THE UNIVERSITY OF COLORADO DENVER

ANSCHUTZ MEDICAL CAMPUS ONLY

UC DENVER
DESIGN AND CONSTRUCTION STANDARDS

Part 2.0

PHYSICAL CAMPUS PLANNING AND DESIGN GUIDELINES
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2.1 Introduction:

The following is an abbreviated summary of the UC Denver Planning and Design guidelines. The design team should confirm specific guidelines through the UC Denver campus architect at the start of the design process. The University of Colorado Denver (UC Denver) at the Anschutz Medical Campus is the most significant and prestigious public medical facility in Colorado, incorporating health care, teaching, and research. The campus must meet rapidly changing demands for people, programs, space, equipment, access and services critical to 24-hour operations, while reflecting an overall sense of wellness and healing. Campus planning is to accommodate and enhance existing and future programs and the needs of campus users while remaining sensitive to the site and environment. This will primarily apply to the Anschutz Medical Campus and will apply in part to Downtown Campus.

A. Purpose:

1. The Planning and Design Guidelines (Guidelines) have been prepared to help direct planning and design of future building construction and site development. The Guidelines emphasize the consistent application of concepts, materials, and details.

2. These Guidelines support the Facilities Master Plan (Master Plan). They provide standardized design recommendations to endure the implementation of the campus design philosophy. Used in concert with principles of good design, applicable jurisdictional regulations, University of Colorado Design Review Board (DRB) procedures and staff assistance, these Guidelines will expedite the approval process and facilitate the development of quality projects.

B. Use of the Guidelines:

1. The Guidelines are to by used primarily by staff, consultants and the DRB. The guidelines must be complied with for all physical additions, improvements, expansions and renovations. The Guidelines consists of goals, guidelines and standards which work together to provide consistent design direction.

C. Design Review Board:

1. The DRB, as advisory to the President of the University of Colorado, is responsible for reviewing and consulting at the time of pre-design, conceptual design, schematic design and design development phases. All capital construction projects are reviewed to determine their compliance with the Master Plan and the Guidelines.

D. Authority:

1. The Guidelines are part of the University of Colorado planning and design process and therefore are campus policy. The DRB and the Chancellor’s Executive Master Planning Committee have approved the Guidelines.

2. In order to meet unforeseen situations in either the Master Plan or Guidelines, it may be desirable for the DRB or UC Denver administrators to consider variances of certain requirements. Any variance granted is considered not to be precedent setting. In addition, the DRB or UC Denver administrators may find it necessary to amend the Guidelines to respond to changing factors in the university or market place.

E. Document Organization:
1. The Guidelines are organized into a sequence of sections addressing typical campus-wide planning and design concerns. Each section begins with a statement describing a particular issue. The description is followed by one or more goals with related guidelines and standards.

F. Definitions:

The following words are used extensively in the Guidelines.

1. Buildable Sites:
   Buildable Sites are areas of the campus where buildings are to be constructed. Buildings are not to occur outside of these zones. Landscaping and circulation may occur in these sites.

2. Character:
   Character is defined as the distinctive structure, form, material and style of a place. Campus character is apparent to people as a result of the landscape, buildings, trees, spaces, furniture, materials, colors and organization of campus parts.

3. Commons:
   Significant outdoor spaces usually bordered by buildings and landscape, which accommodate a variety of active and passive activities.

4. Design Review Board (DRB):
   The University Design Review Board is to review all phases of planning and design and is to provide advice on the administration of the Guidelines.

5. Desired:
   The action described by a Guideline should be followed, if possible. Lack of compliance, where it applies, may be grounds for denial of approval by the DRB or administration.

6. Functional Zones:
   The campus is divided into several zones each with a predominant function: Clinical, Educational, Research and Village Center. Each zone is not limited to any singular function.

7. Goals:
   Goals are what are to be achieved in terms of form and function.

8. Guidelines:
   Guidelines are actions necessary to reach a Goal. A guideline directs planning and design efforts to be responsive to site, functional, aesthetic, economic, administrative and other conditions. It must be applied with care and good judgment to achieve an appropriate result.

9. Improvement:
   Every structure and all appurtenances of every kind including, but not limited to: buildings, fixtures, utilities, plazas, courtyards, open spaces, aerials, poles, antennas, satellite and telecommunication dishes, roads, driveways, parking areas, fences, screening walls, retaining walls, stairs, decks, walks, ramps, landscaping, planting, planted trees and shrubs, signs, exterior air conditioning units, roof top equipment and any facility used in the connection, conveyance and distribution of utilities.

10. Loggia:
    A loggia is a roofed gallery or arcade on the side of a building or between buildings. It is open on at least one side and typically is facing an open courtyard.
11. Required:
When this is used, compliance with a Guideline or Standard is mandatory. UC Denver or DRB may use non-compliance as grounds for denying approval.

12. Site Accessories:
Any type of campus outdoor furnishings most commonly used along streets, on plazas, courtyards, and open spaces. Examples include general lighting, pedestrian lights, benches, tables, and chairs, trash receptacles, newspaper vending racks, planters, tree grates, fences, wall, railings, bicycle racks, fountains, kiosks, public telephones, etc.

13. Standards:
Standards are prototype products or details required for achieving goals. They provide criteria for materials, fixtures, furnishings, finishes, sizes, and colors to be used throughout the campus.
2.2 Campus Design Philosophy:

A. Campus planning, landscape and architectural controls allow development to occur in a unified and ordered manner without sacrificing the opportunity for diversity in the buildings or exterior spaces. Moreover, the architecture, while diverse in form, functions and scale, should be largely organized to form strong, coherent edges to open spaces and streets. Buildings are to be positioned, not as individual elements of the campus, but as a series of edges that reinforce the organization of open space and circulation. The philosophy of the Master Plan is based on the positioning of potential building sites around defined open spaces, inter-related pedestrian and vehicular corridors, and infrastructure routes.

B. Exterior open space allows access to buildings, contributes to institutional image, creates places for people, and furthers a campus character of wellness and healing. It is what is seen from the windows of campus buildings. It gives campus users status, comfort and a place for social interaction. Existing trees and landscape features are to be preserved and augmented to create a “Campus in a Park.” Landscaping is to be designed to enhance orientation, safety, and comfort while providing the opportunities for relaxation and reflection.

C. How the campus operates and develops is as important as what it develops into. Flexibility and expandability along with efficiency and economy are major concerns. Operating cost will soon exceed initial construction costs; and in every facet of medicine the rate of change is rapidly increasing with unforeseen needs requiring accommodation.

D. Andrea Palladio described architecture in terms of “firmness”, “commodity and “delight.” These are simple terms very appropriate to guide the Campus development. The campus must have “firmness.” In other words, it is to be durable with emphasis on reducing operating and maintenance costs. It must have “commodity” - programs efficiently accommodated so people are able to ensure their needs are fully and pleasantly met. Finally, the campus must have “delight”, which is that excitement and image that builds a sense of pride and well being.
2.3 Campus Design Principles:

Principles are the overriding ideas and beliefs for how the campus is to develop. General principles to be achieved are the following.

A. Exterior Spaces:

1. “Buildings in a Park” concept establishes the planning and design theme for UC Denver. The campus includes exterior spaces in a variety of scales, styles and functions. Together they create an organized system of places that provide order and orientation. These spaces fit together so that functions are accommodated and character unified across the entire campus.

2. Before changes occur, each space is to be analyzed in terms of its visual quality and function. Improvements must reinforce the basic purpose, organization and character of each space, while at the same time perpetuating the sense of wellness and healing in the built environment.

3. The campus perimeter is a primary exterior space. Colfax Avenue, Quentin Street, Montview Boulevard and Wheeling Street border the campus. Campus development is to complement both the campus and community sides of these streets, and should:
   a. Identify the campus
   b. Buffer views of parking areas;
   c. Establish a sense of place;
   d. Provide an attractive edge that communicates a sense of quality and care;
   e. Create a porous edge between the campus and the surrounding community;
   f. Control nighttime illumination to prevent glare and other undesired impacts;
   g. Provide a seam between the campus and the Bioscience Research Park.

B. Character:

1. The Design of individual buildings is to relate to neighboring structures, open spaces, and landscape taking into account the following site factors:
   a. Potential to complement the character of surrounding spaces, streets, and walks;
   b. View corridors, both to and from buildings;
   c. Alignment of axis, cornice lines, and features of neighboring buildings and spaces;
   d. Overall heights, massing, styles, and materials of neighboring buildings;
   e. Overall scale, styles, and materials of existing buildings;
   f. Screening of unsightly views of service areas and mechanical equipment located both on grade and on building roofs;
   g. Campus circulation;
h. Solar orientation and other environmental influences.

2. These factors are to play an important role in determining building height and mass, primary facade design and the location of primary, secondary and service entries. Individual buildings create an overall campus context, and therefore, must support the tenets of the Master Plan and provide a positive contribution to the campus environment.

