFOLIUS	Curl-leaf Mountain Mahogany				●	●	●					●	●	
CERATOIDES LANATA	Winterfat			●	●	●	●			●		●	●	
CORNUS SERICEA	Red Osier Dogwood			●		●	●	●						●
COWANIA MEXICANA	Cliffrose			●	●	●	●					●		
EUONYMUS ALATUS	Burning Bush			●			●					●	●	
FALLUGIA PARADOXA	Apache Plume			●	●	●	●	●				●		
FENDLERA RUPICOLA	Cliff Fendler Bush						●					●	●	
FORSYTHIA 'MEADOWLARK'	Meadowlark Forsythia			●			●					●		
HIBISCUS SYRIACUS	Rose-of-Sharon			●			●					●	●	
HOLODISCUS DUMOSUS	Rock Spirea			●		●				●		●	●	
LIGUSTRUM VULGARE 'LODENSE'	Lodense Privet			●			●					●	●	●
LONICERA X 'EMERALD MOUND'	Emerald Mound Lonicera						●			●		●	●	
POTENTILLA FRUTICOSA	Shrubby Cinquefoil			●	●	●	●			●		●	●	
PHILADELPHIS MICROPHYLLUS	Littleleaf Mock-Orange			●		●	●					●		
PRUNUS AMERICANA	Wild Plum		●	●		●	●	●				●	●	
PRUNUS BESSEYI	Sand Cherry		●	●			●			●		●	●	
PRUNUS X CISTENA	Cistena Plum			●			●					●	●	
MAHOHIA REPENS	Creeping Mahonia				●					●		●	●	
RHUS AROMATICA 'GROW-LOW'	Grow-Low Sumac								●			●	●	
RHUS GLABRA CISMONTANA	Smooth Sumac			●			●					●	●	
RIBES AUREUM	Golden Currant			●	●	●	●	●		●		●	●	
RIBES CEREUM	Wax Currant			●		●	●	●				●	●	
ROSA WOODSII	Woods Rose/Wild Rose			●		●	●	●		●		●	●	
SHEPHERDIA CANADENSIS	Russet Buffaloberry					●	●	●						●
SYMPHORICARPOS ALBUS	Snowberry					●	●			●				●
VIBURNUM TRILOBUM	American Cranberrybush		●				●	●				●	●	
YUCCA SPP.	Yucca			●			●			●		●		

Plant Palette	Campus Approval	Approp. Use	Characteristics						Growth Rqmnts.					
			Showy Flowers/ Seasonal Color	Evergreen	Colorado Native				Full Sun	Partial Shade	Shade Tolerant			
Ground Covers and Vines		CSU Maintenance	Bioswale	Showy Flowers/ Seasonal Color	Evergreen	Colorado Native					Full Sun	Partial Shade	Shade Tolerant	
ANTENNARIA SPP.	Pussytoes			●		●					●			
ARABIS SPP.	Rockcress			●	●						●			
ARENARIA VERNA	Moss Sandwort			●							●	●		
ARMERIA MARITIMA	Thrift			●	●						●	●		
ARTEMISIA SCHMIDTIANA 'SILVER MOUND'	Silver Mound Sage				●						●			
CALLIRHOE INVOLUCRATA	Poppy Mallow			●							●			
CAMP SIS RADICANS	Trumpet Vine			●							●	●		
CONVALLARIA MAJALIS	Lily-of-the-Valley			●								●	●	
DELOSPERMA COOPERI	Purple Ice Plant			●							●			
EUONYMUS FORTUNEI 'COLORATA'	Purpleleaf Winter Creeper			●	●									
HOSTA SPP.	Plantain Lily											●	●	
IBERIS SEMPERVIRENS	Candytuft			●	●						●	●		
LONICERA JAPONICA 'HALLIANA'	Hall's Japanese Honeysuckle			●	●						●	●		
MAHONIA REPENS	Creeping Mahonia				●	●							●	
PARTHENOCISSUS TRICUSPIDATA	Boston Ivy			●							●	●		
PENSTEMON PINIFOLIUS	Pineleaf Penstemon			●	●						●			
POLYGONUM AUBERTII	Silver Lace Vine			●							●			
POTENTILLA NEPALENSIS 'WILLMOTTIAE'	Willmott Cinquefoil			●							●	●		
SEDUM SPURIUM 'DRAGON'S BLOOD'	Sedum			●	●						●			
THYMUS SERPYLLUM	Mother-of-Thyme			●	●						●	●		
TRUCRIUM CHAMAEDRYIS	Germander			●							●	●		
WALDSTEINIA FRAGARIOIDES	Barren Strawberry			●	●						●	●		
Grasses		CSU Maintenance	Bioswale	Showy Flowers/ Seasonal Color		Colorado Native		Attractive to Wildlife	Small Grass (<2' Tall)	Medium Grass (2'-4' Tall)	Tall Grass (> 4' Tall)	Full Sun	Partial Shade	Shade Tolerant
AGROPYRON SPICATUM	Bluebunch Wheatgrass					●		●			●			
ANDROPOGON GERARDII	Big Bluestem		●	●	●		●			●				
ARISTIDA LONGISETA	Red Three-awn			●		●			●					
BOUPELOUA CURTIPENDULA	Side Oats Grama					●		●	●					
ELYMUS ELYMOIDES	Bottlebrush Squirreltail					●		●	●					
ORYZOPSIS HYMENOIDES	Indian Ricegrass			●		●		●	●					
SORGHASTRUM NUTANS	Indian Grass			●		●		●	●					

3. Furnishings

Site furnishings are functional elements—such as seating, trash receptacles, and bicycle racks—that help establish and reinforce the image and character of the campus. Standardizing these elements unifies the campus visually, reduces maintenance, and simplifies replacement.

Intent: to unify the campus landscape with a palette of site furnishings.

- 1. Install a family of stock items that coordinate with campus lighting and signage and that are durable, attractive, and easy to maintain.
- 2. Coordinate colors and style of similar materials to unify the campus. Avoid painted materials when possible. Natural color of the material is preferred to minimize long-term maintenance and express the campus character. Brushed aluminum is preferred where metal is used.
- 3. Use recycled materials when possible. In place of wood, use recycled wood composite in its natural color.
- 4. Over time, remove and replace site furniture to coordinate with the evolving campus image.

a. Seating

- 1. Provide seating throughout the campus to promote collegiality, enjoyment of the outdoor space, and enhance the pedestrian character of the campus.
- 2. Locate seating in groups and individually at building entrances, in gathering places, and along streets and paths, in sight of campus activity, and to capture distant views.
- 3. Make seating height between 14 and 18 inches above the pedestrian pavement and



Example of related site furnishings

level with the horizon. The depth of each seat should also be between 14 and 18 inches.

- 4. Appropriate materials for seating include low walls, large boulders, as well as benches. Seating with back supports should conform to the human body and contribute to a relaxing place to sit.
- 5. Provide mixture of benches and picnic tables for outdoor study.
- 6. Use one standard bench that is durable and comfortable. Benches should be linear in design, with a metal frame and recycled wood composite slats. Benches may have back supports as the composition of furnishings allows. Benches without backs are useful where seating is accessible from either side.
- 7. Locate or design seating in a way that prevents inappropriate use by skateboards, skates, or activities other than seating.
- 8. Use picnic tables that have a center post permanently fixed to the pavement. A mix of seating arrangements should be provided, including tables with four seats, three seats (allowing a wheelchair user to sit at the table), and two seats. Locate tables out of the maintenance vehicle path.
- 9. Provide moveable recycled wood composite lumber picnic tables.

b. Trash and Recyclable Material Receptacles

- ❑ 1. Use complementary receptacles for trash, recyclable materials, and smoking that are durable, require low maintenance, and can sustain periodic power-washing.
- 2. Receptacles should be non-descript without logos.
- 3. Receptacles for trash and recyclable materials should have easily accessible lids that keep out snow, rain and animals.



Multiple bike rack



Rack for two bicycles

c. Bicycle Racks

Currently there is a variety of rack types used for mass bicycle parking.

- ❑ 1. Use independent racks where only a few are necessary.

d. Walls, Fencing and barriers

- ❑ 1. Site retaining walls should be designed to provide seating where appropriate. In such cases walls should be 16-18 inches tall and 20-24 inches wide. Design walls to prevent skateboard activity.
- 2. Construct site retaining walls using native stone, cast-in-place concrete, or precast concrete block.
- ❑ 3. Precast concrete block retaining walls should be rectangular with a flat face. A minimum of three sizes of blocks should be used following an ashlar pattern. The color of precast concrete blocks should match the adjacent soil color, adjacent pavement, or building.
- 4. Use forms and materials for fences and/or site walls that complement the adjacent architecture and site design. Chain link fencing is not appropriate on the Main Campus.
- ❑ 5. Avoid the use of bollards through comprehensive site design. Where required, install removable bollards in emergency access routes.



The retaining wall at the College Ave. underpass is a good example of a rectangular, flat face concrete block structure.



Early campus lighting



New poles and fixtures will replace the older lights.

e. Site Lighting

Each fall semester a “walk of lights” is conducted by the campus police, Facilities Management and other groups concerned with nighttime safety to assess light levels throughout the campus. This is an effective method to assess minimum requirements. To improve evening activity additional lighting should be considered with new buildings, renovation and enhanced pedestrian malls.

- ❑ 1. Encourage additional lighting where it enhances the whole neighborhood.
- 2. Prohibit specially designed lighting of an individual building that is out of character to the neighborhood and/or adjacent buildings and uses.
- ❑ 3. Include electrical outlets located throughout the square and ample conduit providing for temporary sound and lighting systems.
- 4. Use full cutoff fixtures for street and

parking lot lights.

- ❑ 5. Design the lighting of utilities, enclosures, and service areas to complement adjacent land uses, architectural lighting, and/or circulation elements.
- ❑ 6. Refer to the Building (Design) Construction Standards Manual, Division 16 and Appendix Sole Source Products for standard equipment.
- 7. The use of Bollard Lighting Systems is not permitted.

4. Main Campus Signage

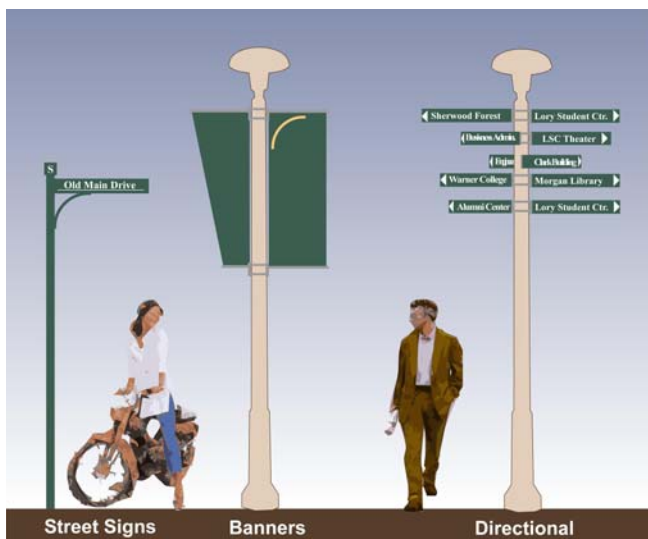
This document initiates the update of graphics (forms, colors, and materials) and signage in coordination with the CSU Foundation Development Office, Facilities Management, and the Sign Shop.

A sign design manual should be contracted to provide construction documents for specifications of materials, typography, and costs for budgeting of fabrication and installation. Intent: to contribute to clear and inviting wayfinding for the campus community and visitors. Signs are to be consistent in character within a hierarchy of types for specific purposes as applied to all the CSU, Fort Collins campuses.

- 1. Integrate signs into the system of open space, circulation, and buildings, complementing the styles and materials used in buildings and furnishings.
- ❑ 2. Design all components to be economically feasible for implementation, vandal resistance and maintenance.
- ❑ 3. Build on the established character of the historic signage monuments along College Avenue.
- ❑ 4. Develop priorities for a phased approach for replacing noncompliant signs on all campuses.
- 5. Comply with City of Fort Collins, State and Federal requirements to facilitate services and community cooperation in the public right-of-way and on campus.
- ❑ 6. Develop sign content, layout, and specific site location with Administration and Facilities.



Campus Entry Monument
The original monuments of blond brick with cast concrete, stone base and cap.



Street signs on the main campus are being updated across the campus. Light poles should be used to hang banners and/or directional signage.

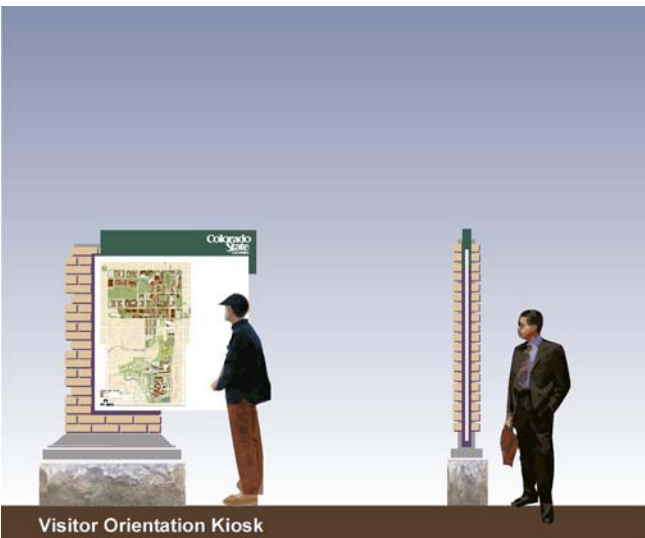
Signage on the Main Campus is based on the historic stone and brick entry monuments located north of University along College Avenue. Consistency amongst the Fort Collins campuses will be achieved through the use of stone bases (on most sign types), green as the primary sign color, typography, and the placement of the CSU logo. The sign system calls for the further use of the existing street signs and adding banners on the existing concrete light poles.



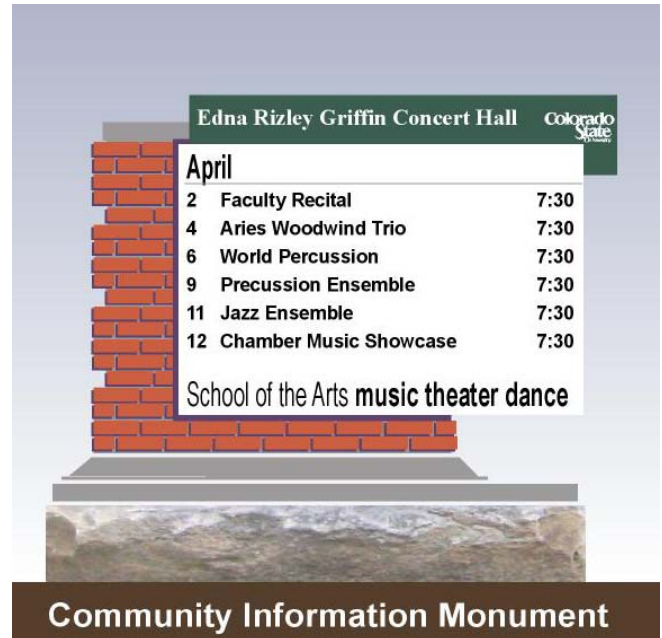
Entry monuments are located on both sides of the entry street



Building identification follows the standards with a stone base, or no base at all.



Visitor orientation kiosks include detailed maps of the campus for use by pedestrians.



Signage to the School of the Arts on College Avenue could be red brick to match the buildings. A changeable sign can be electronic but not have moving images that distract motorists and detract from the historic character of the community.



Visitor information and directional signs are to be designed for use by motorists.

III. SOUTH CAMPUS

A. Campus Context

South Campus, located south of the Main Campus between Prospect, Mason, West Drake and Research Boulevard, is a specialized university district including the Veterinary Medical Center (VMC) in the southern sector and Federal Natural Resources Research Center (NRRC) in the northern sector. The Master Plan and VMC Long Range Plan calls for the build-out of the 132 acres to include new research buildings and the replacement and removal of buildings and facilities.

In 2006, the NRRC is primarily built-out in terms of development program. Most of the property north of NRRC is within the 100 year floodplain and not suitable for development. This area is valuable not only for regional storm water management but as part of the open space system and recreational facilities. It provides the “rural” and open character cherished by many at the institution, as well as long-range views to the foothills and the main campus.





Large lawn areas surround the facilities at the South Campus



Outdoor eating areas are located within easy access of the work areas.

An additional 50 acres west of Center Avenue is owned by Colorado State University Research Foundation / Colorado State University Foundation (CSURF/CSUF). This property is intended to be developed as Medium Density Mixed Use providing light industrial, research and development, offices and institutions.

The design challenges of the South Campus include:

- Creating a pedestrian scaled campus that serves the particular needs of the university.
- Providing links to Main Campus and Fort Collins through transit, walking and bicycling to reduce dependency on the car.
- Allowing new VMC facilities to correspond with the CSU campus aesthetic for teaching and research buildings
- Infilling in a logical and efficient manner
- Promoting the consistent use of quality materials
- Increasing sustainable measures to limit long-term operational costs

B. South Campus Composition

Improvements and development of the South Campus is planned to develop in building clusters surrounding pedestrian oriented quads of plazas.

These clusters are surrounded by surface parking and a broad vegetated buffer at the community edges. The clusters are linked by vehicular and bicycle/pedestrian paths.

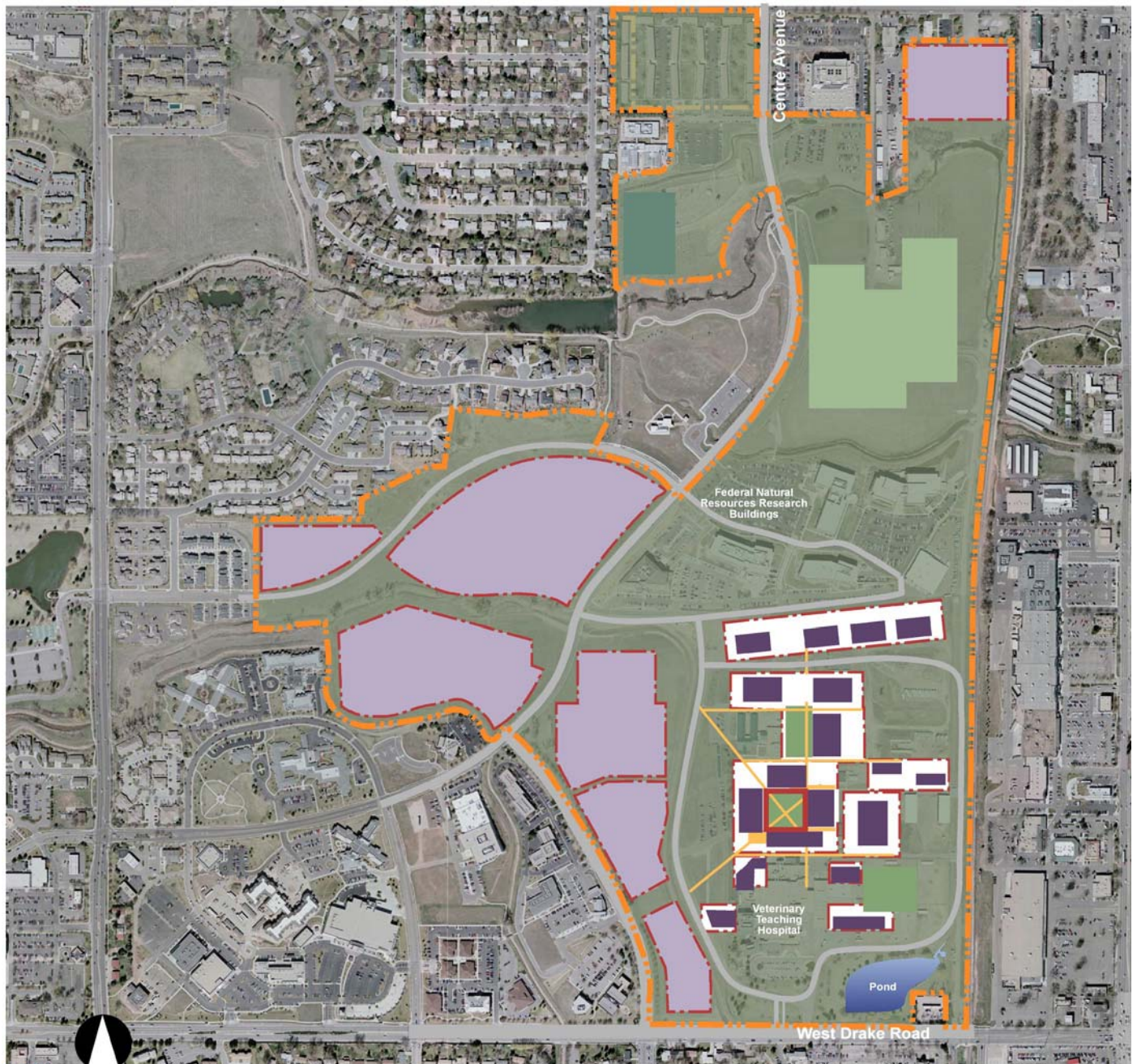


Figure 3.1 South Campus Framework Diagram

1. Open Space

This section guides the treatment of open spaces including:

- Quads and Plazas
- Courtyards and Patios
- VMC Pond
- Spring Creek Floodplain park
- Animal Enclosures
- Parking Lots
- Building Site

All the spaces are actively used in all seasons and must be attractive and functional through day and evening for the full time use of the hospital facilities.

Landscape materials composed within open spaces include trees, site furnishings, and pavement.

Public Art, Gifts and Memorials

South Campus has a few figurative outdoor sculptures memorializing the work of the VMC. While these are meaningful to the campus community too many could overwhelm the landscape and overburden growth of the facilities. The Foundation should carefully coordinate with the Arts Display Committee (ADC) to understand the policy and vision in order to respectfully optimize the generous gifts and memorials. Donors should be encouraged to consider gifts for the dedication and maintenance of open spaces, tree groves, and furnishings.

a. Quads and Plazas

Quads are pedestrian oriented open space areas spatially defined by buildings on all sides. They have multiple entrances and are predominantly lawn. Plazas are predominantly paved and serve the more active portions of the campus. Quads and plazas should provide interest, encourage interaction, and facilitate movement between adjacent buildings. These are spaces shared by the colleges within the adjacent buildings as well as the whole campus community.

Intent: to provide quads and plazas as major gathering spaces throughout the campus.

- 1. Define quads and plazas with minimum dimensions 150 square feet and maximum of 600 square feet.
- 2. Site lawns in large contiguous areas where they will not be shaded by buildings, are inviting to the community and easily accessible to maintenance equipment.
- 3. Plant trees, shrubs, and groundcover in areas between the lawn and building in response to microclimate conditions, building design and function.
- 4. Divide lawns and planting areas with a 6-inch wide concrete mow strip.
- 5. Include storm water retention systems in the lawns and planting areas.
- 6. Provide space for snow removal and storage.
- 7. Provide a variety of seating arrangements in sun and shade to allow for study, conversation, people watching, or quiet contemplation.
- 8. Design building entrances to be accessed from the quad or plaza and be supported with

site furnishings including seating, trash receptacles, bicycle racks, lighting and signage.

- 9. Locate trash receptacles, as appropriate, in all plazas and quads, at building entries; in high traffic areas, gathering areas, outdoor smoking areas, and seating areas; and adjacent to any shuttle bus shelter. Avoid locations where they interfere with pedestrian movement.
- 10. Locate ash urns in plazas and quads at outdoor smoking areas. Continue to educate the campus community about their appropriate use.
- 11. Move designated smoking areas at least 50 feet from main building entrances and/or air handlers.
- 12. Locate bicycle parking near entrances without compromising access, views, pedestrian activity and gathering opportunities.
- 13. Design utility access within paved areas. Elements such as hatches and grates must be flush with adjacent surfaces so as not to impede access.
- 14. Provide electrical outlets for special activities such as seasonal lighting, performances, etc. Outlets should be located where they are not susceptible to damage and can be integrated into the adjacent landscape.
- 15. Provide conveniently located connections to potable water for temporary use in the preparation or clean-up of approved events.
- 16. Locate Wi-Fi equipment discreetly on adjacent buildings for service in quads and plazas.
- 17. Provide emergency phones in coordination with campus police.

b. Courtyards and Patios

These are small outdoor spaces generally associated with one building.

Intent: to provide courtyards and/or patios as open space resources associated with all major buildings. These spaces should also serve as gathering places and respites.

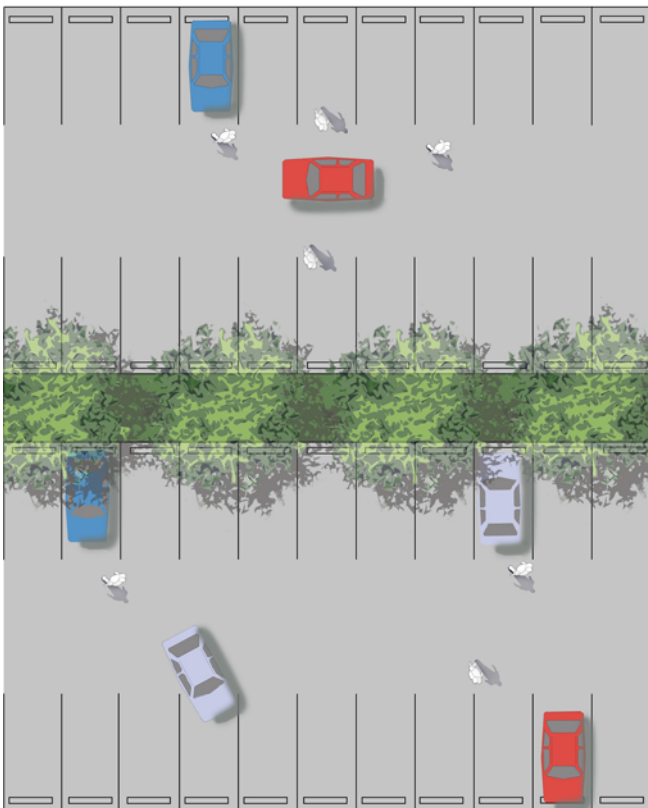
- 1. Program the uses and facilities of courtyards and patios with building occupants and maintenance personnel.
- 2. Design spaces for flexible use over the life of the building.
- 3. Provide seating and planting to complement the seasonal patterns of sun and wind.
- 4. Provide access for services including power and water for outdoor facilities, Wi-Fi.
- 5. Site on south or west sides where solar access is available.

c. VMC Pond

- 1. Reconstruct the pond with a naturalistic edge, planting areas for phytoremediation, and native plant riparian species.
- 2. Define the boundary of the pond and expand the planting of trees to define views and contribute to the campus.



Bioswales in parking lots collect stormwater runoff allowing it some to soak into the ground, slowing flood conditions and adding character to the landscape.



Bioswales are configured to direct water linearly as well as to let it soak into the soil.

d. Parking Lots

Surface parking lots occupy a significant amount of real estate on the South Campus. These should be improved to enhance the quality and functionality of the campus.

Intent: to provide parking lots that contribute to both the parking space count as well as limit environmental impact.

To better integrate them into the overall campus character:

- 1. Require site improvements as part of the design and construction of all new parking lots to include areas for tree growth, capture storm water and improved vehicular and pedestrian function.

Bioswales and biosquares refer to planting areas in the parking lots.

- 2. Develop a phased approach to reconstruct existing parking lots. Reconstruction should provide areas for tree growth, storm water retention and improved vehicular and pedestrian function.
- 3. Plant groups of canopy trees as landscape islands in parking lots to break up the expanse of paving and cars.
- 4. Orient planting areas to complement pedestrian desire lines. Where feasible, align planting areas to assist in directing pedestrians to destinations, such as transit stops, malls and entries.
- 5. Select trees to allow 8 foot vertical clearance (clear trunk height) above parking spaces to avoid limb breakage. The shrub under story should be naturally growing to a height less than 30" to maintain visibility.

- ❑ 6. Plant shade trees in surface parking lots to achieve 50% shade coverage of the paved area within 5 years of installation.
- ❑ 7. Design and locate planting areas to collect, retain, and direct snowmelt and stormwater runoff. Use regional water quality standards to determine the ratio of planting area to paved parking; each parking lot is to achieve 25% permeability within the vehicular area.
- ❑ 8. Consider use of permeable pavement for further stormwater infiltration.
- 9. Wheel stops are required to protect planting areas with no curb. Keep plants and irrigation heads 2 feet from the face of curb to allow for vehicle overhang.
- ❑ 10. Provide for a minimum of 100 square feet of planting area for each tree.
- 11. Irrigate all parking lot planting areas.
- 12. Lay out parking bays in efficient direction to promote pedestrian circulation efficiencies.



The parking lot between Lory Student Center and Rockwell Hall should be redesigned to include planting areas for shade and stormwater detention.



Biosquares are openings in the pavement at low points to capture storm water. They may be configured to allow pedestrian circulation across the parking lot in dry times.

e. Bicycle Parking

Intent: to provide safe, accessible bicycle parking at each building that does not interfere with pedestrian service or access.

- ❑ 1. Integrate bicycle parking into the composition of paths and planting near building entrances.
- ❑ 2. Install enough standard bicycle racks to meet the university's bicycle parking standards according to the type and use of each building.
- ❑ 3. Provide a quantity of bicycle racks to serve each facility based a current ratio of bicycle parking spaces per building type and population. Allow extra room for growth in ridership.
- ❑ 4. Consider shading large bicycle parking areas (outside of view corridors) with trees.
- ❑ 5. Screen bicycle parking (where feasible) with shrubs or walls at a maximum height of 36 inches.

f. Building Site

Site improvements are part of the planning and design of a new building or a renovation associated with one or a group of existing buildings. The landscape is key to creating an inviting and collegial environment outside as well as inside the building; to connecting the building with its larger campus setting; and to clarifying circulation and wayfinding.

Intent: to develop building envelopes to enhance the campus experience.

- 1. Require site improvements to be included in the design and construction of all new buildings.

- ❑ 2. Use massed plantings of trees, shrubs, and groundcover to integrate the building with its site and the surrounding campus and to make efficient use of irrigation water.
- 3. Coordinate the design of planting areas with roof drains to collect runoff.
- 4. Direct storm water runoff away from buildings and access routes.
- 5. Protect existing trees from damage during construction.
- ❑ 6. Limit lawn to areas near building entrances, where they receive full sun and where they can be efficiently maintained.
- 7. Provide a 12 inch wide concrete strip at the base of buildings in planting areas.
- 8. Provide 12 inch wide concrete mow strips under fences.
- 9. Divide lawns and planting areas with a 6 inch wide concrete mow strip.
- ❑ 10. Group site furniture, including benches, trash receptacles and ash urns, at entries, to enhance use and reduce clutter.
- 11. Screen views of loading areas, storage, utilities and outdoor equipment from defined open spaces and circulation corridors.

2. Circulation Corridors

Streets and pedestrian paths linking the spaces and facilities across the campus make up the circulation corridors. They can frame views across the campus and beyond, which is fundamental to orientation and wayfinding.

Intent: to unify the campus character, accommodate pedestrian, bicycle and vehicular traffic safely with inviting places established along the way.

a. General

- 1. Plant trees consistent in species, spacing and alignment at the edges of defined circulation corridors, i.e. 30 feet on center.
- 2. Plant and maintain the understory of shrubs naturally growing to a height of less than 36 inches where visibility across the planting area is important for security.
- 3. Design routes for emergency access, garbage, and snow removal to enhance the pedestrian experience.
- 4. Integrate the design of pedestrian and emergency access pavement to minimize the visual impact of pavement. For example, use a form of turfblock with low growing groundcover.
- 5. Design areas off the primary pedestrian paths for gathering.
- 6. Provide site furnishings at all pedestrian gathering areas such as seating, trash receptacles, lighting.

b. Edges and Entrances

The edges of the South Campus are important to the standing of the university and the city of Fort Collins.

1. West Drake Road
2. Mason Street Corridor
3. West Prospect
4. Research Road
5. Center Avenue

c. Campus Streets

Streets convey vehicular, bicycle and pedestrian access as well as provide views across the campus. The design of streets is an opportunity to unify the campus landscape.

Intent: Improve streets to a consistent level of quality across the campus.

- 1. Require site improvements as part of the design and construction of all new roadways including sidewalks, lighting, and street trees.

d. Sidewalks

- 1. Provide a minimum clear zone of 5 feet in horizontal width on each side of vehicular street for pedestrians and ensure a minimum of 7 feet in vertical clearance for all sidewalks.
- 2. Make pedestrian paths that are also designated for use by authorized vehicles a minimum of 10 feet wide with space for the 25 foot turning radius of a typical maintenance vehicle. Pavement and subsurface should be designed to withstand the load of snow-removal and cleaning equipment. Design routes of maintenance vehicles should complement the pedestrian environment.
- 3. Design pedestrian paths designated as emergency vehicular routes to meet the city of Fort Collins' standards and to complement the pedestrian environment of the campus.
- 4. Direct snowmelt and storm water runoff away from pedestrian paths.
- 5. Create bioswales to collect surface runoff before it crosses pavement areas and to reduce puddling and damage to walkways. Bioswales may be grass-lined where adjacent to a lawn area, or planted with low shrubs and grasses. They should be graded to direct water away from paved areas.
- 6. Provide pedestrian crossing aids such as push buttons at all signalized street crossings.

e. Campus Bikeway

- 1. Establish a campus bikeway throughout the Main Campus to facilitate safe and efficient riding.
- 2. Develop connections to the city system of bike paths, and regional transit.

f. Utility Corridors

Utility service of energy, technology, and water/sewer are fundamental to the University. The boxes, hatches and poles are generally unsightly and distracting from the aesthetics of the campus.

Intent: to minimize negative aesthetic impacts of the required utility structures and easements.

- 1. Locate all utilities in the street or pedestrian mall to avoid conflict with street trees.
- 2. Center all utility connections from the street to buildings between street trees (or a minimum of 20' from the center of tree trunks).
- 3. Design and coordinate the location of all above-ground utilities, enclosures, and service areas as part of the adjacent building massing and materials. Do not locate utility boxes, vaults, poles, etc., above ground in the sidewalk. In no case shall a utility box limit the sidewalk clear-zone to less than 5 feet.
- 4. Design hatches for below-ground utilities to match the adjacent sidewalk. Locate hatches away from snow removal path.

3. Buildings

The architecture of the South campus buildings is more of a commercial than of an institutional style. The NRRC (Federal Natural Resources Research) buildings are examples of contemporary 3-story office buildings with flat roofs and with brick and glazed storefront systems as the pre-dominant façade materials. The VMC (Veterinary Medical Center) buildings range from 2-story industrial architecture (majority of the main medical center building) with flat roofs to 1-story agricultural buildings with sloped metal roofs.

Since this campus is almost complete (the NRRC campus portion is largely built-out) these guidelines seek to create a campus quadrangle architecture on the remaining development portions of the South Campus.

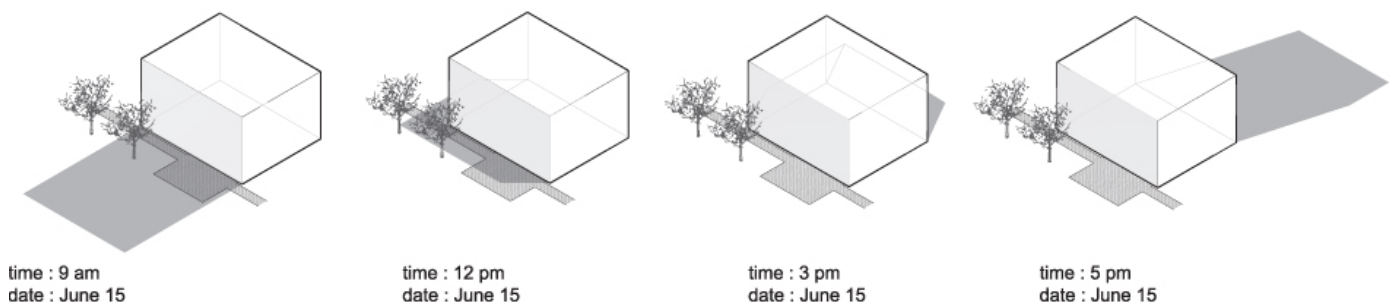
a. Building Siting / Orientation

These guidelines seek to create a campus aesthetic for the southern portion of the South Campus by creating pedestrian quadrangles or courts. No buildings should block the significant views to the mountains. When the urban fabric allows, the building footprint and building siting should take advantage of the solar orientation to maximize daylighting opportunities, minimize visual glare issues, and to maximize the impact on building climate control systems.



Federal Natural Resources Research Buildings

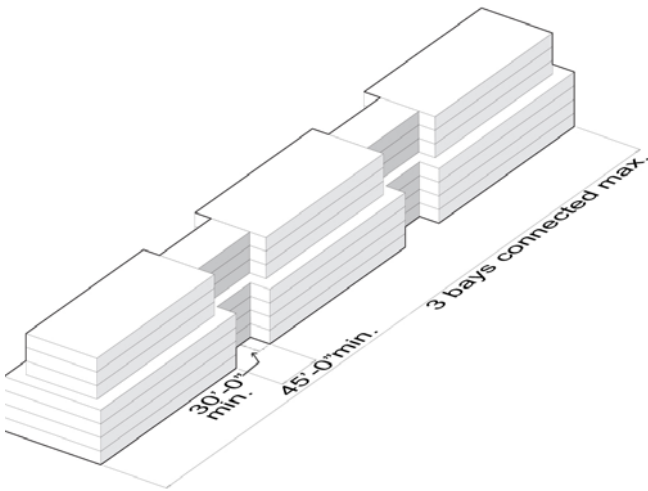
- 1. Position main building facades and entrances to face the major pedestrian drop-off.
- 2. Locate key building features, such as main entrances and key interior common or program spaces, at the terminus of visual axes of each cluster.
- 3. When possible, locate new buildings or additions to take advantage of solar orientation. Locate the majority of building spaces facing South or North. Provide passive or active controls to manage direct sunlight on the South side. Minimize the exposure to the East and West. Provide passive or active controls to manage low sun angles on these sides.



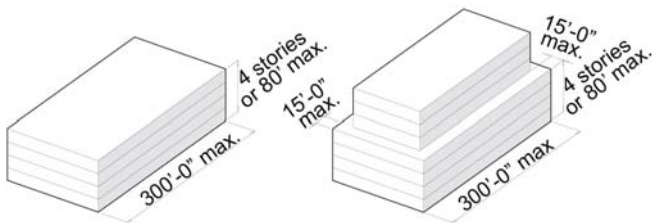
Solar orientation of buildings.