3. New buildings are to be located in accordance with the overall vision of the Master Plan and positioned on their sites in a manner that reinforces the intent of each campus zone.

4. As the campus develops and the building fabric becomes dense, there will be a tendency to improvise building sites or additions that desire adjacency to existing structures or local campus conditions. All future building is to take into account the open space configuration that results from previous construction. Buildings are to avoid creating remnant, unusable open space, except where it anticipates future building or expansion. It is important to note that building wall lines often frame, accent, or punctuate views, or define public space.

C. Phasing and Site Priorities:

1. It is necessary to locate initial campus building in undeveloped functional zones. However, where ever possible, priority should be given to clustering buildings. Buildings are to be located on sites that are appropriate in size for their anticipated programs with consideration of future adjacencies and expansion.

2. When contemplating an addition or new building in an undeveloped or under-developed area, campus planners are to project what buildings are to be constructed in the future. This is to endure space for future expansion and to endure that a single building will not remain isolated in a particular area over a long period of time.

D. Environmental Concerns:

1. Promoting physical comfort and conservation of natural resources is encouraged. The existing landscape and climate are major concerns when developing the campus. Existing native landscape and healthy trees are to be preserved, and the campus is to be connected by walkways to the parks and native landscape along Tollgate and Sand Creeks.

2. Structures and landscape are to be used to protect pedestrians from environmental extremes. Shaded areas are to be created for outdoors activities where sunshine is desirable. Buildings are to be planned and designed to minimize intrusive shadows on exterior spaces. Areas protected from wind and cold are to be created for outdoor winter activities. Landscape is to be related to solar exposure and areas with special microclimates created to promote spring and autumn flowers.

3. Energy conservation and other means for reducing operating cost are present concerns and will become more of an issue in the future. Landscape screenning, building orientation, sensitive facade design and other passive energy conservation systems are to be considered on all projects. Energy codes are to be exceeded if possible. Conservation related materials are to be promoted and waste materials disposed of in a conscious manner.

E. Social Concerns:
1. The exterior environment is to be designed to fill the functional, social and emotional needs of campus users, and it is to have a character and features that reflect wellness and healing. It is to accommodate the needs of people of all ages.
2.4 Campus Planning Diagrams:

Utilization of the following diagrams, in concert with the Master Plan and Guidelines, provides the basis for decisions to be made concerning appropriate siting and architectural characteristic of proposed building and outdoor spaces.

A. Open Space Easements:

1. The Open Space Easements identify the locations of significant open spaces. The types and sizes of spaces give variety, scale and richness to the campus fabric. The basic planning armature for development is created when spaces are combined with the pedestrian and vehicular corridor easements. Diagram 2.4.1* illustrates desirable open spaces on the campus.

   a. Colfax Frontage & Entry:
      This open space acts as the continuous landscape buffer along Colfax Avenue. A symbolic gateway entrance is planned on axis with Ursula Street. The edge creates an important first impression for visitors and users arriving at the campus. A unifying and complementary urban design character between the commercial community side of the street and the campus should be created. Space is to be provided to accommodate future transit stops.

   b. Campus Green:
      This open space acts as both the symbolic heart and entrance to the campus. Centrally located, it gives definition to the entry views of Building 500. A landmark tower and reflective pond are proposed within this area to provide ambiance and to provide a source for orientation and wayfinding within the campus.

   c. Clinical Commons:
      This open space is the primary space for the clinical Zone and is defined by the Anschutz Cancer, Outpatient and Inpatient Pavilions and Affiliates. The commons contains smaller scaled places likely to be used by people from adjacent buildings. The space is intended to be quiet and reflective. The open space is linked to a series of smaller outdoor rooms, the Research Clinical Commons, and indirectly to 17th Place Esplanade.

   d. Commander’s Park:
      This space is a passive recreational extension from General’s Park to the Research Park.

   e. Parade Ground:
      This area is an historic symbol of the Fitzsimons Army Garrison. It also serves to terminate the western end of the 19th Avenue Service Drive and pedestrian corridor—adding informal recreation space at the perimeter of the Research Park and flexible to long term campus needs.

   f. Research Park:
      The open space is an informal counter point to the orthogonal pattern of buildings and spaces. It is the most informal area of the campus and is used for strolling and contemplation. It is an extension of the General’s Park to the Bioscience Research Park.

   g. Research Clinical Commons:
The open space is made up of several quadrangles, which reinforces a visual and pedestrian connection between the Clinical Commons and the Bioscience Research Park. It is a significant open space along 17th Place Esplanade.

h. Village Center Green:
This space provides the gradual transition between the Village Center and other campus functions. It is an urban center with a considerable amount of pedestrian activity. It creates a forecourt and symbolic frontage for the “Old Red Cross Building” in the center of the campus.

i. Recreation Field:
The space is a turf lawn to be used for campus recreation. It is sized and drained to accommodate recreational and athletic programs.

j. Events Court:
This open space creates a forecourt to the theater and large multi-purpose conference rooms. It is a pedestrian crossroads for the Research/Clinical Commons to the west, the Bioscience Research Park to the north, and the Educational Commons to the south.

k. Educational Commons:
This open space is bounded on the east and west by classroom buildings and is terminated on the south by the professional schools. Although educational resources are located throughout the campus, this is the symbolic center for academic life.

l. Affiliates Commons:
The space is projected as the main open space for affiliates and is located in the eastern quadrant of the Clinical Zone. It is the north-south open space line to the major east-west pedestrian corridor to the south of Building 500.

B. Pedestrian/Vehicular Corridor Easements:

1. The following easements identify the circulation corridors within the campus. Together with the Open Space Easements and Guidelines, a cohesive pedestrian and vehicular environment is created, providing access and orientation to users. Such corridors are also opportunities for infrastructure development. Diagram 2.4.2* illustrates the desired circulation corridors.

a. Montview Boulevard:
A major entrance to the UC Denver Anschutz Medical Campus. It serves the campus to the south and the Bioscience Research Park to the north.

b. 19th Place Pedestrian Walkway:
This pedestrian system connects the east and west sides of the campus and provides a convenient link to Tollgate Creek.

c. 19th Avenue:
This is not a through street for public vehicles. It is a route predominately used for occasional and off-hour service vehicles. It also functions as a pedestrian walkway and bicycle route.

d. 17th Place Esplanade:
This is a primarily pedestrian spine connecting the Research Park, Research Clinical Commons, and Educational Commons.
e. **17th Avenue:**
17th Avenue becomes a major vehicular entrance to the campus from Peoria Street and provides Public access to the campus center.

f. **Pedestrian Walkway:**
The pedestrian walkway system connects the Clinical Zone with major affiliates to the east.

g. **Ring Road (Montview-N; 16th Avenue-S; Victor-E; Racine-W):**
The Ring Road provides circulation around the perimeter of the campus.

h. **Ursula Street:**
The street carries north-south traffic and is the symbolic entrance to the campus.

C. **Buildable Sites:**

1. These zones, illustrated in Diagram 2.4.3*, define the areas within the campus that contain sites for building construction. The zones do not attempt to provide exact building configurations. They provide potential building locations that create definition for the Open Space Easements.

D. **Building Height Zones:**

1. These zones illustrated in Diagram 2.4.4*, show maximum recommended height for building throughout the campus. The diagram does not supersede other diagrams. All spaces, landscaping and corridors are to be maintained.

E. **Landmark Locations:**

1. Landmarks are to be constructed to improve wayfinding, create interest, and enhance campus image. They are to be distinctive yet complementary to surrounding buildings and spaces. Diagram 2.4.5* shows locations for campus landmarks.

   a. Proposed marker locations fall at the centerline of intersections of two perpendicular pedestrian pathways. Markers act as focal points at the corner locations of the primary pedestrian circulation loop.

   b. The proposed landmark tower is within the Campus Green, adjacent to Ursula St., and acts as both a vertical punctuation and foreground to Building 500.

   c. The existing theater is located on the apex of the north-south Educational Commons Centerline and the crossing of the east-west pedestrian corridor. The theater location provides a vertical element visible at the terminus of two major view corridors, reinforcing the historic importance of the theater. The south facade of the theater is to be considered an opportunity for the theater and tower to be combined into a cohesive expression and a view terminus to the Events Court.

* These diagrams shall be available through the UC Denver Project Manager upon request.
2.5 Site Planning Guidelines:

All proposed building and site uses are to be compatible with the Master Plan and are to reinforce the quality, character and cohesiveness of the campus. Site planning must provide for maximum compatibility, flexibility and accessibility between parcels. No development on one site is to preclude opportunities for compatible development on adjoining sites.

A. Goal: There is to be balance between building and open space for the entire campus.

1. Guidelines - Required:
   a. Building coverage is 40% maximum.
   b. Parking and circulation pavement coverage is 40% maximum.
   c. Landscape coverage is 30% minimum.

B. Goal: Buildings are to be planned, designed, and organized to create exterior space.

1. Guidelines - Required:
   a. Architecture to reinforce views and focal points at the ends of corridors and spaces.
   b. Buildings to align or act in synergy with adjacent facades to reinforce the clarity of pedestrian corridors and to contribute to visual continuity.
   c. Appropriate interior building functions open directly onto related open space.

2. Guidelines - Desired:
   a. Noisy functions located or screened so open space is not disturbed by intrusive noise.
   b. Loading docks and service parking to be serviced from Colfax Avenue and Peoria Street, Fitzsimons parkway, 19th Avenue, and 17th Avenue.

C. Goal: Buildings are to be oriented to maximize benefits.

1. Guidelines - Required:
   a. Building walls orthogonal in relation to Colfax Avenue and Peoria Street.
   b. Windows of specific interior building spaces oriented toward mountain views.
   c. Building siting to maximize benefits of prevailing winds and sun.

2. Guidelines - Desired:
   a. Natural light to interior public spaces.
   b. Major building entries oriented to the south, west, or east.
   c. All weather pedestrian protection and adequate snow storage areas are to be provided when north entries are necessary.
D. **Goal:** There are to be compatible uses, access, and circulation between parcels.

1. **Guidelines - Required:**
   a. Site planning to enhance existing or proposed development on adjoining properties and functional zones.

E. **Goal:** Building expansion is to be accounted for when planning landscaping and utility routes.

1. **Guidelines - Required:**
   a. Expensive and permanent landscaping minimized on future building sites.
   b. Future utility routes and easements planned to accommodate future building expansion.
2.6 Site Drainage Guidelines:

(Reference Manual Part 4.0, Section 02100)

Site drainage must accommodate efficient movement of surface water across pavement, turf or planting beds toward an inlet or drainage system; or allow subsurface water movement through the soil to a drainage system.

A. Goal: An efficient stormwater drainage system is to be maintained.

1. Guidelines - Required:
   a. All stormwater management subject to recommendations of the Fitzsimons Redevelopment Authority.
   b. Sites to drain into campus wide detention/retention ponds.
   c. Grading for each project to meet existing grades at project boundaries.
   d. Building location and site planning to respect existing grades at project boundaries.
   e. Avoid adverse impact of stormwater on adjacent parcels.

2. Guidelines - Desired:
   a. Avoid concentrated drainage flows across walkways, pedestrian areas and driveways.
   b. Surface water runoff used for supplemental irrigation.

B. Goal: Stormwater drainage areas are to be attractive and easily maintainable.

1. Guidelines - Required:
   a. Stormwater drainage areas located and shaped for ease of maintenance.
   b. Landscaping for detention/retention appropriate for function of areas.
   c. All sites slope to drain.
   d. Sites to drain away from sidewalks and plazas.

2. Guidelines - Desired:
   a. Minimal use of impervious material.
   b. Cobble or stone used for low-flow channels, inlets and outlets.

C. Goal: Sites are to be graded to appear that natural contours have not been disturbed.

1. Guidelines - Required:
   a. Grading minimized.
   b. Berms with gradual, natural looking undulating slope.
   c. Avoid slopes greater than 2 to 1.

2. Guidelines - Desired:
   a. Streets and parking closely matched to topography.

D. Goal: Lawns and shrub beds are to be sloped for proper drainage.

1. Guidelines - Required:
   a. Lawns sloped between 1.5% and 25%.
b. Minimum 2% surface slope in planting beds relying on surface drainage.
c. Minimum 3% surface slope in turf areas that rely on surface run-off.

2. Guidelines - Desired:
   a. Embankments greater than 25% to be planted with shrubs or ground cover.

E. **Goal:** Subsurface drainage is to be accommodated in raised planters and tree grates.

1. Guidelines - Required:
   a. Subsurface drainage in raised planters where a 2% slope is not possible.
   b. Subsurface drainage beneath all tree grates and trees in paved areas.
   c. Subsurface drainage where landscaping abuts building walls.

2. Guidelines - Desired:
   a. Subsurface drainage system connected to the campus storm-sewer system or daylighted into a stormwater detention/retention facility.
2.7 Exterior Space Guidelines:

Exterior spaces accommodate programs and facilitate movement between activities. They are to be designed to help create a sense of place, enhance campus image, perpetuate an atmosphere of wellness and healing and to contribute to wayfinding. Spaces are to be enhanced to reinforce views from in-patient rooms, laboratories and offices. They are places for social interaction and places for relaxation and reflection.

A. **Goal:** Exterior spaces with specific themes and functions are to be created.

1. **Guidelines - Required:**
   a. Spaces complement adjacent building functions and campus zones.
   b. Outdoor areas for eating, events and people watching.
   c. Secluded quiet spaces.
   d. Space for informal recreation and organized sports.

2. **Guidelines - Desired:**
   a. Memorable major campus spaces with strong identity.
   b. Recreational opportunities throughout campus.

B. **Goal:** Major exterior spaces of contrasting character are to be created.

1. **Guidelines - Required:**
   a. Major spaces in each functional zone to be visually distinct.
   b. A variety of experiences to encounter as one moves through a sequence of spaces.

2. **Guidelines - Desired:**
   a. Well-defined edges and entrances to exterior spaces.

C. **Goal:** A hierarchy of large and small inter-connected exterior spaces is to be created.

1. **Guidelines - Required:**
   a. Open space design appropriate to the function, level of activity and characteristics of people using the open space.

2. **Guidelines - Desired:**
   a. The size of the open space in proportion to the size of surrounding buildings. Generally, large spaces adjacent to large buildings and small spaces near small buildings.

D. **Goal:** Development is to contribute to a sense of place.

1. **Guidelines - Required:**
   a. Landscaping or building to provide definition to exterior space.
   b. Design of space to reflect functions occurring in the space.

2. **Guidelines - Desired:**
a. Lighting, site accessories, and material to reinforce character of space.

E. **Goal:** Buildings are to enhance the use and function of adjacent open spaces.

1. Guidelines - Required:
   a. Buildings designed to enhance pedestrian access, visibility and use of the open space.

2. Guidelines - Desired:
   a. Interior ground floor common spaces accessible to exterior spaces.
   b. At least one sub-space (i.e. courtyard, plaza, garden) for each building responding to user needs (i.e. quiet retreat, small group gatherings, meditation).

F. **Goal:** Exterior sub-spaces that respond to environmental influences and user needs.

1. Guidelines - Required:
   a. Screened from winter winds.
   b. Overhead shading (plant canopy or pergola) in hot south and west-facing spaces.

2. Guidelines - Desired:
   a. Walls and benches to facilitate a variety of outdoor seating opportunities.

G. **Goal:** Utility systems are to be visually unobtrusive.

1. Guidelines - Required:
   a. Utilities and easement visually compatible with future building, trees and site features.
   b. Overhead wiring not permitted.
   c. All utility boxes, transformers, switchgear, vaults and similar structures to be located in areas of limited visibility with adequate screening from principle views.
   d. Visible utilities to be campus standard colors.

2. Guidelines - Desired:
   a. Locate utility equipment to facilitate access and connection to multiple parcels.
2.8 Building Guidelines:

The intent is to incorporate massing and building height sympathetic to surrounding conditions.

A. Goal: Building design is to incorporate massing and building height sympathetic to surrounding conditions.

1. Guidelines - Required:
   a. Building massing and height compatible to surrounding existing and future structures.
   b. Building massing and height to provide shading complementary to surrounding structures and open spaces.
   c. Building facades along major open spaces are to be at least three (3) stories high.
   d. North sides of buildings are to step back to reduce the amount of shade in open spaces.
   e. Massing and height not to interfere with views from or toward neighboring buildings.
   f. Building location and massing to preserve major trees and long term health of such trees.
   g. Building to include a base detail such as brick coursing, indention, change of materials, etc.

B. Goal: The negative impacts of building towers are to be avoided.

1. Guidelines - Required:
   a. Maximum building height is 10 stories.
   b. Located to minimize icing and the shading of pedestrian walkways.
   c. Sized and located to minimize channeling of cold winter winds.
   d. Arranged to maximize pleasant solar exposure in open spaces.
   e. Designed to minimize the negative effects of heat reflection.

2. Guidelines - Desired:
   a. Telecommunication towers screened from view or designed to be visually pleasing.
   b. Building towers separated from one another to maintain views and prevent shadows.
   c. Building towers not to block views of mountains from major buildings or spaces.

C. Goal: Facades are to relate to surrounding conditions and create a unified campus identity.

1. Guidelines - Required:
   a. Reinforce the integrity and vitality of adjacent open space.
   b. Support the structural organization of the campus.
   c. Align or act in synergy with adjacent facades, major datum and cornice line, especially within campus functional zones.
   d. Controlled architectural expressions on buildings with a functional or symbolic rationale.
   e. Prominent building material on all facades is brick.
   f. Building sides to be of comparable quality to building fronts.
g. Walls, windows, doors, entries and facades articulated to accentuate human scale.

2. Guidelines - Desired:
   a. Entrances and lobbies to provide clues to the interior activities.
   b. Loggias with an expressive design character, effective graphics, occasional seating and means for displaying art and information.