Veterinary Medical Center



Building length



Building height

b. Building Massing and Scale

In 2006 the overall massing of the majority of campus buildings is of one to three story structures. To ensure harmony, new buildings should follow existing patterns in relation to height and massing and maintain the current scale of the campus. Development should be designed to create new pedestrian scale quadrangle spaces. One-story buildings should be discouraged. Limit the perceived overall building scale and/or massing (limit the size of singular structures or interconnected buildings):

- 1. Limit building length/depth to 300 feet. Restrict the number of attached buildings to three, provided further that the façade of any attached building be visibly offset from the adjoining building at an angle of approximately 90 degrees.
- 2. Require a minimum distance of 45 feet between any two groups of attached buildings, including accessory buildings, and a minimum offset of 30 feet.
- 3. Prohibit buildings taller than four stories in order to maintain the current human scale on the campus and to relate well to existing campus structures. Design and program new buildings to maximize a site's potential, provided that the structures are consistent with the height guideline.

Exception: allow mechanical penthouses, etc. or projects to exceed the height limit.

Additional review and approval requirements:

- If part of the building or structure serves as an orientation point or gateway on campus, a 3-D massing simulation with view studies will be required to demonstrate that it serves to provide visual connections on campus.

Exception: if the building is proposed to be taller than four stories, a 3-D massing simulation with view studies will be required to demonstrate that the proposed design maintains the desired scale of the campus and does not block the major views from the main public approaches (vehicular).

c. Building Plan and Program Distribution

The general organization of the building plans and the distribution of the program spaces should be designed to increase the perceived level of activity on campus and to strengthen the relationship between the interior spaces and the exterior campus environment. Public and common type spaces such as lobbies, lounges, instructional spaces, conference and meeting spaces should be located adjacent to the main public open spaces. Program elements that could take advantage of exterior spaces should be located on the ground level.

- 1. Locate common public spaces and functions near building entrances and near the main vehicular drop-off (at the ground floor level).
- 2. Incorporate design solutions that maximize natural day-lighting to improve visibility of the entrance areas and common spaces from the exterior.
- 3. Locate spaces with windows adjacent to public open spaces (on all levels).
- 4. Locate those program spaces on the ground level of the building that can take advantage of or use the exterior spaces (examples: lounge, lunch area, etc.).

d. Building Entrance

Building entrances should be visible and prominent and provide an opportunity for visual transparency and connection between interior and exterior. The interior lobby and associated outdoor spaces should be pedestrian-friendly spaces and should encourage and promote interaction between the building users and visitors.

- 1. Design building entrances to be clearly visible, prominent, and contribute to the life and activity of the pedestrian environment and provide protection against extreme climate and weather conditions through the use of vestibules and overhangs.
- 2. Encourage visual access to academic activities from the pedestrian environment through window and lighting systems that strengthen the connection between indoor and outdoor spaces.
- 3. Use clear or lightly tinted glazing materials around the entrance areas. Avoid using highly reflective glazing.
- 4. Design building lighting or area lighting to prevent glare and incorporate indirect lighting and lighting by illuminating walls and other surfaces.
- 5. When applicable, position lobby security desks to allow security guards clear lines of sight to the building and lobby entrances.

e. Location of Equipment and Utility Structures

Utility structures that serve the building are required to be accessible for maintenance but should be sited out of the public view.

Intent: to minimize unsightly boxes from the campus landscape.

- 1. Locate equipment and other utility structures out of direct view from the main campus spaces and the main pedestrian areas. Give priority to solutions that incorporate mechanical equipment in the building (vault, basement, mechanical penthouse, etc.)
- 2. Screen service, utility, maintenance and storage areas, including solid waste containers, loading and unloading areas and heating, ventilating and air-conditioning equipment, from direct view (from public view and adjacent buildings) with enclosing walls or buffer planting. Design visual screening to be of sufficient density to appear opaque and of sufficient height to constitute an effective screen.
- 3. Prohibit equipment or utility structures near within 100 feet the main building entrance.

f. Service Access and Trash Management

Provide service access areas away from the main pedestrian entrance and circulation and integrate them into the building design, screened from direct public view. Design screen walls to be consistent with the building architecture or follow the site design guidelines.

- 1. Provide service access out of direct view of the main pedestrian entrance.

- 2. Incorporate trash collection and holding areas into the building and screen them from direct public view.
- 3. Integrate mechanical areas into the building and design them to screen the area from direct public view and to prevent trash odors from entering building areas or the main outdoor public areas.

g. Architectural Character and Building Materials

These guidelines do not prescribe a singular style for new buildings or additions. The architectural character of new structures should be sympathetic to the existing neighboring structures, convey a human scale and reinforce a quadrangle layout. Stone, as found on CSU's main campus, shall be incorporated in the entrance façade / public entrance lobby of all new building projects. The intent is to create campus continuity and consistency while communicating the institutional values of the University and expressing the intended program or mission of the building(s).

- 1. Create architectural character that communicates the educational or research mission of the particular project or department (for example: a building for the environmental sciences department should incorporate sustainable site or building systems such as photovoltaic panels).

C. South Campus Materials

1. Building Materials

Materials / General note:

The use of materials new to the market will only be considered if the designer can provide test data sufficient to convince the University’s Facilities Management staff of their durability and reliability. Sustainable materials and systems should be given special consideration whenever possible within the parameters of these aesthetic design guidelines and the University’s Building (Design) Construction Standards Manual.

a. Roofs and Eaves

Intent: New buildings shall incorporate sloped roofs to respond to the region’s agricultural heritage and to improve the visual connection between the various clusters and districts.

- 1. For flat or low-sloped roof areas, select energy star roof compliant, high-reflectance and low-emissivity roofing materials or select green or vegetated roofs for all or a portion of the roof area.
- 2. Select slate, artificial slate (recycled roofing product) and metal for sloped roof materials.
- 3. Prohibit the use of asphalt-type or fiberglass roofing shingles.

b. Exterior Cladding Materials

The existing buildings at CSU’s South Campus are predominantly brick with flat roofs. In this context, exterior materials and colors should be chosen to be compatible with the colors within the particular campus neighborhood and to be cost effective over the life of the structure. The intent of this guideline is to improve the visual unity on the campus as a whole and by requiring integration of more institutional (and durable) materials in all new buildings and structures. If alternate materials are selected for portions of the exterior envelope, care should be taken that the key campus materials are located close to building entrances and close to the pedestrian environment, in order to maintain the feel of richness, texture, durability and human scale close to where people move and where people approach the building. Stone is required at and near main building entrances to provide some visual connection with the main campus.

In order to achieve a greater level of architectural continuity the following material recommendations are to be followed:

- 1. Preferred primary materials: Brick.
- 2. Use natural stone at/near building entrances.
- 3. Locally sources or manufactured materials should be given preference during the selection process. Exterior materials with integral colors are encouraged to minimize maintenance and to ensure durability.
- 4. Integrate metal panel systems and other modular systems such as slate, etc. only as ‘secondary’ materials. Use of these materials near main entrances is not permitted.
- 5. The use of Exterior Insulation and Finish Systems (EIFS) or residential scale siding such as vinyl or aluminum siding is not permitted.

- 6. Create building openings that contribute to the day-lighting of the interior spaces and that strengthen the relationship between the indoor and outdoor environments.
- 7. Integrate window and window wall systems, if compatible with the indoor programs. Avoid highly reflective or dark tinted glass.
- 8. Integrate stone and/or brick materials (used as part of the exterior cladding materials) in selected interior spaces, such as the entrance vestibule and lobby areas.

c. Fenestration

Fenestration, such as window and door openings in building facades, should reflect the solar orientation and should focus on creating a sense of activity on the public side of the buildings. Detailing should exhibit permanence, human scale, and visual richness.

- 1. In punched openings in masonry walls, incorporate a stone or cast-stone lintel and sill detail and feature masonry returns to emphasize wall thickness and add depth by the resulting shadows. Locate windows and other glazing systems towards the interior side of the wall to maximize this effect.
- 2. When walls are terminated to transition into a different material or into a glazed curtain wall, incorporate a masonry return should be incorporated to emphasize the wall thickness.
- 3. Provide solar screens or roof overhangs on the south side of the structure to manage direct sunlight into building spaces.

d. Building Signage

- 1. Provide building signage that includes the building name and the departments, and the key use(s) of the building.
- 2. Integrate this signage into the entrance design of the building.
- 3. Provide places in the main entrance vestibule to incorporate donor recognition opportunities (including signage). Incorporate signage into the overall architectural design.
- 4. Provide location for a keystone indicating the year of construction (completion). Acceptable materials: natural stone or cast-stone.

2. Landscape Materials

a. Pavement

Vehicular pavement, roadways, driveways are typically asphalt and consistent with the city to facilitate emergency services, delivery and community interface.

Pedestrian pavement on the South Campus is important for utilitarian and aesthetic value. It should be a basic material for ease of maintenance and adaptation/change through the development of the campus.

- 1. Use pavement materials in their elemental form, such as concrete (plain, colored, scored and/or with exposed aggregate), stone or precast concrete pavers. Stamped concrete is not permitted.
- 2. Use plain gray cast-in-place concrete with a medium broom finish as the standard campus paving for sidewalks and pedestrian areas, except where special paving is designated in gathering places.
- 3. Consider paving outdoor gathering places, such as plazas, courts, and building entries, with other materials following the hierarchy of circulation corridors. Hierarchy of pavement types:
 - a. Courtyard and patio pavement may be stone or precast (brick or concrete) pavers to complement the architecture.
 - b. Plazas – heavily exposed concrete, natural gray color.
- 4. Precast concrete pavers – rectangular form, natural gray or beige tones to complement the building materials.

- 5. Stone – Dakota stone may be rectangular or flag.
- 6. Brick pavers may be red or blond brick pavers where they relate to adjacent buildings.
- 7. For colored pavement, use earth tones found in the region. Any deviation from the campus standard gray must provide the specific mix for future repair.
- 8. Design pedestrian pavement of designated accessible routes to meet the Americans with Disabilities Act (ADA) criteria for slopes, width, and finish.



Stone pavement



Heavily exposed aggregate concrete and brick pavers



Pre-cast concrete pavers in an ashler pattern

b. Planting

The plant materials (trees, shrubs, groundcover, grasses, vines and perennials) on the CSU South Campus should relate to the native riparian habitat of the region.

- 1. Use color, texture, and form of plants in the composition of landscape spaces.
- 2. Refer to the Campus Landscape Plant Palette in this section.
- 3. Conduct soil testing in the site development stages to obtain recommendations to improve soil fertility and to determine if subsurface drainage and aeration systems are required to maintain the growth of trees.
- 4. Do not use nonnative plants that have been identified as noxious and/or invasive.
- 5. Plant and maintain low-growing (1' - 3' in height), drought-tolerant shrub species that are visually appealing in their natural form (unpruned). These will serve to meet objectives of enhanced security, sustainability, and low maintenance.
- 6. Create a simple ground plane of lawn in areas of active use.
- 7. Screen undesirable views with larger shrubs and vines on fences and/or trellis where visibility for security is not an issue.
- 8. Use ADA appropriate tree grates (minimum 5 foot X 5 foot) in pedestrian pavement at locations of high pedestrian traffic such as in plazas, quads, and courtyards.
- 9. Provide and design tree grates that allow for the increase of tree caliper and prevent the accumulation of debris.



- 10. Fill the space between the finish grade of the tree and the tree grate with gravel larger than 1/4 inch to limit the accumulation of debris under the grate while still allowing air penetration.
- 11. Make planting areas a minimum of 5 feet by 8 feet for flower, groundcover, and shrub beds.
- 12. Provide 40 square feet of water and air-permeable planting area at the base of each tree, within the drip zone, using either a tree grate (in highly used pedestrian areas) or groundcover or shrubs and mulch (in low-use areas).
- 13. For security, mass trees to allow sight lines and not obscure lighting.
- 14. Maintain trees along sidewalks and in parking lots with a clear-zone (between the top of pavement and bottom limb) of 7 feet above the sidewalk and 13 feet 6 inches above the street.
- 15. Irrigation - Refer to the Building (Design) Construction Standards Manual, Division 2 and Appendix Sole Source Products for standard equipment.

Plant Palette

The Plant Palette is detailed in the following matrices that define:

- Guidelines for locating and composition,
- Characteristics of form, color and habit; and
- Requirements for optimal growth

Definitions.

Bioswale:

A planting area that filters pollutants out of storm water.

Screen:

Plants that form a visual and/or physical barrier.

Pedestrian Barrier:

Plants that form a physical obstruction to pedestrian circulation.

In Lawn Area:

Trees that function well in turf.

In Planting Area:

Trees that function well in planting areas with shrubs and/or groundcovers.

In Pedestrian Pavement:

Trees that function well in small planting areas surrounded by pavement and/or in tree grates.

Shade Canopy:

The crown of a tree, including branches and foliage.

Landmark Planting:

Prominent trees within a landscape.

Showy Flowers/Seasonal Color:

Plants that have distinguishing flowers and/or seasonal color.

Evergreen:

Plants that have green, persisting foliage year-round.

Colorado Native:

A member of a plant species that inhabited Colorado prior to European contact.

Non-Invasive:

Plants that will not proliferate and overrun or displace native vegetation.

Attractive to Wildlife:

Plants that provide nutrition for wildlife.

Riparian Vegetation:

Plants that grow in freshwater ecosystems.

Historically Significant:

Plants with a particular importance in the history of the campus and/or the state.

Plant Palette	Campus Approval	Appropriate Uses				Characteristics							Growth Rqmts.				
		CSU Facilities Maintenance	Bioswale	In Lawn Area	In Pedestrian Pavement	Landmark Planting	Showy Flowers/Seasonal Color	Evergreen	Shade Canopy	Colorado Native	Historically Significant	Small Tree (>20' Tall)	Medium Tree (20'-40' Tall)	Large Tree (> 40' Tall)	Full Sun	Partial Shade	Shade Tolerant
Trees																	
ABIES CONCOLOR	White Fir						●		●				●	●			
ACER GLABRUM	Rocky Mountain Maple		●	●			●		●		●				●		
ACER GRANDIDENTATUM	Bigtooth Maple			●	●		●		●		●				●		
ACER PLATANOIDES	Norway Maple			●	●		●		●						●		
ACER SACCHARINUM	Sugar Maple			●		●		●							●		
ACER TATARICUM	Tatarian Maple			●					●		●						
ALNUS TENUIFOLIA	Thinleaf Alder			●								●			●	●	
AMELANCHIER SPP.	Serviceberry			●	●						●				●		
BETULA FONTINALIS	Rocky Mountain Birch		●	●					●	●	●				●		
BETULA PAPYRIFERA	Paper Birch		●	●		●						●			●		
CERCIS CANADENSIS	Eastern Redbud			●	●		●					●			●		
FRAXINUS PENNSYLVANICA	Green Ash			●	●		●		●	●					●		
GLEDITSIA TRIACANTHOS INERMIS	Thornless Honeylocust			●	●		●		●						●		
KOELREUTERIA PANICULATA	Golden Raintree			●	●	●			●				●		●		
MALUS SPP.	Crabapple					●	●					●			●		
PICEA GLAUCA	White Spruce						●								●		
PICEA PUNGENS	Colorado Spruce						●		●						●	●	
PICEA PUNGENS GLAUCA	Colorado Blue Spruce						●		●						●	●	
PINUS ARISTATA	Bristlecone Pine						●		●						●	●	
PINUS EDULIS	Pinyon Pine						●		●		●				●		
PINUS FLEXILIS	Limber Pine						●		●		●	●			●	●	
PINUS PONDEROSA	Ponderosa Pine						●		●						●		
PINUS STROBIFORMIS	Southwestern White Pine						●		●						●		
POPULUS TREMULOIDES	Quaking Aspen					●			●			●	●		●	●	
PRUNUS CERASIFERA 'NEWPORT'	Newport Plum			●	●		●				●				●		
PRUNUS MAACKII	Amur Chokecherry			●	●						●				●	●	●
PSEUDOTSUGA MENZIESII	Douglas Fir								●		●				●	●	
PYRUS CALLERYANA	Callery Pear 'Redspire's			●	●						●				●		
QUERCUS GAMBELII	Gambel Oak			●	●						●				●		
QUERCUS ROBUR	English Oak			●	●	●									●		
SORBUS AUCUPARIA	European Mountain Ash			●	●		●		●						●		
TILIA CORDATA	Little Leaf Linden			●	●		●		●						●		
ULMUS AMERICANA	American Elm			●	●	●	●		●	●					●		

Plant Palette	Campus Approval	Approp. Use	Characteristics								Growth Rqmnts.				
			Showy Flowers/ Seasonal Color	Evergreen	Colorado Native	Pedestrian Barrier	Attractive to Wildlife	Small Shrub (<2' Tall)	Medium Shrub (2'-4' Tall)	Tall Shrub (> 4' Tall)	Full Sun	Partial Shade	Shade Tolerant		
Shrubs															
AMELANCHIER SPP.	Serviceberry	●	●										●	●	
ARCTOSTAPHYLOS UVA-URSI	Kinnikinnick		●	●	●									●	
ARTEMISIA TRIDENTATA	Big Sagebrush			●	●	●	●	●					●		
CEANOTHUS FENDLERI	Fendler Ceanothus				●	●	●	●	●				●	●	●
CERCOCARPUS LEDIFOLIUS	Curl-leaf Mountain Mahogany			●	●	●	●	●					●	●	
CERATOIDES LANATA	Winterfat			●	●	●	●	●		●			●	●	
CORNUS SERICEA	Red Osier Dogwood			●	●	●	●	●							●
COWANIA MEXICANA	Cliffrose			●	●	●	●	●					●		
EUONYMUS ALATUS	Burning Bush			●			●						●	●	
FALLUGIA PARADOXA	Apache Plume			●	●	●	●	●					●		
FENDLERIA RUPICOLA	Cliff Fendler Bush						●						●	●	
FORSYTHIA 'MEADOWLARK'	Meadowlark Forsythia			●			●						●		
HIBISCUS SYRIACUS	Rose-of-Sharon			●			●						●	●	
HOLODISCUS DUMOSUS	Rock Spirea			●		●	●			●			●	●	
LIGUSTRUM VULGARE 'LODENSE'	Lodense Privet			●			●						●	●	●
LONICERA X 'EMERALD MOUND'	Emerald Mound Lonicera						●			●			●	●	
POTENTILLA FRUTICOSA	Shrubby Cinquefoil			●	●	●	●			●			●	●	
PHILADELPHIS MICROPHYLLUS	Littleleaf Mock-Orange			●		●	●						●		
PRUNUS AMERICANA	Wild Plum		●	●		●	●	●					●	●	
PRUNUS BESSEYI	Sand Cherry		●	●			●			●			●	●	
PRUNUS X CISTENA	Cistena Plum			●			●						●	●	
MAHOHIA REPENS	Creeping Mahonia				●				●				●	●	
RHUS AROMATICA 'GROW-LOW'	Grow-Low Sumac								●				●	●	
RHUS GLABRA CISMONTANA	Smooth Sumac			●			●						●	●	
RIBES AUREUM	Golden Currant			●	●	●	●	●		●			●	●	
RIBES CEREUM	Wax Currant			●		●	●	●					●	●	
ROSA WOODSII	Woods Rose/Wild Rose			●		●	●	●		●			●	●	
SHEPHERDIA CANADENSIS	Russet Buffaloberry					●	●	●							●
SYMPHORICARPOS ALBUS	Snowberry					●	●								●
VIBURNUM TRILOBUM	American Cranberrybush		●				●	●					●	●	
YUCCA SPP.	Yucca		●				●			●			●		

Plant Palette	Campus Approval	Approp. Use	Characteristics							Growth Rqmnts.					
			Showy Flowers/ Seasonal Color	Evergreen	Colorado Native					Full Sun	Partial Shade	Shade Tolerant			
Ground Covers and Vines	CSU Maintenance	Bioswale													
ANTENNARIA SPP.	Pussytoes		●		●							●			
ARABIS SPP.	Rockcress		●	●								●			
ARENARIA VERNA	Moss Sandwort		●									●	●		
ARMERIA MARITIMA	Thrift		●	●								●	●		
ARTEMISIA SCHMIDTIANA 'SILVER MOUND'	Silver Mound Sage			●								●			
CALLIRHOE INVOLUCRATA	Poppy Mallow		●									●			
CAMPIS RADICANS	Trumpet Vine		●									●	●		
CONVALLARIA MAJALIS	Lily-of-the-Valley		●										●	●	●
DELOSPERMA COOPERI	Purple Ice Plant		●									●			
EUONYMUS FORTUNEI 'COLORATA'	Purpleleaf Winter Creeper		●	●											
HOSTA SPP.	Plantain Lily												●	●	●
IBERIS SEMPERVIRENS	Candytuft		●	●								●	●		
LONICERA JAPONICA 'HALLIANA'	Hall's Japanese Honeysuckle		●	●								●	●		
MAHONIA REPENS	Creeping Mahonia			●	●										●
PARTHENOCISSUS TRICUSPIDATA	Boston Ivy		●									●	●		
PENSTEMON PINIFOLIUS	Pineleaf Penstemon		●	●								●			
POLYGONUM AUBERTII	Silver Lace Vine		●									●			
POTENTILLA NEPALENSIS 'WILLMOTTIAE'	Willmott Cinquefoil		●									●	●		
SEDUM SPURIUM 'DRAGON'S BLOOD'	Sedum		●	●								●			
THYMUS SERPYLLUM	Mother-of-Thyme		●	●								●	●		
TRUCRIUM CHAMAEDRYIS	Germander		●									●	●		
WALDSTEINIA FRAGARIOIDES	Barren Strawberry		●	●								●	●		
Grasses	CSU Maintenance	Bioswale													
AGROPYRON SPICATUM	Bluebunch Wheatgrass				●		●					●			
ANDROPOGON GERARDII	Big Bluestem	●	●	●		●						●			
ARISTIDA LONGISETA	Red Three-awn		●	●								●			
BOUTELOUA CURTIPENDULA	Side Oats Grama			●			●					●			
ELYMUS ELYMOIDES	Bottlebrush Squirreltail			●			●	●				●			
ORYZOPSIS HYMENOIDES	Indian Ricegrass		●	●			●	●				●			
SORGHASTRUM NUTANS	Indian Grass		●	●			●	●				●			

3. Furnishings

Site furnishings are functional elements—such as seating, trash receptacles, and bicycle racks—that help establish and reinforce the image and character of the campus. Standardizing these elements unifies the campus visually, reduces maintenance, and simplifies replacement.

Intent: to unify the campus landscape with a palette of site furnishings.

- 1. Install a family of stock items that coordinate with campus lighting and signage and that are durable, attractive, and easy to maintain.
- 2. Coordinate colors and style of similar materials to unify the campus. Avoid painted materials when possible. Natural color of the material is preferred to minimize long-term maintenance and express the campus character. Brushed aluminum is preferred where metal, is used.
- ❑ 3. Use recycled materials when possible. In place of wood, use recycled wood composite in its natural color.
- ❑ 4. Over time, remove and replace site furniture to coordinate with the evolving campus image.

a. Seating

- ❑ 1. Provide seating throughout the campus to promote collegiality, enjoyment of the outdoor space, and enhance the pedestrian character of the campus.
- 2. Locate seating in groups and individually at building entrances, in gathering places, and along streets and paths, in sight of campus activity, and to capture distant views.
- ❑ 3. Make seating height between 14 and 18 inches above the pedestrian pavement and



Example of related site furnishings

- level with the horizon. The depth of each seat should also be between 14 and 18 inches.
- ❑ 4. Appropriate materials for seating include low walls, large boulders, as well as benches. Seating with back supports should conform to the human body and contribute to a relaxing place to sit.
- ❑ 5. Provide mixture of benches and picnic tables for outdoor study.
- 6. Use one standard bench that is durable and comfortable. Benches should be linear in design, with a metal frame and recycled wood composite slats. Benches may have back supports as the composition of furnishings allows. Benches without backs are useful where seating is accessible from either side.
- 7. Locate or design seating in a way that prevents inappropriate use by skateboards, skates, or activities other than seating.
- 8. Use picnic tables that have a center post permanently fixed to the pavement. A mix of seating arrangements should be provided, including tables with four seats, three seats (allowing a wheelchair user to sit at the table), and two seats. Locate tables out of the maintenance vehicle path.
- ❑ 9. Provide moveable recycled wood composite lumber picnic tables.

b. Trash and Recyclable Material Receptacles

- ❑ 1. Use complementary receptacles for trash, recyclable materials, and smoking that are durable, require low maintenance, and can sustain periodic power-washing.
- 2. Receptacles should be non-descript without logos.
- 3. Receptacles for trash and recyclable materials should have easily accessible lids that keep out snow, rain and animals.



Multiple bike rack



Rack for two bicycles

c. Bicycle Racks

Currently there is a variety of rack types used for mass bicycle parking.

- ❑ 1. Use independent racks where only a few are necessary.

d. Walls, Fencing and barriers

- ❑ 1. Site retaining walls should be designed to provide seating where appropriate. In such cases walls should be 16-18 inches tall and 20-24 inches wide. Design walls to prevent skateboard activity.
- 2. Construct site retaining walls using native stone, cast-in-place concrete, or precast concrete block.
- ❑ 3. Precast concrete block retaining walls should be rectangular with a flat face. A minimum of three sizes of blocks should be used following an ashlar pattern. The color of precast concrete blocks should match the adjacent soil color, adjacent pavement, or building.
- 4. Use forms and materials for fences and/or site walls that complement the adjacent architecture and site design.
- ❑ 5. Avoid the use of bollards through comprehensive site design. Where required, install removable bollards in emergency access routes.

e. Site Lighting

Night lighting is critical for campus safety and visitor orientation. Light poles are an important element in the landscape

Intent: to improve evening activity and enhance the character of the South Campus with the correct placement of outdoor lights.

- ❑ 1. Encourage additional lighting where it enhances the whole neighborhood.
- 2. Prohibit specially designed lighting of an individual building that is out of character to the neighborhood and/or adjacent buildings and uses.
- ❑ 3. Include electrical outlets located throughout the square and ample conduit providing for temporary sound and lighting systems.
- 4. Use full cutoff fixtures for street and parking lot lights.
- ❑ 5. Design the lighting of utilities, enclosures, and service areas to complement adjacent land uses, architectural lighting, and/or circulation elements.
- ❑ 6. Refer to the Building (Design) Construction Standards Manual, Division 16 and Appendix Sole Source Products for standard equipment.
- 7. The use of Bollard Lighting Systems is not permitted.



New light poles and fixtures used on the Main Campus should be used at the South Campus.

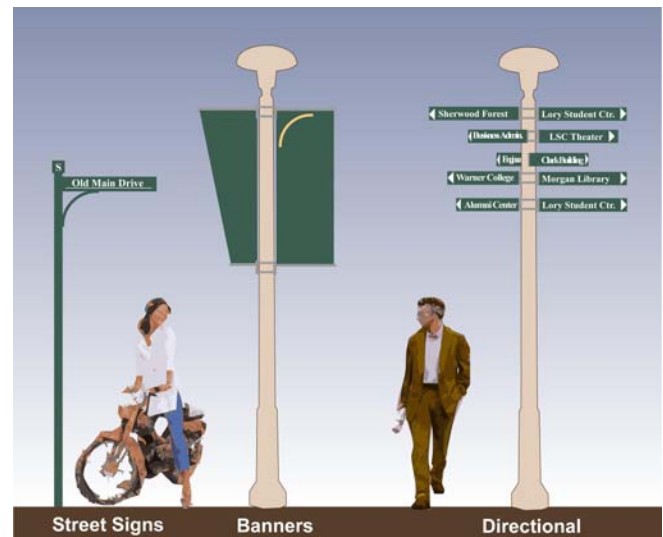
4. South Campus Signage

The intent of the campus signage system is to contribute to clear and inviting wayfinding for the campus community and visitors. Signs are to be consistent in character within a hierarchy of types for specific purposes as applied to all the CSU, Fort Collins campuses.

This document initiates the update of graphics (forms, colors, and materials) and signage with the in coordination with the CSU Foundation Development Office, Facilities Management, and the Sign Shop. A sign design manual should be contracted to provide construction documents for specifications of materials, typography, and costs for budgeting of fabrication and installation.

- 1. Integrate signs into the system of open space, circulation, and buildings – complement the styles and materials.
- ❑ 2. Design all components to be economically feasible for implementation and maintenance.
- ❑ 3. Build on the established character of the historic monuments along College Avenue.
- ❑ 4. Develop priorities for a phased approach for replacing noncompliant signs on all campuses.
- 5. Comply with City of Fort Collins, State and Federal requirements to facilitate services and community cooperation in the public right-of-way and on campus.
- ❑ 6. Develop sign content, layout, and specific site location with Administration and Facilities.
- 7. Use red brick for the signage of the South Campus.

Signage on the South Campus is based on the historic stone and brick entry monuments located on the Main Campus. Consistency amongst the Fort Collins campuses will be achieved through the use of stone bases (on most sign types), green as the primary sign color, typography, and the placement of the CSU logo. Additionally the sign system calls for the further use of the existing street signs, and adding banners on the existing concrete light poles.



Street signs on the South Campus should match those of the Main Campus. Light poles should be used to hang banners and/or directional signage.



Building identification follows the standards with a stone base, or no base at all.



Visitor Informational and Directional Sign

Visitor information and directional signs are to be designed for use by motorists.



Visitor Orientation Kiosk

Visitor orientation kiosks include detailed maps of the campus for use by pedestrians.



South Campus Entry Monument

Campus Entry Monument, right side of road

Entry monuments are to be on both sides of the road.

IV. FOOTHILLS CAMPUS

A. Campus Context

The 1,544-acre Foothills Research Campus is located two miles west of the Main Campus at the edge of the urban development and at the base of the Horsetooth Reservoir. The northern portions are relatively undeveloped, but used for animal holding and an airstrip, while the southern half supports a wide variety of highly specialized and independent research facilities, many which are secured.

The Foothills campus is neither contiguous with, nor similar to, the Main or South campus. It does not follow the street grid that the Main and South campus employ, but are accessed through three primary county roads. The developed areas of the research facilities are often separated by vast open spaces restricted to animal research, growing fields and security buffers. This vast separation of building clusters does not promote the congeniality and interaction of the Main campus. Buildings have been constructed over the last 90 years and each of the 159 structures represents an independent and somewhat eclectic architectural style.

Because of the research demands and outside funding (many buildings are constructed with Federal programs), the Foothills Campus is not expected to be similar in character to the Main or even South campuses. However, signage, fencing and streetscape improvements can contribute to the sense of unity while allowing independent expansion of research that is both land intensive and secure.

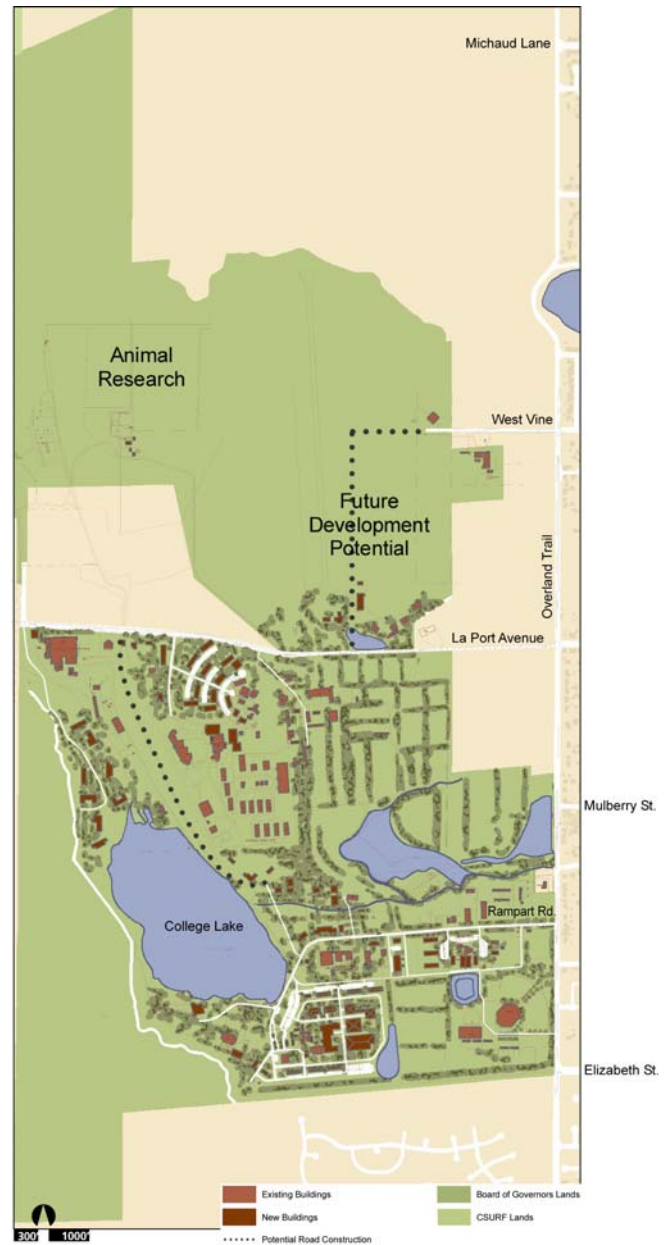


Figure 4.1 Foothills Campus Master Plan



View from the foothills over College Lake and the campus

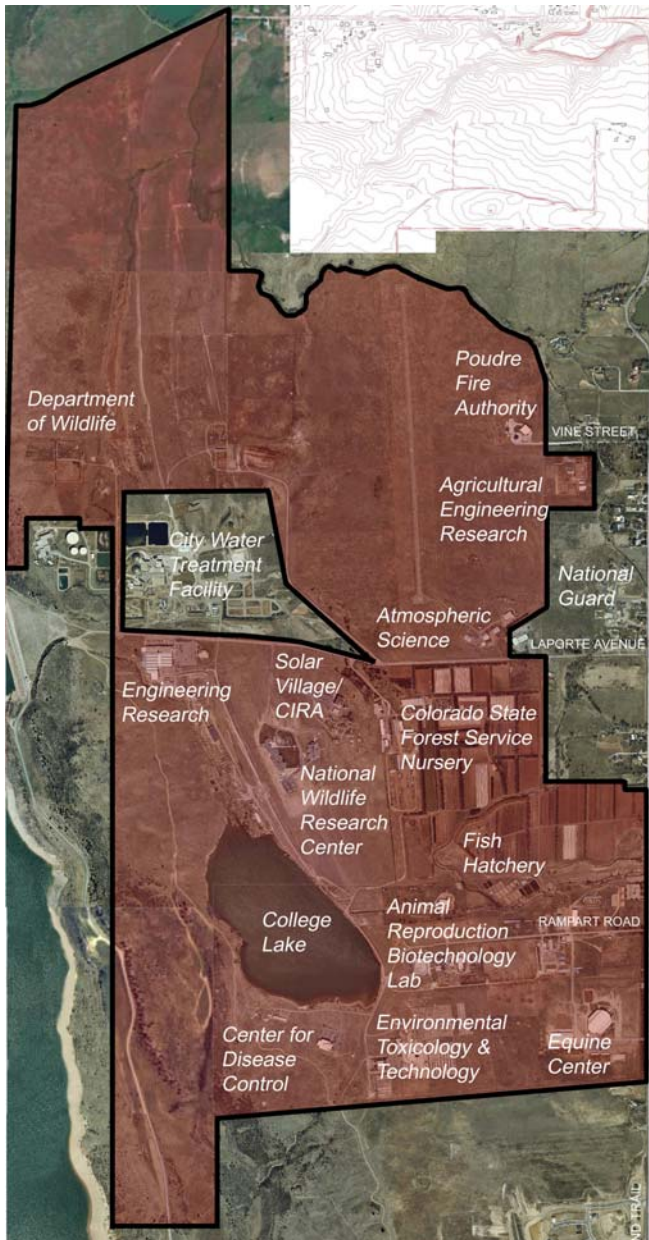


Figure 4.2 Facilities at the Foothills Campus



Recreational trail through the vast open space.

B. Foothills Campus Composition

Improvements and development of the Foothills Campus is planned to develop in building clusters surrounding pedestrian oriented quads of plazas. These clusters are surrounded by surface parking and the open landscape of research growing and animal enclosures. The clusters are linked by vehicular and bicycle/pedestrian paths.

It is the framework open spaces and connections that link the districts and provide the opportunity to strengthen character and activity of the campus. Buildings house much of the business of the University and are fundamental to the character and image of the Foothills Campus.

1. Open Space

The tradition of American university campuses is a composition of open spaces defined by buildings. As a land grant institution CSU has further opportunity for addressing the variety of open spaces.

Every square foot of the campus is valuable, not only in the composition of aesthetics, but also in the stewardship of resources in maintaining them. The Aesthetic Guidelines intends to include all the areas - formal and remnant. Formal spaces such as the quads, circulation corridors and utility yards, and remnants which are to contribute to the whole.