D. Goal: Entries are to relate to building significance, interior function and exterior function.

1. Guidelines - Required:
   a. Major entries to front on significant open spaces and access roads rather than parking lots and service areas.
   b. Easily identifiable entries.
   c. Added detail and interest created at entries.
   d. Entries to be proportionate to the façade.
   e. Entries designed to provide protection from adverse weather.

2. Guidelines - Desired:
   a. Entrances and lobbies to provide clues to the interior activities.
   b. Entries designed to encourage people to approach, interact and linger without causing disruption to circulation.

E. Goal: Building servicing is to be efficient and unobtrusive.

1. Guidelines - Required:
   a. Service areas and service vehicles not to be seen from primary entries to buildings or major circulation routes.
   b. Views of service areas to be screened or buffered.

2. Guidelines - Desired:
   a. Service areas to be shared between adjacent buildings.

F. Goal: Materials and details are to be used appropriately.

1. Guidelines - Required:
   a. Materials to be cost effective over the life cycle of the building.
   b. Materials and details to reinforce order and to be consistent architectural character.
   c. Symbolic or landmark buildings to be treated with prominence and stature, and designed with upgraded materials.
   d. Service buildings and parking structures are to express the building’s function through the use of campus standard color materials.

2. Guidelines - Desired:
   a. Buildings terminating a visual corridor or defining a prominent outdoor space to be constructed of upgrade materials.
   b. Acoustical walls to separate noisy and quiet activities or functions.
G. **Goal:** Materials are to reinforce a cohesive and consistent architectural character with neighboring buildings.

1. **Guidelines - Required:**
   a. Brick to be campus standard color and size.
   b. Railings to be standard detail and color.
   c. Exposed columns are to be concrete with a designed finish.
   d. All concrete to be natural gray.
   e. Metal panels and architectural glazing are used as accents.
   f. Sloped and flat roofs are to be campus standard color.

H. **Goal:** Glazing is to be used effectively.

1. **Guidelines - Required:**
   a. Avoid windowless inward-looking buildings.
   b. Activities to be visible inside building.
   c. Avoid reflective or highly tinted glass.
   d. Windows and glass walls to enhance security in both interior and exterior spaces.
   e. Glazing that maximizes energy efficiency.

I. **Goal:** Roof top equipment and appurtenances are to be visually unobtrusive.

1. **Guidelines - Required:**
   a. Equipment organized to present best possible appearance.
   b. Equipment to be standard color.
   c. Equipment screen and enclosures to be campus standard materials and color.

2. **Guidelines - Desired:**
   a. Mechanical equipment screened from above and below from major vantage-points.
   b. Minimal mechanical equipment located on roofs.
2.9 Parking Structure Guidelines:

The experience of arriving to and departing from the campus by car is to be a positive experience. Parking structures are frequently the first introduction to visitors of the building complex and are to consequently receive the same design consideration as any other campus building. Structured parking is to be located towards the perimeter of the campus and accessed primarily by streets contiguous with off-site roadways, thus reducing traffic on interior roads. Pedestrian linkage to the campus side of parking structures will allow for ease of circulation and better orientation. The intention is to maximize the design quality of the parking structures and to integrate their use and function into a pedestrian oriented campus. Below grade parking is encouraged.

A. Goal: Parking structures are to be easily accessible from streets and buildings.

1. Guidelines - Required:
   a. Enclosed pedestrian walkways to connect primary buildings and parking structures.
   b. Entrances and exits for parking structures highly visible from streets.
   c. Minimize pedestrian and vehicular conflicts.

2. Guidelines - Desired:
   a. Avoid pedestrian and vehicular entrances on the north side of parking structures.
   b. Direct interior connections to medical buildings.

B. Goal: Parking structures are to be designed to screen cars from view.

1. Guidelines - Required:
   a. Grates or screens with small openings used in walls to screen cars.
   b. A brick masonry, pre-cast concrete or similar wall at minimum 42 inches high where ground level garages face major campus streets.

2. Guidelines - Desired:
   a. Planters and landscaping in and around parking structures.
   b. Landscaping or art on top floors to enhance views from above.

C. Goal: Visual interest to be created at the pedestrian level.

1. Guidelines - Required:
   a. Emphasize pedestrian entrances to parking structures.
   b. Standard campus building materials.

2. Guidelines - Desired:
   a. Incorporate non-parking uses at ground level adjacent to pedestrian areas.
   b. Ground level bays to accommodate future conversion to retail, office or medical uses.
   c. Pedestrian entrances oriented toward major walkways or surrounding building entrances.

D. Goal: Parking structure floors are to appear level from the exterior.

1. Guidelines - Required:
a. Ramps located to the interior of the structure.
b. All decks, parapets, structures and openings along facades facing campus streets and open space to be level.

2. Guidelines - Desired:
   a. Bridges from parking structures to buildings to appear to be level.

E. Goal: Internal signage and lighting are to be concealed or coordinated.

1. Guidelines - Required:
   a. Interior signs and lighting colors coordinate with surrounding campus standard signs and lighting.

2. Guidelines - Desired:
   a. Avoid outwardly visible signage and light internal to the structure.
2.10  Vehicular Circulation Guidelines:

(Reference Manual Part 4.0, Section 02500)
Vehicular circulation is to be efficient, safe and convenient. Traffic congestion, stacking and conflicts between pedestrians and vehicles are to be minimized. The appearance and experience of using the circulation system is to enhance the campus image.

A.  **Goal:** Vehicular entrances to the campus are to be distinctive.

1.  **Guidelines - Required:**
   a.  Highly visible entrances to the campus from all perimeter streets.
   b.  Vehicular access to building sites to be a sufficient distance from street intersections and other curb cuts to minimized traffic conflicts.

2.  **Guidelines - Desired:**
   a.  Sidewalks along both sides of vehicular entrances.
   b.  Significant landscape space at each entrance.
   c.  Campus entrances designated by function, i.e., service, visitor, staff, clinical, research and education.

B.  **Goal:** Vehicular circulation is to be effective throughout the campus.

1.  **Guidelines - Required:**
   a.  Organized hierarchy of entrances, driveways, parking lots and truck service areas to minimize conflicts between automobiles, trucks and pedestrians.
   b.  Automobile stacking on campus streets to be minimized.
   c.  Number of stoplights on campus to be minimized.
   d.  Easily identifiable emergency routes allowing fast, efficient access.
   e.  Clearly organized vehicle circulation into and through parking lots.

2.  **Guidelines - Desired:**
   a.  Avoid vehicular site entries that lead directly into parking rows.
   b.  Main vehicle entries to clearly lead visitors to primary building entries.
   c.  Space designated for snow storage.

C.  **Goal:** Passenger drop-off zones are to be convenient and efficient.

1.  **Guidelines - Required:**
   a.  Drop-off zones near to destinations.
   b.  Drop-off zones to be handicap accessible.
   c.  Designated drop-off zones to be graphically designed.
   d.  Pedestrian shelters at major drop-off zones.
   e.  Drainage maximized to avoid ice build-up and standing storm water.

2.  **Guideline - Desired:**
   a.  Drop-off zones in sunny areas to reduce the impact to pedestrians of winter icing.

D.  **Goal:** Surface drainage on vehicular pavements is to be efficient and unobtrusive.
1. **Guidelines - Required:**
   a. Drain away from driving surface.
   b. Drain toward inlet without creating puddles.
   c. Minimum cross slope: 1.0%
   d. Minimum longitudinal slope: 0.5%
   e. Maximum longitudinal slope: 4.0%

2. **Guidelines - Desired:**
   a. Avoid stormwater accumulation in or along vehicular drives.

**E. Goal:** Vehicular drives are to be standardized.

1. **Guidelines - Required:**
   a. Drive lanes: 10’- 0” wide minimum.
   b. Materials: Concrete or asphalt pavement to support expected loads.
   c. Curb design: City of Aurora standard with gutter.
   d. Cul-de-sacs sized to accommodate bus and emergency vehicles.

2. **Guidelines - Desired:**
   a. Upgrade paving materials: Interlocking concrete unit pavers.

**F. Goal:** Service drives are to be standardized.

1. **Guidelines - Required:**
   a. Minimum width: 10’- 0” wide.
   b. Adequate turn-around and back-up space.
   c. Concrete paving at service docks.
   d. Accessible 24-hours per day.
   e. Adequate lighting.

2. **Guidelines - Desired:**
   a. Concrete gutter pans.

**G. Goal:** Service drives are to be convenient and visually compatible with surrounding buildings and open space.

1. **Guidelines - Required:**
   a. Convenient and easy to navigate.
   b. Service vehicles screened from major views and building entrances.
   c. Designed to minimize noise from service vehicles on pedestrian areas.
   d. Avoid conflicts between trucks, general vehicles, and pedestrians.
   e. Routes for service and emergency vehicles designated with appropriate signage.
   f. Landscaped service drives utilizing Zone 3 designated plantings from Recommended Plant List.