This section guides the treatment of open spaces including:

- a. Quads and Plazas
- b. Courtyards and patios
- c. College Lake
- d. Parking Lots
- e. Bicycle Parking
- f. Animal Enclosure
- g. Building Site

All the spaces are actively used in all seasons and must be attractive and functional through day and

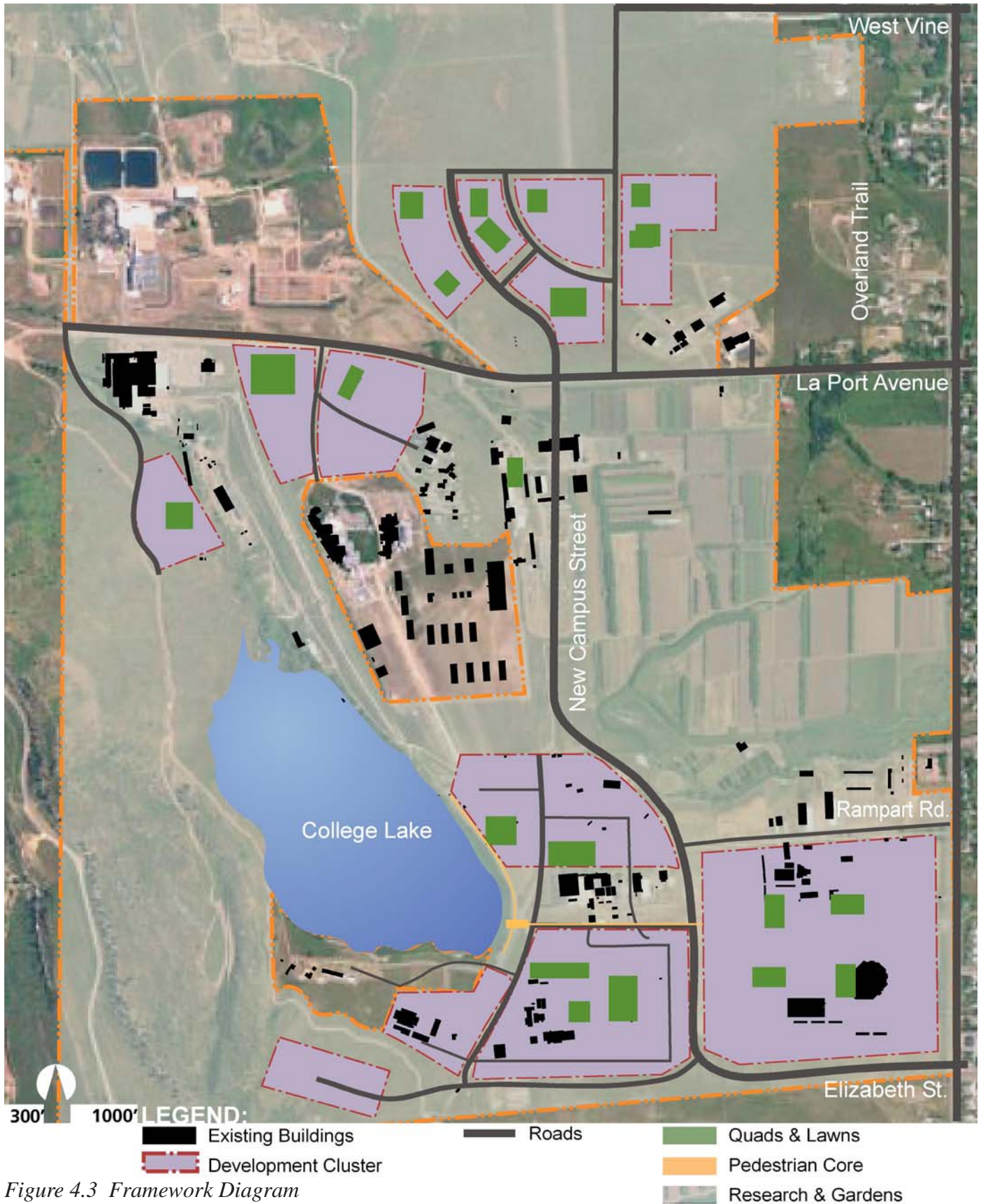


Figure 4.3 Framework Diagram

evening for the university and Fort Collins communities. Landscape materials composed within open spaces include trees, site furnishings, and pavement.

Public Art, Gifts and Memorials

The Foothills Campus has a one sculpture outside the Equine Center. Memorials to deceased animals have been located on the campus. While these are meaningful to the campus community too many could overwhelm the landscape and overburden growth of the facilities. The Foundation should carefully coordinate with the Arts Display Committee (ADC) to understand the policy and vision in order to respectfully optimize the generous gifts and memorials. Donors should be encouraged to consider gifts for the dedication and maintenance of open spaces, tree groves, and furnishings.

a. Quads and Plazas

Quads are pedestrian oriented open space areas spatially defined by buildings on all sides. They have multiple entrances and are predominantly lawn. Plazas are predominantly paved and serve the more active portions of the campus. Quads and plazas should provide interest, encourage interaction, and facilitate movement between adjacent buildings. These are spaces shared by the colleges within the adjacent buildings as well as the whole campus community.

Intent: to provide quads and plazas as major gathering spaces throughout the campus.

- 1. Define quads and plazas with minimum dimensions 150 square feet and maximum of 600 square feet.
- 2. Site lawns in large contiguous areas where they will not be shaded by buildings, are inviting to the community and easily accessible



Figurative sculpture at the B.W. Pickett Equine Center to maintenance equipment.

- 3. Plant trees, shrubs, and groundcover in areas between the lawn and building in response to microclimate conditions, building design and function.
- 4. Divide lawns and planting areas with a 6-inch wide concrete mow strip.
- 5. Include storm water retention systems in the lawns and planting areas.
- 6. Provide space for snow removal and storage.
- 7. Provide a variety of seating arrangements in sun and shade to allow for study, conversation, people watching, or quiet contemplation.
- 8. Design building entrances to be accessed from the quad or plaza and be supported with site furnishings including seating, trash receptacles, bicycle racks, lighting and signage.
- 9. Locate trash receptacles, as appropriate, in all plazas and quads, at building entries; in high traffic areas, gathering areas, outdoor smoking areas, and seating areas; and adjacent to any shuttle bus shelter. Avoid locations where they interfere with pedestrian movement.

- ❑ 10. Locate ash urns in plazas and quads at outdoor smoking areas. Continue to educate the campus community about their appropriate use.
- 11. Move designated smoking areas at least 50 feet from main building entrances and/or air handlers.
- ❑ 12. Locate bicycle parking near entrances without compromising access, views, pedestrian activity and gathering opportunities.
- 13. Design utility access within paved areas. Elements such as hatches and grates must be flush with adjacent surfaces so as not to impede access.
- ❑ 14. Provide electrical outlets for special activities such as seasonal lighting, performances, etc. Outlets should be located where they are not susceptible to damage and can be integrated into the adjacent landscape.
- ❑ 15. Provide conveniently located connections to potable water for temporary use in the preparation or clean-up of approved events.
- ❑ 16. Locate Wi-Fi equipment discreetly on adjacent buildings for service in quads and plazas.
- 17. Provide emergency phones in coordination with campus police.

b. Courtyards and Patios

These are small outdoor spaces generally associated with one building.

Intent: to provide courtyards and/or patios as open space resources associated with all major buildings. These spaces should also serve as gathering places and respites.

- 1. Program the uses and facilities of courtyards and patios with building occupants and maintenance personnel.
- 2. Design spaces for flexible use over the life of the building.
- 3. Provide seating and planting to complement the seasonal patterns of sun and wind.
- ❑ 4. Provide access for services including power and water for outdoor facilities, Wi-Fi.
- 5. Site on south or west sides where solar access is available.

c. College Lake

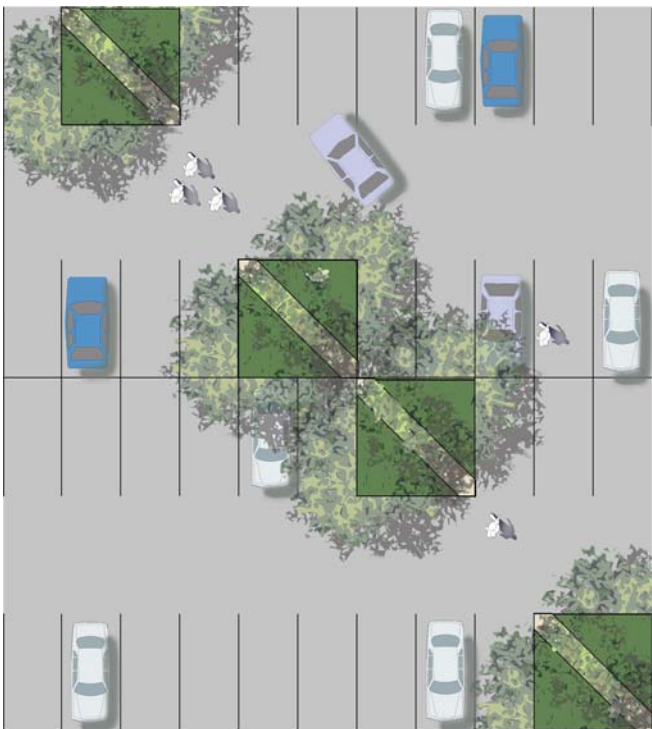
- ❑ 1. Add seating and improve the pedestrian trail where security is not a limitation.



College Lake



Bioswales in parking lots collect stormwater runoff allowing it some to soak into the ground, slowing flood conditions and adding character to the landscape.



Biosquares are openings in the pavement at low points to capture storm water. They may be configured to allow pedestrian circulation across the parking lot in dry times.

d. Parking Lots

As the Foothills campus grows surface parking lots will occupy a significant amount of real estate on the Foothills Campus. These should be improved to enhance the quality and functionality of the campus.

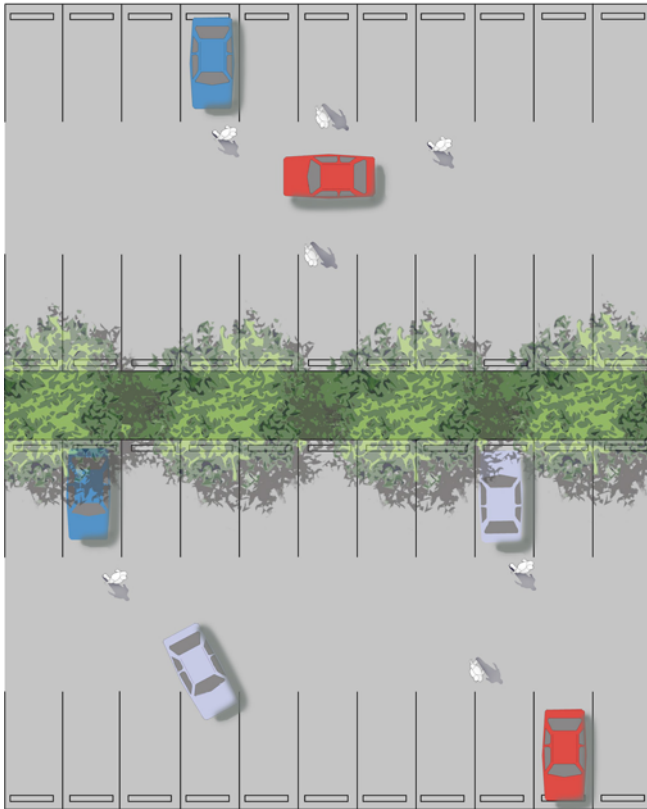
Intent: to provide parking lots that contribute to both the parking space count as well as limit environmental impact.

To better integrate them into the overall campus character:

- 1. Require site improvements as part of the design and construction of all new parking lots to include areas for tree growth, capture storm water and improved vehicular and pedestrian function.

Bioswales and biosquares refer to planting areas in the parking lots.

- 2. Develop a phased approach to reconstruct existing parking lots. Reconstruction should provide areas for tree growth, storm water retention and improved vehicular and pedestrian function.
- 3. Plant groups of canopy trees as landscape islands in parking lots to break up the expanse of paving and cars.
- 4. Orient planting areas to complement pedestrian desire lines. Where feasible, align planting areas to assist in directing pedestrians to destinations, such as transit stops, malls and entries.
- 5. Select trees to allow 8 foot vertical clearance (clear trunk height) above parking spaces to avoid limb breakage. The shrub under story should be naturally growing to a height less than 30" to maintain visibility.



Bioswales are configured to direct water linearly as well as to let it soak into the soil.

- ❑ 6. Plant shade trees in surface parking lots to achieve 50% shade coverage of the paved area within 5 years of installation.
- ❑ 7. Design and locate planting areas to collect, retain, and direct snowmelt and stormwater runoff. Use regional water quality standards to determine the ratio of planting area to paved parking; each parking lot is to achieve 25% permeability within the vehicular area.
- ❑ 8. Consider use of permeable pavement for further stormwater infiltration.
- 9. Wheel stops are required to protect planting areas with no curb. Keep plants and irrigation heads 2 feet from the face of curb to allow for vehicle overhang.

- ❑ 10. Provide for a minimum of 100 square feet of planting area for each tree.
- 11. Irrigate all parking lot planting areas.
- 12. Lay out parking bays in efficient direction to promote pedestrian circulation efficiencies.

e. Bicycle Parking

Intent: to provide safe, accessible bicycle parking at each building that does not interfere with pedestrian service or access.

- ❑ 1. Integrate bicycle parking into the composition of paths and planting near building entrances.
- ❑ 2. Install enough standard bicycle racks to meet the university's bicycle parking standards according to the type and use of each building.
- ❑ 3. Provide a quantity of bicycle racks to serve each facility based a current ratio of bicycle parking spaces per building type and population. Allow extra room for growth in ridership.
- ❑ 4. Consider shading large bicycle parking areas (outside of view corridors) with trees.
- ❑ 5. Screen bicycle parking (where feasible) with shrubs or walls at a maximum height of 36 inches.



Pipe rail fence and gate structure enclose animal area.

f. Animal Enclosure

Large areas are required to contain the campus' variety of animals. Their siting and maintenance

Intent: unify the campus landscape with fencing that meets security needs.

- 1. Locate animal enclosures where stormwater drainage can be contained and treated on-site.
- 2. Fence enclosures with a singular type of material, see Section C. Materials.

g. Building Site

Site improvements are part of the planning and design of a new building or a renovation associated with one or a group of existing buildings. The landscape is key to creating an inviting and collegial environment outside as well as inside the building; to connecting the building with its larger campus setting; and to clarifying circulation and wayfinding.

Intent: to develop building envelopes to enhance the campus experience.



Site improvements are minimal at the Engineering Research Center.

- 1. Require site improvements to be included in the design and construction of all new buildings.
- 2. Use massed plantings of trees, shrubs, and groundcover to integrate the building with its site and the surrounding campus and to make efficient use of irrigation water.
- 3. Coordinate the design of planting areas with roof drains to collect runoff.
- 4. Direct storm water runoff away from buildings and access routes.
- 5. Protect existing trees from damage during construction.
- 6. Limit lawn to areas near building entrances, where they receive full sun and where they can be efficiently maintained.
- 7. Provide a 12 inch wide concrete strip at the base of buildings in planting areas.
- 8. Provide 12 inch wide concrete mow strips under fences.
- 9. Divide lawns and planting areas with a 6 inch wide concrete mow strip.
- 10. Group site furniture, including benches, trash receptacles and ash urns, at entries, to enhance use and reduce clutter.
- 11. Screen views of loading areas, storage, utilities and outdoor equipment from defined open spaces and circulation corridors.

2. Circulation Corridors

Streets and pedestrian paths linking the spaces and facilities across the campus make up the circulation corridors. They can frame views across the campus and beyond, which is fundamental to orientation and wayfinding.

Intent: to unify the campus character, accommodate pedestrian, bicycle and vehicular traffic safely with inviting places established along the way.

a. General

- 1. Plant trees consistent in species, spacing and alignment at the edges of defined circulation corridors, i.e. 30 feet on center.
- 2. Plant and maintain the understory of shrubs naturally growing to a height of less than 36 inches where visibility across the planting area is important for security.
- 3. Design routes for emergency access, garbage, and snow removal to enhance the pedestrian experience.
- 4. Integrate the design of pedestrian and emergency access pavement to minimize the visual impact of pavement. For example, use a form of turfblock with low growing groundcover.
- 5. Design areas off the primary pedestrian paths for gathering.
- 6. Provide site furnishings at all pedestrian gathering areas such as seating, trash receptacles, lighting.



Trees along Overland Trail screen views of the campus and the mountains.

b. Edges and Entrances

The edges of the Foothills Campus are important to the standing of the university and the city of Fort Collins.

- Overland Trail
- La Porte
- Michaud Lane
- West Elizabeth Street
- 1. Add University signage should on Overland Trail at Rampart Avenue and Elizabeth Street. See section C.4. Signage.
- 2. Plant trees along Overland Trail where screening improves the public view across the campus.
- 3. Partner with the City in the improvement of the Overland Trail with bicycle lanes.

c. Campus Streets

Streets convey vehicular, bicycle and pedestrian access as well as provide views across the campus. The design of streets is an opportunity to unify the campus landscape.

Intent: Improve streets to a consistent level of quality across the campus.

- 1. Require site improvements as part of the design and construction of all new roadways

including sidewalks, lighting, and street trees.

- 2. Phase the construction of streets from a two-lane road to a four-lane parkway. This requires planning for the ultimate alignment with future grading, utility easements, etc. and allows an inviting landscape of maturing trees and active trails.



Phase I



Phase II

Phased construction of campus roads

d. Sidewalks

- 1. Provide a minimum clear zone of 5 feet in horizontal width on each side of vehicular street for pedestrians and ensure a minimum of 7 feet in vertical clearance for all sidewalks.
- 2. Make pedestrian paths that are also designated for use by authorized vehicles a minimum of 10 feet wide with space for the 25 foot turning radius of a typical maintenance vehicle. Pavement and subsurface should be designed to withstand the load of snow-removal and cleaning equipment. Design routes of maintenance vehicles should complement the pedestrian environment.
- 3. Design pedestrian paths designated as emergency vehicular routes to meet the city of Fort Collins’ standards and to complement the pedestrian environment of the campus.
- 4. Direct snowmelt and storm water runoff away from pedestrian paths.
- 5. Create bioswales to collect surface runoff before it crosses pavement areas and to reduce puddling and damage to walkways. Bioswales may be grass-lined where adjacent to a lawn area, or planted with low shrubs and grasses. They should be graded to direct water away from paved areas.
- 6. Provide pedestrian crossing aids such as push buttons at all signalized street crossings.

e. Campus Bikeway

- 1. Establish a bicycle route throughout the Foothills Campus to facilitate safe and efficient riding.
- 2. Develop connections to the city system of bike paths, and regional transit.

- 3. Group bicycle racks along the Campus Bikeway.

f. Multi-use Trail

- 1. Establish a trail system suitable for pedestrians, joggers, and equestrians on the Foothills Campus to as a recreational amenity.
- 2. Develop connections to the city and county system of trails.

g. Utility Corridors

Utility service of energy, technology, and water/ sewer are fundamental to the University. The boxes, hatches and poles are generally unsightly and distracting from the aesthetics of the campus.

Intent: to minimize negative aesthetic impacts of the required utility structures and easements.

- 1. Locate all utilities in the street or pedestrian mall to avoid conflict with street trees.
- 2. Center all utility connections from the street to buildings between street trees (or a minimum of 20’ from the center of tree trunks).
- 3. Design and coordinate the location of all above-ground utilities, enclosures, and service areas as part of the adjacent building massing and materials. Do not locate utility boxes, vaults, poles, etc., above ground in the sidewalk. In no case shall a utility box limit the sidewalk clear-zone to less than 5 feet.
- 4. Design hatches for below-ground utilities to match the adjacent sidewalk. Locate hatches away from snow removal path.

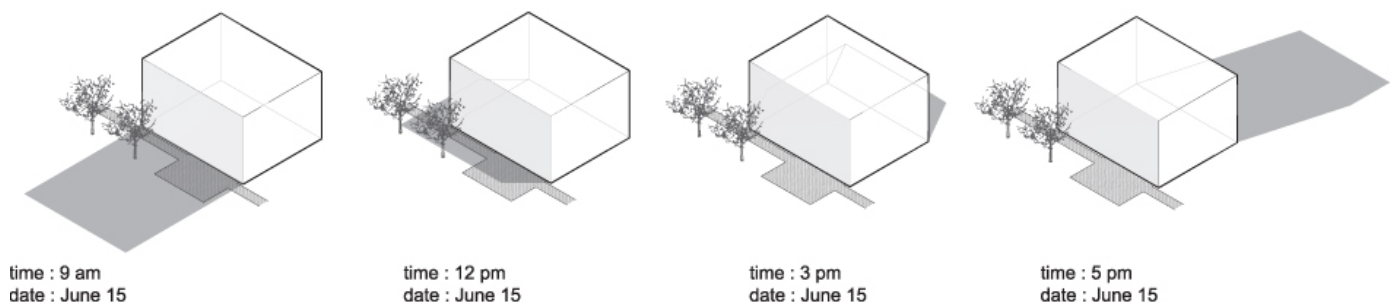


The Engineering Research Center

3. Buildings

The Foothills Campus today feels less like a campus (compared to the Main Campus) and more like an industrial or research park. Larger distances between individual buildings and building clusters, limited pedestrian traffic between buildings (sometimes because of the limited programmatic connection between buildings), the lack of designed landscapes and structures that define spaces, the lack of transparency of some of the building functions, and the lack of a consistent set of building materials palette, contribute to this difference in architectural character.

These guidelines apply to those building projects undertaken by the University. For projects undertaken and controlled by other Government Agencies and projects where CSU has limited or no design control, these guidelines will represent CSU's recommended design guidelines.



time : 9 am
date : June 15

time : 12 pm
date : June 15

time : 3 pm
date : June 15

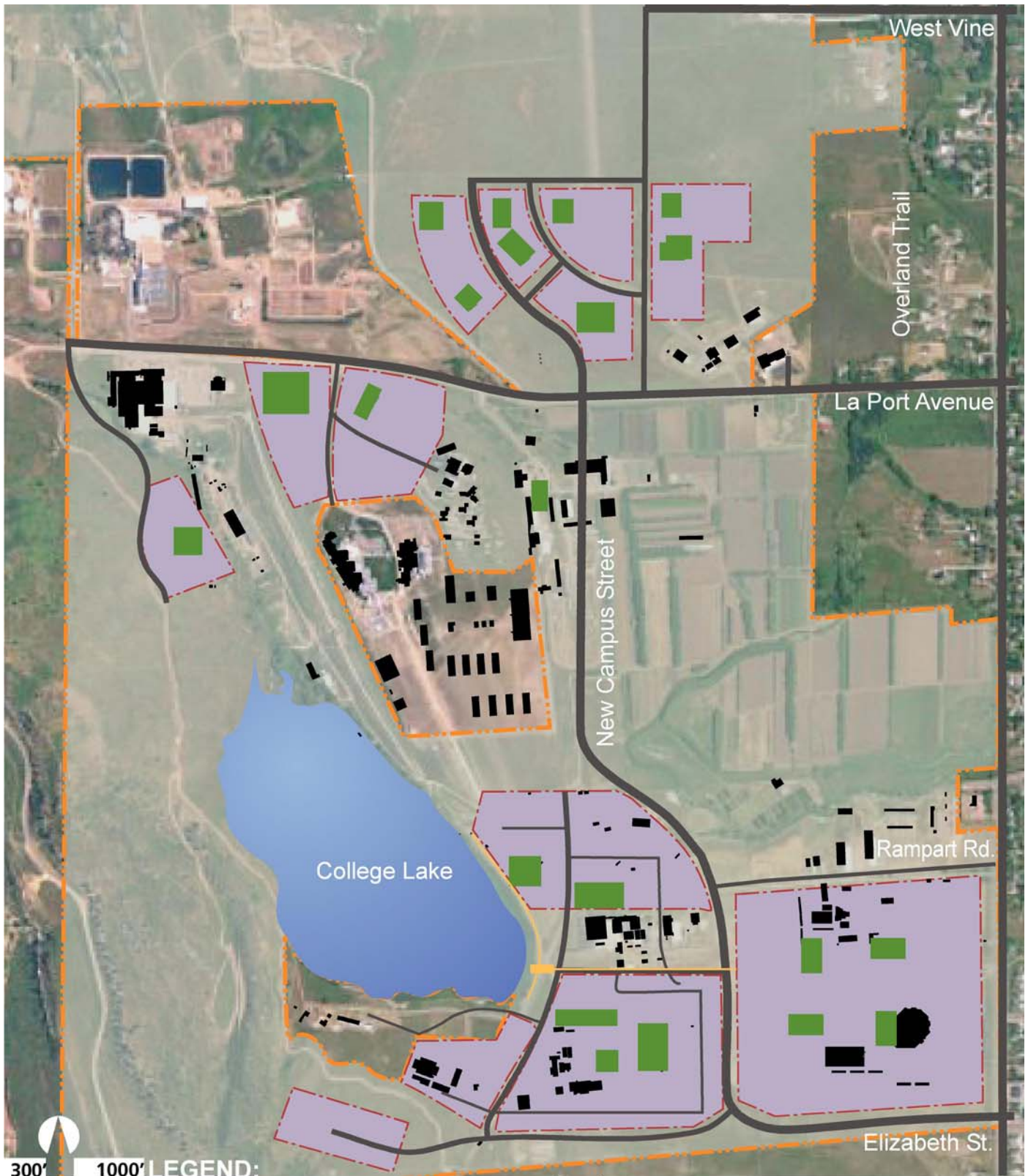
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date : June 15

Solar orientation of buildings.

a. Building Siting / Orientation

These guidelines seek to create more of a campus aesthetic by creating mini campuses (groups or clusters of complimentary buildings), separated and connected by a circulation system with a set of consistent design and landscape elements and by the natural landscape. No buildings should block the significant views to the mountains. When the urban fabric allows, the building footprint and building siting should take advantage of the solar orientation to maximize daylighting opportunities, minimize visual glare issues, and to maximize the impact on building climate control systems.

- 1. Position building facades and entrances to face the major pedestrian drop-off.
- 2. Locate key building features, such as main entrances and key interior common or program spaces, at the terminus of visual axes of each cluster.
- 3. When possible, locate new buildings or additions to take advantage of solar orientation. Locate the majority of building spaces facing South or North. Provide passive or active controls to manage direct sunlight on the South side. Minimize the exposure to the East and West. Provide passive or active controls to manage low sun angles on these sides.

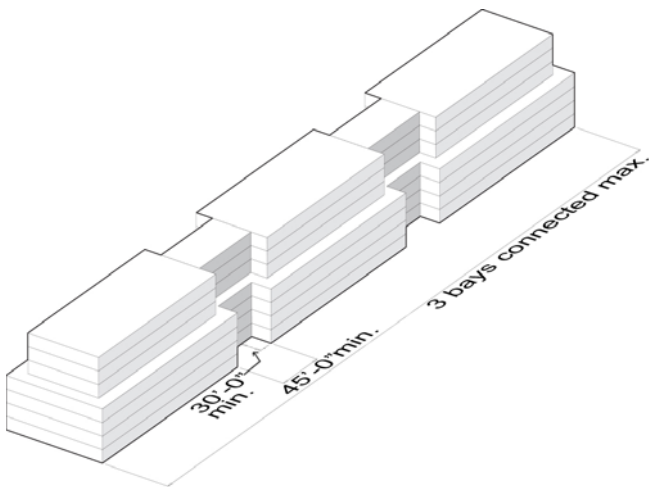


300' 1000' **LEGEND:**
 Existing Buildings Roads Quads & Lawns
 Development Cluster Pedestrian Core
 Research & Gardens

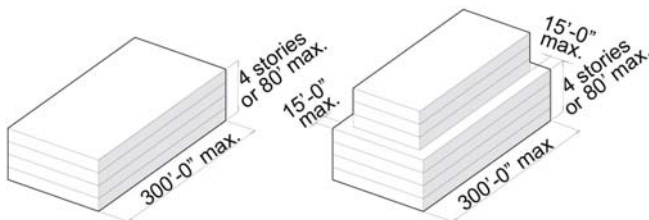
Campus Framework Plan of building clusters and circulation corridors



Building heights vary across the campus



Building length



Building height

b. Building Massing and Scale

In 2006 the overall massing of the majority of campus buildings is of one to three story structures. To ensure harmony, new buildings should follow existing patterns in relation to height and massing. Development should be designed to create mini campuses or clusters. One-story buildings should be discouraged. Limit the perceived overall building scale and/or massing (limit the size of singular structures or interconnected buildings):

- 1. Limit building length to 300 feet. Restrict the number of attached buildings to three, provided further that the façade of any building attached to another building be visibly offset from the adjoining building at an angle approximately 90 degrees.
- 2. Require a minimum distance of 45 feet between any two groups of attached buildings, including accessory buildings, and a minimum offset of 30 feet.
- 3. Prohibit buildings taller than four stories in order to maintain the current human scale on the campus and to relate well to existing campus structures. Design and program new buildings to maximize a site's potential, provided that the structures are consistent with the height guidelines.

Exception: allow mechanical penthouses, etc. or projects are allowed to exceed the height limit.

Additional review and approval requirements:

- If part of the building or structure serves as an orientation point or gateway on campus, provide a 3-D massing simulation with view studies to demonstrate that it provides visual connections on campus.

Exception: provide a 3-D massing simulation

with view studies if the proposed building is taller than four stories to demonstrate that the proposed design maintains the desired scale of the campus and does not block the major views from the main public approaches (vehicular).

c. Building Plan and Program Distribution

Organize buildings and distribute program spaces to maximize activity on campus and to strengthen the relationship between interior spaces on campus and the exterior campus environment. Situate public and common spaces, such as lobbies, lounges, instructional spaces, conference and meeting spaces, adjacent to the main public open spaces. Establish program elements that could take advantage of exterior spaces on the ground level.

- 1. Locate common public spaces and functions near building entrances and near the main vehicular drop-off (at the ground floor level).
- 2. Incorporate design solutions that maximize natural day-lighting to improve visibility of the entrance areas and common spaces from the exterior.
- 3. Locate spaces with windows adjacent to public open spaces (on all levels).
- 4. Locate those program spaces on the ground level of the building that can take advantage of or use the exterior spaces (examples: lounge, lunch area, etc.).

d. Building Entrances

Situate building entrances so they are visible, prominent and provide an opportunity for visual transparency and connection between interior and exterior. Design the interior lobby and associated outdoor spaces to serve as meeting and gathering spaces that encourage and promote interaction between the building users and visitors.

- 1. Design building entrances to be clearly visible, prominent, and contribute to the life and activity of the pedestrian environment and provide protection against extreme climate and weather conditions through the use of vestibules and overhangs.
- 2. Encourage visual access to academic activities from the pedestrian environment through window and lighting systems that strengthen the connection between indoor and outdoor spaces.
- 3. Use clear or lightly tinted glazing materials around the entrance areas. Avoid using highly reflective glazing.
- 4. Design building lighting or area lighting to prevent glare and incorporate indirect lighting and lighting by illuminating walls and other surfaces.
- 5. When applicable, position lobby security desks to allow security guards clear lines of sight to the building and lobby entrances.



Storage and access requirements have been added since the completion of facilities which detracts from the campus character.

e. Location of Equipment and Utility Structures

Utility structures that serve the building are required to be accessible for maintenance but should be sited out of the public view.

Intent: to minimize unsightly boxes from the campus landscape.

- 1. Locate equipment and other utility structures out of direct view from the main campus spaces and the main pedestrian areas. Give priority to solutions that incorporate mechanical equipment in the building (vault, basement, mechanical penthouse, etc.)
- 2. Screen service, utility, maintenance and storage areas, including solid waste containers, loading and unloading areas and heating, ventilating and air-conditioning equipment, from direct view (from public view and adjacent buildings) with enclosing walls or buffer planting. Design visual screening to be of sufficient density to appear opaque and of sufficient height to constitute an effective screen.

- 3. Prohibit equipment or utility structures near within 100 feet the main building entrance.

f. Service Access and Trash Management

Provide service access areas away from the main pedestrian entrance and circulation and integrate them into the building design, screened from direct public view. Design screen walls to be consistent with the building architecture or follow the site design guidelines.

- 1. Provide service access out of direct view of the main pedestrian entrance.
- 2. Incorporate trash collection and holding areas into the building and screen them from direct public view.
- 3. Integrate mechanical areas into the building and design them to screen the area from direct public view and to prevent trash odors from entering building areas or the main outdoor public areas.

g. Architectural Character and Building Materials

These guidelines do not prescribe a singular style for building additions. The architectural character of new structures should be sympathetic to the existing neighboring structures, convey a human scale and reinforce the mini campus or building cluster it is part of. Stone, as found on CSU’s main campus, shall be incorporated in the entrance façade/public entrance lobby of all new building projects. The intent is to create campus continuity and consistency while communicating the institutional values of the University and expressing the intended program or mission of the building(s).

- ❑ 1. Create architectural character that supports the educational message of the particular project or department (for example: a building for the arts department should provide integrated display opportunities for 3-dimensional art at or near the entrance; a building for the environmental sciences department should incorporate sustainable site or building systems such as photo-voltaic panels).



The new Center for Disease Control



The architectural character of the Environmental Toxicology and Technology speaks of the time it was designed.



New State Forestry building

C. Foothills Campus Materials

1. Building Materials

Materials / General note

The use of materials new to the market will only be considered if the designer can provide test data sufficient to convince the University's Facilities Management staff of their durability and reliability. Sustainable materials and systems should be given special consideration whenever possible within the parameters of these aesthetic design guidelines and the University's Building (Design) Construction Standards Manual.

a. Roofs and Eaves

New buildings shall incorporate sloped roofs to respond to the topography of the foothills and to improve the visual connection between the various clusters and districts.

- 1. For flat or low-sloped roof areas, select energy star roof compliant, high-reflectance and low-emissivity roofing materials or select green or vegetated roofs for all or a portion of the roof area (especially when roof areas are visible from taller adjacent buildings).
- 2. Select slate, artificial slate (recycled roofing product), metal, and terra-cotta roof materials for sloped roof areas.
- 3. Prohibit the use of asphalt-type or fiberglass roofing shingles.

b. Exterior Cladding Materials

The existing buildings at CSU's Foothills exhibit a wide range of materials and colors. In this context, exterior materials and colors should be chosen to be compatible with the colors within the particular campus district or neighborhood and to be cost effective over the life of the structure. The intent of this guideline is to improve the visual unity on the campus as a whole and by requiring integration of the original and more institutional (and durable) materials in all new buildings and structures. If alternate materials are selected for portions of the exterior envelope, ensure that the key campus materials are located close to building entrances and close to the pedestrian environment, in order to maintain the feel of richness, texture, durability and human scale close to where people move and where people approach the building. Stone is required at/near building entrances to provide some visual connection with the main campus.

In order to achieve a greater level of architectural continuity the following material recommendations are to be followed:

- 1. Preferred primary materials: Brick, or pre-cast.
- 2. Natural stone shall be incorporated at and near building entrances.
- 3. Give preference to local sources or locally manufactured materials during the selection process. Use exterior materials with integral colors to minimize maintenance and to ensure durability.
- 4. Integrate metal panel systems and other modular systems such as slate, etc. only as 'secondary' materials. Prohibit the use of these materials near main entrances.
- 5. Prohibit the use of Exterior Insulation and Finish Systems (EIFS) or residential scale

siding such as vinyl or aluminum siding.

- 6. Create building openings that contribute to the day-lighting of the interior spaces, and that strengthen the relationship between the indoor and outdoor environments.
- 7. Integrate windows and window wall systems, if compatible with indoor programs. Avoid highly reflective or dark tinted glass.
- 8. Integrate stone and/or brick materials (used as part of the exterior cladding materials) in selected interior spaces, such as the entrance vestibule and lobby areas.

c. Fenestration

Use fenestration such as window and door openings in building facades to reflect the solar orientation and should focus on creating a sense of activity on the public side of the buildings. Design detailing to exhibit permanence, human scale, and visual richness.

- 1. In punched openings in masonry wall, incorporate a stone or cast-stone lintel and sill detail and should feature masonry returns to emphasize wall thickness and add depth by the resulting shadows. Windows and other glazing systems should be located towards the interior side of the wall to maximize this effect.
- 2. When walls are terminated to transition into a different material or into a glazed curtain wall, incorporate a masonry wall to emphasize the wall thickness.
- 3. Encourage the use of solar screens or roof overhangs on the south side of the structure to manage direct sunlight into building spaces.

d. Signage

- 1. Provide building signage that includes the building name and the departments, and the key use(s) of the building.
- 2. This signage should be integrated into the entrance design of the building.
- 3. Provide places in the main entrance vestibule to incorporate donor recognition opportunities (including signage). The signage should be integrated in the overall architectural design.
- 4. Provide location for a keystone indicating the year of construction (completion). Acceptable materials: natural stone or cast-stone

2. Landscape Materials

a. Pavement

Vehicular pavement, roadways, driveways are typically asphalt and consistent with the city to facilitate emergency services, delivery and community interface.

Pedestrian pavement on the South Campus is important for utilitarian and aesthetic value. It should be a basic material for ease of maintenance and adaptation/change through the development of the campus.

- 1. Use pavement materials in their elemental form, such as concrete (plain, colored, scored and/or with exposed aggregate), stone or precast concrete pavers. Stamped concrete is not permitted.
- 2. Use plain gray cast-in-place concrete with a medium broom finish as the standard campus paving for sidewalks and pedestrian areas, except where special paving is designated in gathering places.
- 3. Consider paving outdoor gathering places, such as plazas, courts, and building entries, with other materials following the hierarchy of circulation corridors. Hierarchy of pavement types:
 - a. Courtyard and patio pavement may be stone or precast (concrete or brick) pavers to complement the architecture.
 - b. Plazas – heavily exposed concrete, natural gray color.
- 4. Precast concrete pavers – rectangular form, natural gray or beige tones to complement the building materials.

- 5. Stone – Dakota stone may be rectangular or flag.
- 6. Brick pavers may be red or blond brick pavers where they relate to adjacent buildings.
- 7. For colored pavement, use earth tones found in the region. Any deviation from the campus standard gray must provide the specific mix for future repair.
- 8. Design pedestrian pavement of designated accessible routes to meet the Americans with Disabilities Act (ADA) criteria for slopes, width, and finish.



Stone pavement



Heavily exposed aggregate concrete and brick pavers



Precast concrete pavers in an ashlar pattern

b. Planting

The plant materials (trees, shrubs, groundcover, grasses, vines and perennials) on the CSU Foot-hills Campus are an important opportunity to present the mission and values of the university. With strong programs in agriculture, horticulture, forestry and natural resources the campus landscape should be a place to actively showcase positive values in management and aesthetics, conduct relevant forms of research. Time has come where the plants native to Fort Collins are being valued by the greater community. Many of the trees important to the forests of the Rocky Mountains are found on the campus and could be further employed in meaningful and beautiful composition.

- 1. Use color, texture, and form of plants in the composition of landscape spaces.
- 2. Refer to the Campus Landscape Plant Palette in this section.
- 3. Conduct soil testing in the site development stages to obtain recommendations to improve soil fertility and to determine if subsurface drainage and aeration systems are required to maintain the growth of trees.
- 4. Do not use nonnative plants that have been identified as noxious and/or invasive.
- 5. Plant and maintain low-growing (1' - 3' in height), drought-tolerant shrub species that are visually appealing in their natural form (unpruned). These will serve to meet objectives of enhanced security, sustainability, and low maintenance.
- 6. Create a simple ground plane of lawn in areas of active use.
- 7. Screen undesirable views with larger shrubs and vines on fences and/or trellis where visibility for security is not an issue.
- 8. Use ADA appropriate tree grates (minimum 5 foot X 5 foot) in pedestrian pavement at locations of high pedestrian traffic such as in plazas, quads, and courtyards.
- 9. Provide and design tree grates that allow for the increase of tree caliper and prevent the accumulation of debris.
- 10. Fill the space between the finish grade of the tree and the tree grate with gravel larger than 1/4 inch to limit the accumulation of debris under the grate while still allowing air penetration.
- 11. Make planting areas a minimum of 5 feet by 8 feet for flower, groundcover, and shrub beds.
- 12. Provide 40 square feet of water and air-permeable planting area at the base of each tree, within the drip zone, using either a tree grate (in highly used pedestrian areas) or groundcover or shrubs and mulch (in low-use areas).
- 13. For security, mass trees to allow sight lines and not obscure lighting.
- 14. Maintain trees along sidewalks and in parking lots with a clear-zone (between the top of pavement and bottom limb) of 7 feet above the sidewalk and 13 feet 6 inches above the street.
- 15. Irrigation - Refer to the Building (Design) Construction Standards Manual, Division 2 and Appendix Sole Source Products for standard equipment.