2. **Guidelines - Desired:**

**VEHICULAR CIRCULATION GUIDELINES**

Part 2.10-2
VEHICULAR CIRCULATION GUIDELINES

H. Goal: Emergency drives are to be efficient and adequately sized.

1. Guidelines - Required:
   a. City of Aurora fire department regulations to be met.
   b. Emergency drives are designed for clarity of access and quick, efficient movement.
   c. Approval required when walks are used as emergency drives.
   d. Easily navigable emergency drives during all seasons.

I. Goal: Mass transit is to be convenient and easily accessible.

1. Guidelines - Required:
   a. Bus stops and shelters located near high traffic buildings and pedestrian paths.
   b. Campus standard bus shelters.
   c. Easy access to future light rail transit stations.
   d. Accommodate future on-campus shuttle system.
   e. Designated transit areas to facilitate bus parking, carpool parking and passenger vans.
2.11 Parking Guidelines:

(Reference Manual Part 4.0, Section 02500)
The quantity and convenience of parking, whether in lots or structures, is to accommodate user needs. It is to be located to minimize traffic congestion, efficiently designed and sufficiently landscaped to enhance the image of the campus. Parking guidelines apply to surface lots, below grade lots, below building lots and parking structures.

A. Goal: Parking is to be efficient.

1. Guidelines - Required:
   a. Adequate stacking space in parking lots and structures.
   b. Parking configurations simple and relatively obstacle free.
   c. Adequate space for emergency vehicle movement through lots.
   d. Continuous drives connecting parking lots.
   e. Easy to snow plow with adequate space for snow piling in lots of structures.

2. Guideline - Desired:
   a. Pedestrian access and egress designed to avoid conflicts with cars and landscaping.
   b. Lots sized and arranged to accommodate future conversion to parking structure.
   c. Planned for shared parking arrangements.
   d. Avoid use of concrete parking stops.

B. Goal: Parking is to be located close to the function being served.

1. Guidelines - Required:
   a. Handicap parking spaces near building entrances and accessible pedestrian routes.

2. Guidelines - Desired:
   a. Patient parking within 300 feet of destination.
   b. Visitor parking within 300 feet of destination.
   c. Physician parking within 300 feet of destination.
   d. Staff parking within 1,000 feet of destination.
   e. Student parking within 1,000 feet of destination.
   f. Service vehicle parking within 100 feet of destination.
   g. Land for additional parking where building expansion is anticipated.
   h. Maximum walking time of 5 minutes from lot to desired destination.
   i. Car pool spaces at close-in locations to encourage participation.

C. Goal: Appropriate numbers and types of parking are to be used to meet functional needs.

1. Guidelines - Required:
   a. Educational Zone: Provide 0.26 parking spaces per student (head count) enrollment.
   b. Clinical Zone: Provide 1.85 parking spaces per 1,000 gross square feet.
   c. Research Zone: Provide 0.90 parking spaces per 1,000 gross square feet.
   d. Handicap parking spaces: Minimum 4% of the total parking lot of up to 100 spaces. Minimum 2.5% of spaces for parking lots in excess of 100 spaces.
   e. Handicap parking spaces located close to destinations.
f. Appropriate parking for shuttles, taxis, vans, buses and other forms of passenger transit.
g. One (1) motorcycle parking space per 25 automobile parking spaces.

2. Guidelines - Desired:
   a. At least 9% of the parking spaces allocated for carpool.
   b. Adequate bicycle parking for each building.
   c. Shared parking agreements between users.

D. **Goal:** Service vehicle parking spaces are to be strategically dispersed.

1. Guidelines - Required:
   a. At least two (2) spaces at each building.
   b. Avoid siting truck parking or loading docks that are visible from major pedestrian walkways and public gathering spaces.
   c. Spaces screened from public view.

2. Guidelines - Desired:
   a. Spaces located within 100 feet of loading docks or service entries.

E. **Goal:** Parking dimensions are to be standardized.

1. Guidelines - Required:
   a. Parking spaces in perpendicular layouts for:
      - Patients, visitors, and doctors: 9’-0” x 18’-0”
      - Students, staff, and faculty: 8’-6” x 18’-0”
   b. Drive aisles for perpendicular layouts: 24’-0” wide minimum.
   c. End island width: 9’-0” minimum.
   d. Landscape median width: 10’-0”.
   e. Dimensions for diagonal stall layouts to be approved.
   f. Maintain emergency vehicle access.
   g. Comply with Uniform Federal Accessibility Standard and the Americans with Disabilities Act.

2. Guidelines - Desired:
   a. Parking areas to be organized into interconnected lots (of no more than 125 cars) and, where possible, divided by landscape medians a minimum of 10’-0” wide.

F. **Goal:** Parking is to be planned and designed for safety.

1. Guidelines - Required:
   a. Traffic aisles aligned in the direction of the most frequented pedestrian destinations and pedestrian flow.
   b. Sufficient and unobstructed sight lines at corners for drivers to see approaching cars and pedestrians.
   c. Sidewalks adjacent to head-in-parking at 8’-0” width minimum.
   d. Adjacent trees with lowest branches at 8’-0” above grade.
   e. Speed bumps on long aisles.
   f. All permanent parking is to be fully paved and enclosed by curbing.
   g. Appropriate signage.
2. Guidelines - Desired:
   a. Encourage the use of designated pedestrian walks instead of drive lanes.

G. Goal: Parking lots are to be visually pleasing.

1. Guidelines - Required:
   a. Easily recognizable entrances to parking lots.
   b. Campus standard light fixtures.
   c. Car overhangs accommodated in parking lot designs.
   d. Campus standard parking accessories such as signs, gates, huts, etc.
   e. Parking setbacks from streets sufficient to provide buffering by berms or landscaping.
   f. Extensive internal and external landscaping.

2. Guidelines - Desired:
   a. Parking lots located to the sides or rear of buildings.
   b. Coordinate parking configuration, access and drives between lots.
   c. Minimize impervious surfaces.
   d. Maximize the consolidation of landscape areas.
   e. Avoid dead-end parking aisles.

H. Goal: Consistent materials are to be used for parking lot construction.

1. Guidelines - Required:
   a. Asphalt pavement.
   b. Concrete pedestrian walks.
   c. Metal bollards and grates.
   d. White striping.
   e. Campus-standard signs.
   f. Concrete: curbs, gutters and light bases.

I. Goal: Parking lots are to be sloped to enhance drainage.

1. Guidelines - Required:
   a. Paved surfaces sloped to concrete gutters.
   b. Minimum cross slope: 1.0%
   c. Minimum longitudinal slope: 0.5%
   d. Maximum longitudinal slope: 3.0%

2. Guidelines - Desired:
   a. Minimize stormwater run-off through inter-connected smaller lots.
   b. Stormwater sheet-flow directed from lots to landscaped areas and retention ponds.
2.12 Pedestrian Circulation Guidelines:

(Reference Manual Part 4.0, Section 02500)

Appropriately designed walkways enable people to move efficiently and safely. Walkways become opportunities for pedestrian interaction, increasing communication, expanding knowledge and experiencing enjoyment. Kiosks, signs, banners and sounds along the paths become part of an ideal system for obtaining and distributing information. Walkways channel the flow of people resulting in face-to-face contact and an increase in social interaction and communication. Placards on trees, historical landmarks, experiments, art and exhibits along the way heighten pedestrian awareness of programs and the environment. When walkways are well designed, the image of the campus is enhanced and the act of walking made more memorable.

A. Goal: Pedestrian and vehicular conflicts are to be minimized.

1. Guidelines - Required:
   a. Adequate signage or signalization at pedestrian/vehicular intersections.
   b. Landscaped median separating sidewalks and adjacent major streets.
   c. Clear definition of pedestrian crosswalks using elements such as landscaping, signs, lighting, distinctive pavement and neck-downed curbs to shorten crosswalks.

2. Guidelines - Desired:
   a. Landscaping, lighting or other furnishings on walkways to buffer pedestrians from cars where walks are attached to drive lanes.
   b. Second level pedestrian circulation.
   c. Bicycle routes separated from major pedestrian walkways.

B. Goal: A specialized circulation system to be maintained along the campus edge.

1. Guidelines - Required:
   a. Circulation system designed to accommodate appropriate pedestrian and vehicular traffic.
   b. Walkways are 8 feet wide minimum on all perimeter streets.

2. Guidelines - Desired:
   a. Circulation system designed to be easily maintained and snow plowed.

C. Goal: Real and perceived pedestrian walking times are to be minimized.

1. Guidelines - Required:
   a. Most direct pedestrian walkways between origins and destinations.
   b. Building circulation aligned directly between and through buildings.

2. Guidelines - Desired:
   a. Occasional shelters for pedestrians along walkways.

D. Goal: Pedestrian walkways are to be designed to accommodate user needs

1. Guidelines - Required:
a. Walkway alignment based on actual pedestrian desire lines, building architecture and surrounding functions.
b. Walkways planned to accommodate phased construction.
c. Safety and security emphasized when designing walkways.
d. Walkways to be ADA accessible and easily navigated by the visually impaired.