Plant Palette

- Guidelines for locating and composition,
- Characteristics of form, color and habit; and
- Requirements for optimal growth.

Definitions

Bioswale – A planting area that filters pollutants out of storm water.

Screen – Plants that form a visual and/or physical barrier.

Pedestrian Barrier – Plants that form a physical obstruction to pedestrian circulation.

In Lawn Area – Trees that function well in turf.

In Pedestrian Pavement – Trees that function well in small planting areas surrounded by pavement and/or in tree grates.

Landmark Planting – Prominent trees within a landscape.

Showy Flowers/Seasonal Color – Plants that have distinguishing flowers and/or seasonal color.

Evergreen – Plants that have green, persisting foliage year-round.

Colorado Native – A member of a plant species that inhabited Colorado prior to European contact.

Non-Invasive – Plants that will not proliferate and overrun or displace native vegetation.

Historically Significant – Plants with a particular importance in the history of the campus and/or the state.

Small Shrub < 2' Tall

Medium Shrub 2'-4' Tall

Large Shrub >4' Tall

Small Tree > 20' Tall

Medium Tree 20'-40' Tall

Large Tree > 40' Tall

Full Sun >6 hours of direct sun per day.

Partial Shade 3-6 hours of sun per day.

Shade < 3 hours of direct sun per day.

Drought Tolerant – Plants that can tolerate arid conditions with little or no supplemental water.

Plant Palette	Campus Approval	Appropriate Uses										Characteristics			Growth Rqmts.		
		CSU Facilities Maintenance	Bioswale	In Lawn Area	In Pedestrian Pavement	Landmark Planting	Showy Flowers/Seasonal Color	Evergreen	Shade Canopy	Colorado Native	Historically Significant	Small Tree (>20' Tall)	Medium Tree (20'-40' Tall)	Large Tree (> 40' Tall)	Full Sun	Partial Shade	Shade Tolerant
Trees																	
ABIES CONCOLOR	White Fir						•		•				•	•			
ACER GLABRUM	Rocky Mountain Maple		•	•			•		•		•			•	•		
ACER GRANDIDENTATUM	Bigtooth Maple			•	•	•			•		•			•	•		
ACER PLATANOIDES	Norway Maple			•	•	•			•					•	•		
ACER SACCHARINUM	Sugar Maple			•		•			•					•	•		
ACER TATARICUM	Tatarian Maple			•					•		•				•		
ALNUS TENUIFOLIA	Thinleaf Alder			•								•		•	•		
AMELANCHIER SPP.	Serviceberry			•	•						•			•	•		
BETULA FONTINALIS	Rocky Mountain Birch		•	•					•	•	•			•	•		
BETULA PAPYRIFERA	Paper Birch		•	•		•							•	•			
CERCIS CANADENSIS	Eastern Redbud			•	•				•			•		•	•		
FRAXINUS PENNSYLVANICA	Green Ash			•	•				•	•				•	•		
GLEDITSIA TRIACANTHOS INERMIS	Thornless Honeylocust			•	•				•					•	•		
KOELREUTERIA PANICULATA	Golden Raintree			•	•	•			•			•		•	•		
MALUS SPP.	Crabapple						•	•				•		•	•		
PICEA GLAUCA	White Spruce							•						•	•		
PICEA PUNGENS	Colorado Spruce					•			•					•	•		
PICEA PUNGENS GLAUCA	Colorado Blue Spruce					•			•					•	•		
PINUS ARISTATA	Bristlecone Pine					•			•					•	•		
PINUS EDULIS	Pinyon Pine							•	•		•			•	•		
PINUS FLEXILIS	Limber Pine							•	•		•	•		•	•		
PINUS PONDEROSA	Ponderosa Pine							•	•		•			•	•		
PINUS STROBIFORMIS	Southwestern White Pine							•	•		•			•	•		
POPULUS TREMULOIDES	Quaking Aspen					•			•			•	•	•	•		
PRUNUS CERASIFERA 'NEWPORT'	Newport Plum			•	•		•				•			•	•		
PRUNUS MAACKII	Amur Chokecherry			•	•						•			•	•	•	
PSEUDOTSUGA MENZIESII	Douglas Fir								•		•			•	•		
PYRUS CALLERYANA	Callery Pear 'Redspire's			•	•						•			•	•		
QUERCUS GAMBELII	Gambel Oak			•	•						•			•	•		
QUERCUS ROBUR	English Oak			•	•	•								•	•		
SORBUS AUCUPARIA	European Mountain Ash			•	•		•		•					•	•		
TILIA CORDATA	Little Leaf Linden			•	•		•		•					•	•		
ULMUS AMERICANA	American Elm			•	•	•			•		•			•	•		

Plant Palette	Campus Approval	Approp. Use	Characteristics							Growth Rqmnts.							
			Showy Flowers/ Seasonal Color	Evergreen	Colorado Native	Pedestrian Barrier	Attractive to Wildlife	Small Shrub (<2' Tall)	Medium Shrub (2'-4' Tall)	Tall Shrub (> 4' Tall)	Full Sun	Partial Shade	Shade Tolerant				
Shrubs		CSU Maintenance	Bioswale														
AMELANCHIER SPP.	Serviceberry		●	●									●	●			
ARCTOSTAPHYLOS UVA-URSI	Kinnikinnick		●	●	●									●			
ARTEMISIA TRIDENTATA	Big Sagebrush			●	●	●	●	●					●				
CEANOTHUS FENDLERI	Fendler Ceanothus				●			●					●	●	●		
CERCOCARPUS LEDIFOLIUS	Curl-leaf Mountain Mahogany			●	●	●	●						●	●			
CERATOIDES LANATA	Winterfat			●	●	●	●	●			●		●	●			
CORNUS SERICEA	Red Osier Dogwood			●	●	●	●	●									●
COWANIA MEXICANA	Cliffrose			●	●	●	●						●				
EUONYMUS ALATUS	Burning Bush			●			●						●	●			
FALLUGIA PARADOXA	Apache Plume			●	●	●	●	●					●				
FENDLERA RUPICOLA	Cliff Fendler Bush						●						●	●			
FORSYTHIA 'MEADOWLARK'	Meadowlark Forsythia			●			●						●				
HIBISCUS SYRIACUS	Rose-of-Sharon			●			●						●	●			
HOLODISCUS DUMOSUS	Rock Spirea			●		●	●			●			●	●			
LIGUSTRUM VULGARE 'LODENSE'	Lodense Privet			●			●						●	●	●		
LONICERA X 'EMERALD MOUND'	Emerald Mound Lonicera						●				●		●	●			
POTENTILLA FRUTICOSA	Shrubby Cinquefoil			●	●	●	●				●		●	●			
PHILADELPHIS MICROPHYLLUS	Littleleaf Mock-Orange			●		●	●						●				
PRUNUS AMERICANA	Wild Plum		●	●		●	●	●					●	●			
PRUNUS BESSEYI	Sand Cherry		●	●			●			●			●	●			
PRUNUS X CISTENA	Cistena Plum			●			●						●	●			
MAHOHIA REPENS	Creeping Mahonia				●					●			●	●			
RHUS AROMATICA 'GROW-LOW'	Grow-Low Sumac								●				●	●			
RHUS GLABRA CISMONTANA	Smooth Sumac			●			●						●	●			
RIBES AUREUM	Golden Currant			●	●	●	●	●			●		●	●			
RIBES CEREUM	Wax Currant			●		●	●	●					●	●			
ROSA WOODSII	Woods Rose/Wild Rose			●		●	●	●			●		●	●			
SHEPHERDIA CANADENSIS	Russet Buffaloberry					●	●	●									●
SYMPHORICARPOS ALBUS	Snowberry					●	●										●
VIBURNUM TRILOBUM	American Cranberrybush		●				●	●					●	●			
YUCCA SPP.	Yucca		●				●						●				

Plant Palette	Campus Approval	Approp. Use	Characteristics						Growth Rqmnts.				
			Showy Flowers/ Seasonal Color	Evergreen	Colorado Native					Full Sun	Partial Shade	Shade Tolerant	
Ground Covers and Vines	CSU Maintenance	Bioswale											
ANTENNARIA SPP.			●		●						●		
ARABIS SPP.			●	●							●		
ARENARIA VERNA			●								●	●	
ARMERIA MARITIMA			●	●							●	●	
ARTEMISIA SCHMIDTIANA 'SILVER MOUND'				●							●		
CALLIRHOE INVOLUCRATA			●								●		
CAMPSIS RADICANS			●								●	●	
CONVALLARIA MAJALIS			●								●		●
DELOSPERMA COOPERI			●								●		
EUONYMUS FORTUNEI 'COLORATA'			●	●							●		
HOSTA SPP.											●		●
IBERIS SEMPERVIRENS			●	●							●	●	
LONICERA JAPONICA 'HALLIANA'			●	●							●	●	
MAHONIA REPENS				●	●						●		●
PARTHENOCISSUS TRICUSPIDATA			●								●	●	
PENSTEMON PINIFOLIUS			●	●							●		
POLYGONUM AUBERTII			●								●		
POTENTILLA NEPALENSIS 'WILLMOTTIAE'			●								●	●	
SEDUM SPURIUM 'DRAGON'S BLOOD'			●	●							●		
THYMUS SERPYLLUM			●	●							●	●	
TRUCRIUM CHAMAEDRYS			●								●	●	
WALDSTEINIA FRAGARIOIDES			●	●							●	●	
Grasses	CSU Maintenance	Bioswale											
AGROPYRON SPICATUM					●		●				●		
ANDROPOGON GERARDII		●	●		●		●				●		
ARISTIDA LONGISETA			●		●						●		
BOUTELOUA CURTIPENDULA					●		●	●			●		
ELYMUS ELYMOIDES					●		●	●			●		
ORYZOPSIS HYMENOIDES			●		●		●	●			●		
SORGHASTRUM NUTANS			●		●		●	●	●		●		

3. Furnishings

Site furnishings are functional elements—such as seating, trash receptacles, and bicycle racks—that help establish and reinforce the image and character of the campus. Standardizing these elements unifies the campus visually, reduces maintenance, and simplifies replacement.

Intent: to unify the campus landscape with a palette of site furnishings.

- 1. Install a family of stock items that coordinate with campus lighting and signage and that are durable, attractive, and easy to maintain.
- 2. Coordinate colors and style of similar materials to unify the campus. Avoid painted materials when possible. Natural color of the material is preferred to minimize long-term maintenance and express the campus character. Brushed aluminum is preferred where metal, is used.
- 3. Use recycled materials when possible. In place of wood, use recycled wood composite in its natural color.
- 4. Over time, remove and replace site furniture to coordinate with the evolving campus image.

a. Seating

- 1. Provide seating throughout the campus to promote collegiality, enjoyment of the outdoor space, and enhance the pedestrian character of the campus.
- 2. Locate seating in groups and individually at building entrances, in gathering places, and along streets and paths, in sight of campus activity, and to capture distant views.
- 3. Make seating height between 14 and 18 inches above the pedestrian pavement and



Example of related site furnishings

level with the horizon. The depth of each seat should also be between 14 and 18 inches.

- 4. Appropriate materials for seating include low walls, large boulders, as well as benches. Seating with back supports should conform to the human body and contribute to a relaxing place to sit.
- 5. Provide mixture of benches and picnic tables for outdoor study.
- 6. Use one standard bench that is durable and comfortable. Benches should be linear in design, with a metal frame and recycled wood composite slats. Benches may have back supports as the composition of furnishings allows. Benches without backs are useful where seating is accessible from either side.
- 7. Locate or design seating in a way that prevents inappropriate use by skateboards, skates, or activities other than seating.
- 8. Use picnic tables that have a center post permanently fixed to the pavement. A mix of seating arrangements should be provided, including tables with four seats, three seats (allowing a wheelchair user to sit at the table), and two seats. Locate tables out of the maintenance vehicle path.
- 9. Provide moveable recycled wood composite lumber picnic tables.

b. Trash and Recyclable Material Receptacles

- ❑ 1. Use complementary receptacles for trash, recyclable materials, and smoking that are durable, require low maintenance, and can sustain periodic power-washing.
- 2. Receptacles should be non-descript without logos.
- 3. Receptacles for trash and recyclable materials should have easily accessible lids that keep out snow, rain and animals.

c. Bicycle Racks

Currently there is a variety of rack types used for mass bicycle parking.

- ❑ 1. Use independent racks where only a few are necessary.



Multiple bike rack



Rack for two bicycles

d. Walls, Fencing and barriers

Fencing is a character defining feature of the Foothills Campus. It is critical to security of the various facilities and safety of the many animals housed on campus.

Intent: unify the campus landscape with fencing that meets security needs.

- ❑ 1. Site retaining walls should be designed to provide seating where appropriate. In such cases walls should be 16-18 inches tall and 20-24 inches wide. Design walls to prevent skateboard activity.
- 2. Construct site retaining walls using native stone, cast-in-place concrete, or precast concrete block.
- ❑ 3. Precast concrete block retaining walls



The retaining wall at the College Ave. underpass is a good example of a rectangular, flat face concrete block structure



Cor-tin steel fits well into the Colorado Front Range landscape.

should be rectangular with a flat face. A minimum of three sizes of blocks should be used following an ashlar pattern. The color of precast concrete blocks should match the adjacent soil color, adjacent pavement, or building.

- 4. Use forms and materials for fences and/or site walls that complement the adjacent architecture and site design.
- 5. Consider use of cor-tin steel in fencing, gates, bridges and other outdoor structures.
- 6. Avoid the use of bollards through comprehensive site design. Where required, install removable bollards in emergency access routes.

e. Site Lighting

Night lighting is critical for campus safety and visitor orientation. Light poles are an important element in the landscape

Intent: to improve evening activity and enhance the character of the Foothills Campus with the correct placement of outdoor lights.

- 1. Encourage additional lighting where it enhances the whole neighborhood.
- 2. Prohibit specially designed lighting of an individual building that is out of character to the neighborhood and/or adjacent buildings and uses.
- 3. Include electrical outlets located throughout the square and ample conduit providing for temporary sound and lighting systems.
- 4. Use full cutoff fixtures for street and parking lot lights.
- 5. Design the lighting of utilities, enclosures, and service areas to complement adjacent land uses, architectural lighting, and/or circulation elements.
- 6. Refer to the Building (Design) Construction Standards Manual, Division 16 and Appendix Sole Source Products for standard equipment.
- 7. The use of Bollard Lighting Systems is not permitted.



New light poles and fixtures used on the Main Campus should be used at Foothills.

4. Foothills Campus Signage

The intent of the campus signage system is to contribute to clear and inviting wayfinding for the campus community and visitors. Signs are to be consistent in character within a hierarchy of types for specific purposes as applied to all the CSU, Fort Collins campuses.

This document initiates the update of graphics (forms, colors, and materials) and signage with the in coordination with the CSU Foundation Development Office, Facilities Management, and the Sign Shop. A sign design manual should be contracted to provide construction documents for specifications of materials, typography, and costs for budgeting of fabrication and installation.

- 1. Integrate signs into the system of open space, circulation, and buildings – complement the styles and materials.
- ❑ 2. Design all components to be economically feasible for implementation and maintenance.
- ❑ 3. Build on the established character of the historic monuments along College Avenue.

- ❑ 4. Develop priorities for a phased approach for replacing noncompliant signs on all campuses.
- 5. Comply with City of Fort Collins, State and Federal requirements to facilitate services and community cooperation in the public right-of-way and on campus.
- ❑ 6. Develop sign content, layout, and specific site location with Administration and Facilities.
- 7. Use cast concrete for the signage of the Foothills Campus. Color should be a warm natural gray with sandblast finish.

Signage on the Foothills Campus is based on the historic stone and brick entry monuments located on the Main Campus. Consistency amongst the Fort Collins campuses will be achieved through the use of stone bases (on most sign types), green as the primary sign color, typography, and the placement of the CSU logo. Additionally the sign system calls for the further use of the existing street signs, and adding banners on the existing concrete light poles.

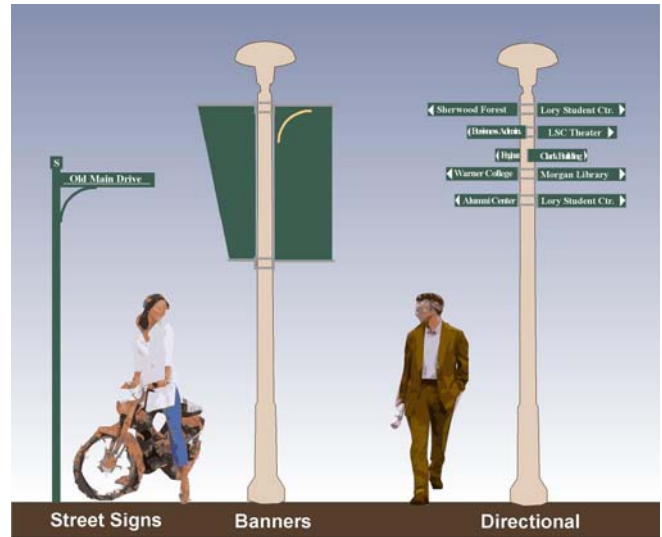


Entry monuments are to be on both sides of the road.



Campus Entry Monument

The original monuments of blond brick with cast concrete, stone base and cap.



Street signs on the South Campus should match those of the Main Campus. Light poles should be used to hang banners and/or directional signage.



Building identification follows the standards with a stone base, or no base at all.



Visitor orientation kiosks include detailed maps of the campus for use by pedestrians.



Visitor information and directional signs are to be designed for use by motorists.

V. IMPLEMENTATION

A. Implementing Design Review at Colorado State University

Campus character and environment is increasingly recognized as one of the primary reasons students and faculty choose their academic institutions. A strong campus image promotes a positive feeling towards the academic institution that is reflected in academic ideals, donations, alumni participation and attracting the best and the brightest. As a campus grows and changes – a given at most every academic institution – that character and environment tends to shift and change. Change must be recognized as short-term decisions that do not compromise the long term institutional ambition.

1. Background

Corresponding to a trend in city design, many rapidly developing campuses have had Design Review Boards (DRB) or, Design Review Committees (DRC) since the mid 1980’s to control campus aesthetics. In 1994, SCUP (Society of College & University Planners) recognized a growing campus trend to correlate design direction with campus change. SCUP sponsored an educational session that addressed how one would set in place and sustain campus planning and architectural design standards to allow flexibility in accommodating change of all kinds. They identified the necessary ingredients as “a committed administration, a long-term external design review board, an established master plan, watchful oversight by a host of interested professional designers and ordinary citizens, and a guiding document that describes campus style, standards, and future aspirations.” In 1999, the organization again revisited Design Review to address the benefits and pitfalls. While no conclusive evidence was gathered on the effectiveness of a DRC the generally held perspective was one of benefit to the aesthetic campus composition and long term planning strategies.