2. Guidelines - Desired:
   a. Direct connections between major building entries and transit stops.

E. **Goal:** Walkways are to be designed for minimum maintenance.

1. Guidelines - Required:
   a. Pavement alignment designed to minimize pedestrians cutting across corners.
   b. Walkways designed to drain quickly.
   c. Walkways sized and designed to accommodate snowplowing equipment.
   d. Radii used at the intersections of walkways.

2. Guidelines - Desired:

3. 
   a. Concrete curbs used along selected walkways, especially if used for service vehicles.

F. **Goal:** A hierarchy of pedestrian walkways fulfilling specific campus needs is to be established.

1. Guidelines - Required:
   a. Major walkway: 10’- 0” wide
   b. Standard walkway: 8’- 0” wide
   c. Minimum walkway: 6’- 0” wide
   d. Campus perimeter walkway: 8’- 0” wide
   e. Bicycle lane: 6’- 0” wide
   f. Combined walkway and bicycle lane: 8’- 0” wide

2. Guidelines - Desired:
   a. Walkway locations and alignments to be coordinated with landscaping, lighting and pedestrian amenities and furnishings.

G. **Goal:** Standard materials and details for walkways to be used throughout campus.

1. Guidelines - Required:
   a. Paving thickness (6’- 0” to 8’- 0” wide): 4” minimum.
   b. Paving thickness (8’- 0” or wider): 6” minimum.
   c. Paving material: concrete.
   d. Paving finish: medium broom finish with tooled joints and edges.
   e. Edge of walk 8’- 0” or wider: one foot wide smooth finished edge bands.
   f. Paving color: natural gray.
   g. Joint pattern or grid: 6’- 0” on center grid.
   h. Paving thickness for service and emergency vehicles: 6” minimum.
   i. Meet City Aurora fire department standards for emergency access drives.

2. Guidelines - Desired:
a. All sidewalks engineered to support service and emergency vehicles.

H. **Goal:** Distinctive Paving Materials are to be used in highly visible pedestrian areas.

1. Guideline - Required:
   a. Vehicular grade thickness typically set in flexible, sand bedding system.
   b. At building entrances, distinctive paving materials, i.e. interlocking concrete pavers and colors that relate to materials used in adjacent buildings.

2. Guidelines - Desired:
   a. Distinctive paving at selected building entrances, courtyards, and low-traffic vehicle areas.

I. **Goal:** Natural materials such as flagstone or compacted decomposed granite are to be used for garden walks.

1. Guidelines - Required:
   a. With approval, walks can be as narrow as 4’-0”.
2.13 **Landscape Guidelines:**

(Reference Manual Part 4.0, Section 02950)
Commons, courtyards, plaza, gardens, open spaces and pedestrian walkways are the unifying elements which tie together the Educational, Research and Clinical Zones. It is the intent of the Landscape Guidelines to reinforce and enhance the existing informal landscape character at the Anschutz Medical Campus while creating new design expressions. High quality and well designed landscape is desired in all areas not covered by buildings, streets and parking lots. Landscaped areas are to be continuous from one parcel to another and should incorporate materials that are compatible with building uses, site improvements, functional zones, streets, drainage corridors and easements.

A. **Goal:** Campus edges and corners are to be visually defined and present positive impressions for visitors and the community.

1. **Guidelines - Required:**
   a. Ursula Street and 17th Avenue to be lined with trees arranged in a formal manner in a tree lawn.
   b. Maintain and enhance existing streetscape design along Peoria Street.
   c. Colfax Avenue to be tree-lined along both UC Denver and community sides of street.
   d. Create tree-lined streets on Montview and the ring road.
   e. Coordinate landscape, graphics and lighting to create a positive impact.

2. **Guidelines - Desired:**
   a. Campus standard identification signs located on corners.

B. **Goal:** Appropriate landscaping for large open spaces.

1. **Guidelines - Required:**
   a. Large uniform masses of trees or layered plant material.
   b. Accent landscaping in front of uniform masses of plant material.
   c. Maximize the use of evergreen trees and shrubs.

2. **Guidelines - Desired:**
   a. Landscape placement to enhance views and axes.
   b. Landscaping designed to enhance views from major interior building spaces.
   c. Where possible, plant evergreen tree masses in cedar mulch rather than in turf.

C. **Goal:** Landscape appearance to be consistent and uniform.

1. **Guidelines - Required:**
   a. Select plants from the Recommended Plant List.
   b. Follow campus standard minimum spacing recommendations. (Re:2.13, G below)
   c. Tree lawns are to be maintained along major vehicular and pedestrian routes.
   d. Shrubs and groundcovers provide consistent visual appearance.
   e. Avoid over-planting of “monocultures” susceptible to disease, insects, etc.
   f. All landscape areas to maintain the ‘Campus in a Park’ aesthetic. All landscape areas to reflect a sense of wellness, healing, and well-being.

2. **Guidelines - Desired:**
a. Select a variety of evergreen and deciduous tree specimen species from the Plant List to enhance the campus’ existing diversity and to create a campus ‘Arboretum’.

D. **Goal:** Landscaping to complement building character.

1. **Guidelines - Required:**
   a. Limit overall plant palette to aid in the creation of broad gestures in the landscape.
   b. Simplify planting.

2. **Guidelines - Desired:**
   a. Plant evergreen shrubs where year-round color is desired.
   b. Plant deciduous shrubs where seasonal interest is desired.
   c. Combine structuring shrubs or ornamental grasses within large perennial beds for winter form and color.

E. **Goal:** Landscaping to be environmentally sensitive and reactive to the impact of sun and shadow.

1. **Guidelines - Required:**
   a. Landscaping to shade buildings, parked cars and appropriate outdoor functions.
   b. Landscaping to reduce erosion.
   c. Landscaping to screen cold winter winds and channel summer breezes.
   d. Designate special areas for snow removal.

2. **Guidelines - Desired:**
   a. South side of planted with deciduous trees to provide summer shade and winter sun and to conserve energy.
   b. North side of buildings planted with evergreen trees to conserve energy.
   c. Avoid creating shade where ice build-up is a possible conflict to pedestrians and their safety.

F. **Goal:** Appropriate application of turf and plant material based on use of surrounding space. It is encouraged to reduce overall water use within the design by incorporating drought tolerant species, aiding in the creation of a durable landscape. All new designs are to have plants categorized according to water use, or ‘Zone’. In addition, ‘Levels’, categorizing different areas on Campus, are to be applied to all new designs. All landscape is to maintain an attractive and high quality aesthetic level consistent with the ‘Campus in a Park’ goal.

1. **Guidelines - Required:**
   a. Organize planting palette into ‘Zones’ based on each plant’s irrigation water usage.

   1) Zone 0 plants (Very High water use): 1.5”-2” water per week
   2) Zone 1 plants (High water use): 1” water per week
   3) Zone 2 plants (Moderate water use): ½” water per week
   4) Zone 3 plants (Low water use): ¼” water per week

   b. Apply hierarchy of Levels to Campus Areas. It is encouraged to use zone 2 & 3 plants in any Level wherever possible.

   1) Level 1 areas, to be comprised of Zone 0, 1, 2 & 3 plants, to include:
      1. Tree Lawns
      2. Primary & Symbolic Entries (buildings, roads, medians)
3. Primary Gathering Areas
4. Primary Pedestrian Corridors
5. Significant Intersections
6. Drop-offs
7. Natural or created wetlands or low lying areas

2) Level 2 areas, to be comprised of Zone 2 & 3 plants, to include:
   1. Secondary Entries
   2. Building Perimeter other than Level 1
   3. Primary & Secondary Vehicular Corridors
   4. Secondary Pedestrian Corridors

3) Level 3 areas, to be comprised of Zone 3 plants, to include:
   1. Parking Lots
   2. Service Areas
   3. Non-pedestrian oriented space
   4. Large open space

   c. See Diagram below for Level classification prototype.

G. **Goal:** Major site elements to be located for maximum benefit and visibility
1. Guidelines - Required:
   a. All major site elements, such as water features and other focal points to be located in Level 1 areas.

H. Goal: Significant existing trees, as determined by campus horticulturalist and landscape architect are to be preserved.

1. Guidelines - Required:
   a. All site or landscape plans to show all existing trees and trees to be saved or removed are to be indicated.
   b. Existing trees 6” caliper or larger are to be noted not to be removed without prior approval.
   c. Curb paving and/or asphalt not to be located closer than 5 feet from the trunk of an existing tree.
   d. New sidewalks, paving, and asphalt must allow breathing space for tree roots. For trees up to 4” caliper, 25 square feet of porous area is required. For each additional 2” caliper, 10 additional square feet are required.
   e. Building or utility construction near existing trees designed and completed in such a manner to ensure survival of trees.
   f. Supplemental irrigation to be supplied to existing trees or vegetation that have had water diverted or eliminated due to site development or construction.