As a response to implementing incremental change, many other campuses have since instigated a series of review panels to be the watchdog of physical change. Panels have included Campus Planning Committees, which review master plans or development programs (much like a City’s Planning Commission or Zoning Board); Design Review Boards, which review particular project design responses; or Facilities Committees, which review operations as well as new facilities. Often a campus will consider one such Committee or Board to serve all functions.

Colorado State University has, to date, not utilized a Design Review Committee to maintain aesthetic direction. The campus’ Facilities Development Committee has served to provide informal recommendations. But, as there are yet no adopted overall Design Guidelines, the DRC is only following the Master Plan for project review.

The role, responsibilities and potential composition of a CSU Design Review Committee are discussed herein.

2. Design Review Committee Charge

The Design Review Committee’s role is typically to review development proposals against an established set of criteria and provide input into how best to meet the campus objectives with the building and site program on hand. DRCs have been *advisory*, providing direction to a President, the Administration or at least a building committee, or *regulatory*, providing direct recommendations for change to a designer.

DRC roles have been *solely peer review*, when composed of architects, planners and landscape architects; *solely administrative*, when composed of Facility Directors, Campus Architects, Campus Planner, or Building and Planning department

representatives, or *solely* “community participation” when composed of faculty, staff and students. Other models combine professional peers, administrators and campus community members and combine peer, administrative and community review.

a. DRC Responsibilities

The typical responsibilities of a Design Review Committee include:

- Implement the goals of the strategic plan as they relate to land use and design.
- Implement the direction of the campus master plan or development plan.
- Enforce design guidelines; translate design guidelines to specific situations.
- Review projects and programs for design quality and consistency.
- Make findings as to when and why to allow deviations or variances.
- Make recommendations as to design improvements.
- Make recommendations as to Value Engineering decisions that effect design quality and consistency.
- Make recommendations as to selection of architect/landscape architect/planner.
- Promote campus design vision to the President or Administration.
- Be proactive to administrators when tools or direction are not available, suggesting the need for guidelines, detailed planning studies or other physical improvements.

b. Benefit

The benefits of a Design Review Committee have varied based upon the charge, role and responsibilities at different campuses. However, observation and participation in a few Campus Design Review Committees has revealed potential benefits for Colorado State University.

- Often a designer needs assistance to understand the larger campus environment outside their building or site program. The Design Review Committee can clarify campus wide direction and translate design guidelines in these particular situations.
- A designer could potentially receive conflicting or inconsistent direction. This is increasingly evident when there is a Building Committee, with multiple ‘clients’ as is typical in the university setting. A Design Review Committee could provide direction and make findings as to why a particular direction should be pursued.
- Recognizing that design and beauty are not always black and white decisions, Design Review Committees often translate the “gray” and provide a well thought out direction to both the building/site designers as well as the administrators and building committee.
- Budgets have increasingly tightened and the cost of construction has and will most likely escalate. Decisions regarding materials, quality and cost should be thoroughly discussed by an independent body, rather than only at a Value Engineering session or Cost Reduction session. A Design Review Committee could be tasked with weighing the recommended cost reductions against the quality and contribution to the campus as a whole.

c. Design Review Committee Procedures

Design Review Committee presentations are typically comprised of open and closed sessions. The open session will include the presentation by the Executive Architect, questions from the Board, and the Board’s recommendations. The DRC considers comments from the related University project management team prior to each DRC presentation. The closed session allows the DRC candid discussions to arrive at a consensus position for its recommendations.

A standard packet of information is provided to the DRC members in adequate time for their thorough review. Written summaries of board discussions and recommendations are maintained, and should be distributed to all concerned parties.

d. CSU Decisions & Recommendations

To embark on a Design Review Committee process, the CSU Administration must decide on the appropriate charge (advisory or regulatory), role (peer review, administrative and/or community participation), and process. The following recommendations are the author’s counsel based upon serving on the UC Riverside DRB for three years as a professional member and presenting to numerous other design review boards, both at academic institutions and for agencies.

Advisory: It is recommended that CSU inaugurate an *advisory* Design Review Committee with the charge of providing recommendations to the President and Vice President of Administrative Services on campus planning (Master Plan) and design project implementation. The Master Plan and the new Aesthetic Guidelines will be the decision makers’ tools for determining compliance. Rather than multiple boards, one DRC

should represent the Main Campus, Foothills and South Campus. This will serve to promote unity and cohesion amongst the separate campuses.

Combined Role: It is recommended that the CSU DRC have a combined role, with peer review, administrative review and community participation. A suggested committee of 7 members would be composed of three peer professionals (*peer review*) from off campus – an architect, a landscape architect and a planner; up to three campus representatives (*community participation*) that could be chosen from the Faculty Council, members of key departments, or ASCSU members; and one representative from the Facilities Management Department (*administrative*) responsible for design and construction. Planning & Real Estate Services and Design & Construction Staff would be resources to the voting committee.

(Note: peer professionals should be noted Colorado professional leaders with a strong portfolio of campus work, and are usually reimbursed on a time and materials basis for their service).

Process: The primary responsibilities of a CSU Design Review Board would be to review projects during the planning and design process and to participate in the selection of consultant architects, landscape architects and planners for major campus projects. The DRB should meet regularly (possibly quarterly) based upon the needed project reviews.

3. Next Steps

Should the CSU Administration determine the value of a Design Review Committee, the following work program could be implemented:

1. Allocate budget and resources for DRC assistance and reimbursement.
2. Establish responsibilities for appointing both outside and on campus members.
3. Determine conflict of interest requirements (such as, can a professional member hold a design contract with CSU for a particular project; is there a monetary limit to annual design contracts?).
4. Invite candidates and select appropriate DRC members.
5. Determine design submission requirements and presentation formats for DRC .
6. Determine and manage calendar of DRC review.
7. Follow up DRB meetings with minutes and recommendations to Administration.

4. Comparison with Select Peer Institutions:

A limited review of other western educational institutions shows the diversity of design review composition, role and processes.

a. Arizona State University, Tempe

ASU has a Campus Public Art & Design Review Council that is advisory to the executive vice president and provost. The Council develops the vision and guidelines for campus planning, including public art, participates in the selection of consultant architects, landscape architects and planners, and reviews projects during the design process. It recommends the procurement or commissioning of works of public art and their siting on the campus, and it explores the sources of funding of public art for existing facilities, beyond those funded by the percent for art levy on new construction. It is composed of 16 members on staggered three-year terms. All members, with the exception of one from the City of Tempe, are with the University. ASU has a School of Architecture and an Art program, so peer expertise is available on campus. (*See footnote 1*)

b. University of California Riverside

The UCR Design Review Board (DRB) is charged with the review of major planning initiatives (e.g. area studies, master plans), and facilities siting, facilities design and landscaping for major projects to ensure that they are consistent with the Long Range Development Plan and UCR's planning principles as specified in the Campus Design and Landscape Guidelines. The Board is advisory to the Chancellor via the joint recommendations of the Vice Chancellor, Academic Planning & Budget and Vice Chancellor, Administration. The joint recommendation is the result of consultation with the DRB.

Membership is composed of nine persons: two external consulting architects, one external consulting Landscape Architect, Assistant Vice Chancellor, Capital & Physical Planning, Assistant Vice Chancellor, Design & Construction, Chair (or designee) Academic Senate Physical Resources Committee and three faculty-at-large, on rotating three year terms. The term for the external architects and landscape architect is three years. Appointments are staggered so that one new appointment is made each year. Appointments are made by the Executive Vice Chancellor on the joint recommendation of the Vice Chancellor, Academic Planning & Budget, and Vice Chancellor, Administration. The joint recommendation is the result of consultation with the DRB.

Each major planning initiative and/or project is presented to the Board at the following milestones: Detailed Project Program (DPP)/pre-design; Schematic Design preceding Office of the President review and Regents Design Approval; and additional reviews on an as needed basis, as appropriate. *(See footnote 2)*

c. University of California San Diego

The UCSD Design Review Board (DRB), an advisory board to the Chancellor, is charged with the review of facilities design and major landscape projects to ensure such projects are architecturally appropriate and consistent with the Long Range Development Plan and the UCSD Master Plan. Projects that have significant visual impact on the Campus, regardless of the size of the project, are also reviewed by the DRB. The DRB is composed of eight members: four private sector architects, who serve four-year staggered terms, and four campus representatives. The external architects are selected by the Vice Chancellor-Resource Management and Planning on the recommendation of the Assistant Vice Chancellor-Facilities Design and Construction and the external architects currently

serving, on the DRB, on the basis of professional design experience. The four campus members are: the administrative Co-Chair, C/CPC-1 the faculty Co-Chair, C/CPC (who is also chair of the Academic Senate CCCE); the at-large faculty member selected by the Academic Senate; and the Vice Chancellor-Resource Management and Planning. Staffs from Facilities Design & Construction and Physical Planning Departments serve as consultants to the DRB.

Typically, major projects are reviewed by the DRB three times before being submitted for design approval. The three reviews by the DRB are: pre-design, concept presentation, and final schematic design. On occasion, additional reviews may be required; specifically, a review of the proposed exterior materials and color or when a project has been previously approved by the DRB but later modified by value engineering or for some other reason. In all cases, however, the DRB review process must be completed prior to submission for Regental design approval. *(See footnote 3)*

d. University of Colorado Design Review Board

The CU DRB is a six member board that reports to the President on matters of campus facilities, land-use development and concerns for the aesthetic and physical characteristics for all University of Colorado properties. Their role is to advise and counsel on matters of good planning and design practice only. The DRB is advisory to the President. It generally works cooperatively with design architects and landscape architects to satisfy all concerns. Since its inception in the mid-1960s, only a handful of projects have been referred to the Office of the President for resolution when the design architect and the DRB could not agree. In each case, the President has supported the DRB's position. They do not regulate, rule or determine policies of the university with respect to land use, facilities planning, campus design or capital

budgeting. The DRB reviews Conceptual Design, and occasionally program plans where the plan involves major campus land development issues. They take formal action at Schematic Design and Design Development phases. (See footnote 4)

Footnotes

- 1 *Arizona State University Website*
www.asu.edu
- 2 *University of California Riverside, Mr. Timothy Ralston, Assistant Vice Capital & Physical Planning*
- 3 *University of California San Diego Website*
www.ucsd.edu
- 4 *University of Colorado at Boulder website*
<http://www.colorado.edu>

B. CSU Design Review Committee Submittals

Consultant teams must review the University Building (Design) Construction Standards Manual. This Manual also outlines who reviews projects and who serves as the University representative. CSU may need to revise their Construction Standards Manual after this document is adopted.

In addition to the design submittals outlined in the University Building (Design) Construction Standards Manual, every project team that is involved with a project that includes new construction, or additions or modifications to the exterior of an existing buildings will be required to present the proposed project design at a conceptual level (pre-schematic). At this presentation, the appropriate representation method(s) shall be used to help the reviewing committee understand the impact of the proposed project on the existing campus environment and evaluate the conceptual design for its compliance with these aesthetic guidelines. The following products are examples of acceptable presentation tools: computer generated 3-D model with sun study and key eye-level views to analyze the impact of new building massing on campus open space and buildings; computer generated animations of an eye-level walk-thru simulation of the project area; hand drawn perspective sketches of the proposed project (eye-level views); photo montages of the existing campus environment with an overlay of the proposed project (eye-level views); etc. The project team shall outline the proposed presentation (products, tools, and method appropriate for the project) of the conceptual design(s) for review and approval by the University representative. The development of alternative project solutions is encouraged at this stage of the project.

Project Review Schedule / Consultant Submittal Requirements

Submit the following for DRC review two weeks prior to the DRC meeting presentation. Submittals should be in electronic form in .pdf file format. It is expected that each of the items will advance through the design process. The lists for each submittal states if specific detail is required in addition to that previously addressed.

Presentations to the DRC will be made by the Architect/Engineer Design Team (A/E). The presentations should be electronic projection with handouts for the committee members. Models of the project are generally appreciated but not necessarily required.

1. Conceptual Design Phase

The intent of the Conceptual Design Phase is to fit the program to the site. Alternative schemes are encouraged to study how to best achieve the project goals.

- a. Project program, tabulation of square footage of uses inside and outside the building within the project area
- b. Project budget
- c. Campus context plan as it fits within the related objectives of the campus master plan and Aesthetic Guidelines, indicating existing and proposed development
- d. Site concept plan illustrating building footprint, access (project area and edges of surrounding 'sites' on a scaled current survey of utilities, horizontal and vertical elements and conditions, project boundaries and setbacks.)
- e. Conceptual floor plans
- f. Conceptual massing diagram (always include

massing of adjacent buildings and structures). -dimensional massing simulation with view studies are required when the structure serves as a gateway or orientation point on campus, shadow simulation at noon March 21, June 21 and December 21.

- g. Conceptual elevations (ideally in perspective; always include elevations of adjacent buildings), indicating all major materials
- h. Landscape concept plan delineating paved and planted areas
- i. Sustainability goals
- j. Written design statement (could be illustrated with diagrams)

2. Schematic Design Phase

- a. Summary of any deviations to the previously approved Conceptual Design Phase submittal
- b. Project program
- c. Project budget including allocation for building, site and landscape
- d. Context Plan – illustrating adjacent buildings, circulation and open space
- e. Site Plan– indicating finish floor elevations, utilities and access (entrances and service) to the building
- f. Landscape Plan – including but not limited to grading, drainage
- g. Floor Plans– including roof plan
- h. Massing – multiple views of the 3 dimensional model including but not limited to pedestrian level views
- i. Shadow studies, 10 AM, 2:00, and sunset, March 21, June 21 and December 21

- j. Building elevations – colored, ideally in perspective; always include elevations of adjacent buildings, indicating all major materials
- k. Information on any building mounted or site mounted equipment / utilities (example: cut sheets / illustrations for proposed equipment, building / site sections indicating equipment sizes and screening systems indicating view lines from adjacent public spaces, etc.)
- l. Written design statement

3. Design Development Phase

- a. Summary of any deviations to the previously approved Schematic Design Phase submittal
- b. Project program
- c. Project budget.
- d. Context Plan – illustrating adjacent buildings, circulation and open space
- e. Site Plan– indicating finish floor elevations, utilities and access to the building, project boundary and limit of work
- f. Landscape Plan – including but not limited to grading, drainage, signage, lighting, furnishings, plant species, installation size, and pavement materials.
- g. Floor Plans– including roof plan and associated mechanical equipment
- h. Massing – multiple views of the 3 dimensional model including but not limited to pedestrian level
- i. Shadow studies, 10 AM, 2:00, and sunset, March 21, June 21 and December 21
- j. Building elevations – colored, ideally in

perspective; always include elevations of adjacent buildings

- k. Exterior materials (site and building) and exterior colors (sample mock-up board)
- l. Materials and colors for transitional spaces (entrance vestibules, lobbies, etc.)
- m. Exterior building lighting and lighting of transitional spaces (overhangs, vestibules, entrances, lobbies)
- n. Written design statement
- o. Summary of changes due to Value Engineering

4. Construction Document Phase

No review by the DRC unless design changes are made that affect building exterior, site design, etc.

5. Construction Phase

No review by the DRC unless design changes are made that affect building exterior, site design, etc.

DRC Site Visit(s)

- a. Review of sample wall / sample panel / etc. (note: require Contractor / A/E team to coordinate timing of the various mock-ups, etc. so that the DRC can perform review of all relevant materials during one visit)
- b. Final walk-thru during punch-listing period

VI. APPENDIX

A. Glossary of Terms

Sustainability

“Sustainability” implies that the critical activities of a higher education institution are (at a minimum) ecologically sound, socially just and economically viable, and that they will continue to be so for future generations. A truly sustainable college or university would emphasize these concepts in its curriculum and research, preparing students to contribute as working citizens to an environmentally sound and socially just society. The institution would function as a sustainable community, embodying responsible consumption of food and energy, treating its diverse members with respect, and supporting these values in the surrounding community.

Association of University Leaders for a Sustainable Future (ULSF)
<http://www.ulsf.org/about.html>

Metrics Terminology

To clarify how the terms are used in this project, a list of terms related to performance metrics are defined with examples and comments at the end of this document. The definitions are derived from common practice and the Merriam-Webster Dictionary.

Benchmark — a standardized problem or test case that serves as a basis for evaluation or comparison
The terms Benchmark and Baseline are often used interchangeably.

Benchmarking — the act of comparing a performance metric to a benchmark or baseline
Consistent and repeatable benchmarking requires clearly defined performance metrics and protocols for developing the reference case to serve as the baseline.

Building Performance Index — A high level indicator of the performance of a building
BPI is often used to refer to the energy use intensity

There is no standard definition of this term. It is sometimes used to refer to the energy use intensity and sometimes used to account for many different factors (energy, environmental, economic, etc.) into one term. This term is not used in this project at this time because it is not specific and can lead to confusion.

Design Guideline — a set of rules and strategies to help building designers meet certain performance criteria such as energy efficiency or sustainability. Although LEED and BREEAM are technically rating systems for new construction, they are often used as design guidelines for new buildings.

Energy Audit — a systemized approach to measuring, recording, and evaluating the operating performance of a building or building system with the intention of improving the performance

Index — a number (as a ratio) derived from a series of observations and used as an indicator or measure (Merriam-Webster 2004)
An index is usually taken as a percentage.

Indicator — a parameter, or a value derived from a set of parameters, that points to, provides information about and/or describes the state of a phenomenon. It has significance beyond that directly associated with the parameter value. (Flanders 2000)
“Indicators are one of many tools for simplifying, quantifying, and communicating vast amounts of information in ways that are more easily understood. They are also useful for alerting us to what areas that need more attention, as well as areas that see improvement.”

Measurement and Verification — refers to the process of examining and proving the results of implementing energy and water conservation measures

Metric — a standard of measurement
A performance metric is a metric of some performance characteristic; however, not all metrics are performance metrics. For example, area is a metric but it is not a performance metric.

Performance Goal — a specific statement of a desired level of achievement.
Performance metrics should be carefully chosen to measure progress toward performance goals.

Performance Index — a number (as a ratio) derived from a series of observations and used as an indicator or measure.
A performance index is a secondary level performance metric. Performance index is not used in this project to avoid introducing more terms than are necessary.

Performance Indicator — a high-level performance metric that is used to simplify complex information and point to the general state of a phenomenon.
Performance indicators are used to communicate general trends and are often used on a program planning level to show progress toward goals. See the definition of indicator for more discussion.

Performance Metric — a standard of measurement of a function or operation
Performance Metrics should measure and communicate progress toward achieving Performance Goals. There are different levels of performance metrics. The Performance Metrics Project is generally concerned with the primary level, which is the lowest level. The primary level performance metrics are applicable to a specific project, such as the BEUI and end use energy

break down. Secondary performance metrics are often combinations of lower level performance metrics and other data, and they are used to show performance of a group of buildings or across an entire building category. An example of a secondary performance metric would be the gross energy intensity of a group of office buildings.

Performance Objective — a general statement of desired achievement
Reduce building energy consumption, reduce emissions related to building operation

Procedure — a standard method or set of methods for determining one or more performance metrics

Protocol — a detailed plan of a scientific or medical experiment, treatment, or procedure
Protocol is often used interchangeably with procedure; however, protocol usually infers something that is officially recognized as a standard.

Rating System — a system of rules for comparing the performance of a whole building or building system to benchmarks
Some rating systems, such as EnergyStar, are designed to rate the measured energy performance of existing buildings, and some, such as LEED, are designed to rate the expected performance during the design stage. In addition, LEED and BREEAM are environmental rating systems and energy is only one part of the rating. One point of confusion is that LEED is often used as a design guide.

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