2. Guidelines - Desired:
   a. Healthy existing trees are to be preserved and incorporated into site designs.
   b. Transplant healthy trees that conflict with building and site construction.

I. Goal: Plants are to fit their space when mature.

1. Guidelines - Required:
   a. The following are the minimum and preferred distances in feet from trees to utilities and other site items (cc = center to center; ce = center to edge).

<table>
<thead>
<tr>
<th>Min.</th>
<th>Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Buried Electrical</td>
<td>4cc</td>
</tr>
<tr>
<td>2) Water Lines</td>
<td>6cc</td>
</tr>
<tr>
<td>3) Sewer Lines</td>
<td>10cc</td>
</tr>
<tr>
<td>4) Steam/Cond. Lines</td>
<td>10cc</td>
</tr>
<tr>
<td>5) Gas Lines</td>
<td>4cc</td>
</tr>
<tr>
<td>6) Vaults and Pits</td>
<td>5cc</td>
</tr>
<tr>
<td>7) Curbs</td>
<td>2.5ce</td>
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<tr>
<td>8) Sidewalks</td>
<td>2.5ce</td>
</tr>
<tr>
<td>9) Street Lights (shade trees)</td>
<td>40cc</td>
</tr>
<tr>
<td>10) Street Lights (orn. trees)</td>
<td>15cc</td>
</tr>
<tr>
<td>11) Street Signs</td>
<td>7cc</td>
</tr>
<tr>
<td>12) Intersections</td>
<td>30cc</td>
</tr>
</tbody>
</table>

   b. The following are the minimum and preferred spacing in feet for various types of trees and shrubs (cc = center to center).

   | 1) Shade Trees | 35cc |
   | 2) Ornamental Trees | 12cc |
   | 3) Columnar Trees | 15cc | 15-20cc |
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4) Large Shrubs  
   8cc 8-10cc 
5) Medium Shrubs  
   5cc 5-8cc 
6) Small Shrubs  
   3cc 3-4cc 

   c. Near vehicular traffic, limb trees up no less than 13’-6” above grade. 
   d. Landscaping is not to interfere with lights or signs. 
   e. Plant groundcovers and low shrubs in areas less than 5 feet wide. 
   f. Provide turf panels a minimum of 5 feet wide for effective irrigation and maintenance. 
   g. Minimum planting strip for shrubs at building foundations is 5’-0” wide. 

2. Guidelines - Desired: 
   a. Minimize the need for excessive pruning by selecting species whose growth suits the limitations of the proposed locations. 
   b. Consider the concentration of trees and the tree species adjacent to walks, and the potential for root lifting of concrete. Design teams are to consider the use of a root barrier system along walks where trees are planted within 4’. Particularly aggressive-rooted tree species include Acer, Gleditsia, Platanus, and Poplar. 

J. Goal: Landscaping is not to interfere with traffic movement. 

1. Guidelines - Required: 
   a. Trees not planted within 30’-0” of the corner at street intersections. 
   b. Trees not planted within 10’-0” of the corner at service drive intersections. 
   c. Plants not to be over 32” high within the sight distance triangle at street intersections. 
   d. Trees not to interfere with the views of traffic control devices or signage. 
   e. Use tree grates or removable pavers when trees minimum 3” caliper are planted in paved areas. 
   f. Steel edging or 8” wide concrete mow bands surrounding plant beds (rubber or plastic edgings not permitted). 
   g. Minimum branching height for trees is 8’-0” above sidewalk. 

2. Guidelines - Desired: 
   a. Similar landscape character on both sides of street. 
   b. Lawn panels to be minimum 5’-0” wide. 

K. Goal: Parking lots are to be generously buffered with landscaping. 

1. Guidelines - Required: 
   a. Planting areas to be covered by turf, groundcovers or low shrubs a minimum of 6” high. 
   b. Include at least a single row of shrubs 3’-0” on center and one tree per (5) parking spaces between street and parking lots. 
   c. Minimum internal landscaping to include one tree per 8 cars, 10 shrubs per tree, and planted islands on the ends of all parking rows. 
   d. Non-pedestrian oriented parking islands to be landscaped utilizing Zone 3 plants from the Recommended Plant List. 
   e. No artificial trees, shrubs, turf, plants or rocks are to be used. 

2. Guideline - Desired:
a. Landscaped median, at least 10'-0" wide, between every other double bay of parking, and wherever more than 125 cars are located in a contiguous area without a planted median.
b. Space trees on a 30’ x 60’ grid or a radial pattern in designated parking lots for a unified “orchard” appearance.
c. Landscape islands to be a minimum of 90 square feet for general health of parking island trees.

L. **Goal:** Parking lots are to be screened.

1. **Guidelines - Required:**
   a. Parking lot screening not to interfere with public safety.
   b. Fences, walls and landscaping along parking lots to buffer pedestrians and public right-of-way from traffic and headlight glare.

2. **Guidelines - Desired:**
   a. Parking areas and drive lanes at least 10'-0” from buildings and property lines.
   b. Dense visual screens and landscaping along parking lots to buffer pedestrians and public rights-of-way from traffic and headlight glare.

M. **Goal:** Trees are to be used within pavement, such as plazas or walks, where appropriate.

1. **Guidelines - Required:**
   a. Install grates or removable pavers around trees planted within pavement.
   b. Install campus standard tree grates measuring at least 5’-0” by 5’-0”. 6’-0” by 6’-0” min. tree grates to be used for trees with mature trunk diameters of 10” or more.
   c. Plant deciduous or ornamental trees with minimum 3” caliper.

2. **Guidelines - Desired:**
   a. Provide root zones with sub-surface drains and separately zoned drip irrigation.

N. **Goal:** Planting of trees near utilities is to be avoided.

1. **Guidelines - Required:**
   a. Avoid planting trees near signs, light, overhead or underground utilities, utility poles and fire hydrants.
   b. Reference this Section, 2.13I, 1a for minimum and preferred distances between trees and utilities.

O. **Goal:** At-grade planting beds are to be contained.

1. **Guidelines - Required:**
   a. Contain at-grade planting beds by steel edging, 8” wide concrete mow bands or adjacent concrete pavement. Plastic or rubber edgings are not permitted.
   b. Mulch all planting beds with shredded cedar or rock mulch to a depth of 3 inches.
   c. Large expanses of unplanted mulch is discouraged. Mulch beds to be planted with trees, shrubs, perennials, and/or groundcover.
P. **Goal:** Perennials and annuals are to be planted to enhance specific sites.

1. **Guidelines - Required:**
   - a. Select species that can survive the site specific environmental conditions.
   - b. Meet or exceed campus minimum size materials.
   - c. Plant annuals only in designated pots or planting beds in Level 1 areas
   - d. Annuals require higher maintenance and watering needs; locate where irrigation and maintenance can be supplemented.

2. **Guidelines - Desired:**
   - a. Provide perennials where seasonal color does not need to extend for the entire summer.
   - b. Annuals to enhance specific sites where intense, extended color is desired.
   - c. Perennials located in areas where easy maintenance and yearly division can be provided.
   - d. Allow perennial plants to become naturally dormant without shearing. Shearing to occur prior to new spring growth.
   - e. Provide evergreen material and/or ornamental grasses within perennial beds for winter interest.
### 2.14 Recommended Plant List:

(Reference Manual Part 4.0, Section 02950)

Select plants and installation methods for the campus that are appropriate to planting location, soil moisture and climate conditions. Use only plants that are specified under the conditions of the American Standards for Nursery Stock (ANSI Z60.1). Base plant selection on specific Level classification where plants will be installed; specific use of the planting area on the Campus; irrigation needs of the plants; and desired effect of the plant material and planting design in the context of the entire campus landscape. Colorado native plant species are denoted with an (N).

#### A. **Goal:** Plants are to be selected from the Recommended Plant List. (Reference Manual part 2.13.F.1.a for zone descriptions)

1. **Guidelines - Required:**

   a. **Evergreen Trees**

      | Botanical Name | Common Name       |
      |----------------|-------------------|
      | Abies concolor(N) | White Fir   |
      | Pseudotsuga menziesii | Douglas Fir |
      | Picea pungens ‘Glaucu’ | Colorado Blue Spruce |
      | Picea pungens (N) | Colorado Spruce |
      | Pinus mugo     | Mugo Pine        |
      | Juniperus virginiana ‘Canaeriti’ | Canaer Redcedar Juniper |
      | Juniperus scopulorum (N) | Rocky Mountain Juniper |
      | Pinus cembroides edulis (N) | Colorado Pinon Pine |
      | Pinus contorta latifolia | Lodgepole Pine |
      | Pinus flexilis(N) | Limber Pine      |
      | Pinus nigra    | Austrian Pine    |
      | Pinus ponderosa (N) | Ponderosa Pine |
      | Pinus sylvestris | Scotch Pine      |
      | Juniperus osteosperma | Utah Juniper |

   b. **Shade Trees**

      | Botanical Name              | Common Name                  |
      |-----------------------------|-----------------------------|
      | Acer plantanoides           | Norway Emerald Green Maple  |
      | Acerplatanoides ‘Schwedleri’ | Schwedler Maple            |
      | Populus acuminata           | Lanceleaf Cottonwood        |
      | Populus angustifolia        | Narrowleaf Cottonwood       |
      | Populus sargentii           | Broadleaf Cottonwood        |
      | Salix amygdaloideas         | Peachleaf Willow            |

<pre><code>  | Zone 1                      |
  |-----------------------------|
  | Catalpa speciosa            | Northern Catalpa            |
  | Fraxinus americana          | White Ash                   |
  | Fraxinus americana ‘Empire’ | Empire Ash                  |
  | Fraxinus mandshurica ‘Mancana’ | Mancana Ash               |
  | Fraxinus nigra ‘Fall Gold’  | Fall Gold Ash               |
  | Fraxinus pennsylvanica ‘Patmore’ | Patmore Green Ash         |
  | Gleditsia triacanthos ‘Moraine’ | Moraine Honeylocust     |
  | Gleditsia.triacanthos. ‘Shademaster’ | Shademaster Honeylocust |
</code></pre>
<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gleditsia triacanthos ‘Imperial’</td>
<td>Imperial Honeylocust</td>
</tr>
<tr>
<td>Aesculus glabra</td>
<td>Ohio Buckeye</td>
</tr>
<tr>
<td>Celtis occidentalis</td>
<td>Common Hackberry</td>
</tr>
<tr>
<td>Gymnocladus dioicus</td>
<td>Kentucky Coffeetree</td>
</tr>
<tr>
<td>Koelreuteria paniculata</td>
<td>Goldenrain Tree</td>
</tr>
<tr>
<td>Platanus x acerifolia</td>
<td>London Planetree</td>
</tr>
<tr>
<td>Quercus bicolor</td>
<td>Swamp White Oak</td>
</tr>
<tr>
<td>Quercus imbricaria</td>
<td>Shingle Oak (Laurel Oak)</td>
</tr>
<tr>
<td>Quercus prinus</td>
<td>Chestnut Oak</td>
</tr>
<tr>
<td>Quercus robur</td>
<td>English Oak</td>
</tr>
<tr>
<td>Quercus rubra</td>
<td>Northern Red Oak</td>
</tr>
<tr>
<td>Zone 3</td>
<td></td>
</tr>
<tr>
<td>Juglans nigra</td>
<td>Black Walnut</td>
</tr>
<tr>
<td>Quercus macrocarpa</td>
<td>Bur Oak</td>
</tr>
<tr>
<td>Robinia pseudoacacia</td>
<td>Black Locust</td>
</tr>
</tbody>
</table>

### Street Trees in Turf (Level 1)

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 0</td>
<td></td>
</tr>
<tr>
<td>Acer freemanii ‘Autumn Blaze’</td>
<td>Autumn Blaze Red Maple</td>
</tr>
<tr>
<td>Acer platanoides</td>
<td>Norway Maple</td>
</tr>
<tr>
<td>Tilia americana</td>
<td>American Linden</td>
</tr>
<tr>
<td>Tilia americana ‘Redmond’</td>
<td>Redmond Linden</td>
</tr>
<tr>
<td>Tilia cordata</td>
<td>Littleleaf Linden</td>
</tr>
<tr>
<td>Tilia cordata ‘Glenlevens’</td>
<td>Glenlevens Linden</td>
</tr>
<tr>
<td>Zone 1</td>
<td></td>
</tr>
<tr>
<td>Fraxinus americana ‘Autumn Purple’</td>
<td>Autumn Purple Ash</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica lanceolata</td>
<td>Marshall Seedless Green Ash</td>
</tr>
<tr>
<td>Gleditsia triacanthos inermis</td>
<td>Thornless Honeylocust</td>
</tr>
<tr>
<td>Gleditsia triacanthos ‘Skyline’</td>
<td>Skyline Honeylocust</td>
</tr>
<tr>
<td>Pyrus calleryana ‘Aristocrat’</td>
<td>Aristocrat Pear</td>
</tr>
</tbody>
</table>

### Columnar Trees

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 0</td>
<td></td>
</tr>
<tr>
<td>Acer platanoides ‘Columnare’</td>
<td>Columnar Norway Maple</td>
</tr>
<tr>
<td>Alnus tenuifolia (N)</td>
<td>Thinfleaf Alder</td>
</tr>
<tr>
<td>Tilia americana ‘Redmond’</td>
<td>Redmond Linden</td>
</tr>
<tr>
<td>Carpinus betulus ‘Fastigiata’</td>
<td>Columnar European Hornbeam</td>
</tr>
<tr>
<td>Zone 1</td>
<td></td>
</tr>
<tr>
<td>Zone 2</td>
<td></td>
</tr>
<tr>
<td>Pyrus calleryana ‘Chanticleer’</td>
<td>Chanticleer Pear</td>
</tr>
<tr>
<td>Pyrus calleryana ‘Redspire’</td>
<td>Redspire Pear</td>
</tr>
<tr>
<td>Zone 3</td>
<td></td>
</tr>
<tr>
<td>Quercus robur ‘Fastigiata’</td>
<td>Columnar English Oak</td>
</tr>
</tbody>
</table>

### Ornamental Trees

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 0</td>
<td></td>
</tr>
<tr>
<td>Betula fontinalis (N)</td>
<td>River Birch</td>
</tr>
<tr>
<td>Salix exigua</td>
<td>Coyote Willow</td>
</tr>
<tr>
<td>Salix irrorata</td>
<td>Blue Stem Willow</td>
</tr>
<tr>
<td>Zone 1</td>
<td></td>
</tr>
<tr>
<td>Acer ginnala</td>
<td>Amur Maple</td>
</tr>
<tr>
<td>Botanical Name</td>
<td>Common Name</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Amelanchier canadensis</td>
<td>Shadblow Serviceberry</td>
</tr>
<tr>
<td>Amelanchier ‘Robin Hill’</td>
<td>Robin Hill Serviceberry</td>
</tr>
<tr>
<td>Cercis canadensis</td>
<td>Eastern Redbud</td>
</tr>
<tr>
<td>Malus ‘Radiant’</td>
<td>Radiant Crabapple</td>
</tr>
<tr>
<td>Malus ‘Spring Snow’</td>
<td>Spring Snow Crabapple</td>
</tr>
<tr>
<td>Malus dolga</td>
<td>Dolga Flowering Crabapple</td>
</tr>
<tr>
<td>Malus ioensis ‘Bechtel’</td>
<td>Bechtel Flowering Crabapple</td>
</tr>
<tr>
<td>Prunus americana ‘Newport’</td>
<td>Purple Leaf Plum</td>
</tr>
<tr>
<td>Prunus americana (N)</td>
<td>American Plum</td>
</tr>
</tbody>
</table>

**Zone 2**
- Amelanchier alnifolia: Saskatoon Serviceberry
- Crataegus phaenopyrum: Washington Hawthorn
- Pyrus calleryana ‘Stonehill’: Stonehill Pear
- Pyrus ussuriensis: Ussurian Pear
- Pyrus ussuriensis ‘Prairie Gem’: Prairie Gem Pear
- Syringa reticulata: Japanese Tree Lilac

**Zone 3**
- Crataegus ambiguus (N): Russian Hawthorn
- Crataegus crus-galli inermis: Thornless Cockspur Hawthorn
- Crataegus mollis: Downy Hawthorn

**Deciduous Shrubs**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
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</thead>
<tbody>
<tr>
<td>Chaenomeles japonica</td>
<td>Japanese Flowering Quince</td>
</tr>
<tr>
<td>Cornus pumila</td>
<td>Dwarf Red-Tipped Dogwood</td>
</tr>
<tr>
<td>Cornus sericera ‘Baileyi’</td>
<td>Bailey Redtwig Dogwood</td>
</tr>
<tr>
<td>Cornus sericera ‘Isanti’</td>
<td>Isanti Dogwood</td>
</tr>
<tr>
<td>Cornus stolonifera (N)</td>
<td>Redtwig Dogwood</td>
</tr>
<tr>
<td>Cornus stolonifera ‘Flaviramea’</td>
<td>Yellowtwig Dogwood</td>
</tr>
<tr>
<td>Hydrangea arborescens</td>
<td>Smooth Hydrangea</td>
</tr>
<tr>
<td>Ligustrum ‘Vicaryi’</td>
<td>Golden Privet</td>
</tr>
<tr>
<td>Ligustrum vulgare var.</td>
<td>European Privet</td>
</tr>
<tr>
<td>Salix amygdaloides (N)</td>
<td>Peachleaf Willow</td>
</tr>
<tr>
<td>Salix discolor</td>
<td>Pussy Willow</td>
</tr>
<tr>
<td>Salix irrorata</td>
<td>Blue Stem Willow</td>
</tr>
<tr>
<td>Sambucus nigra</td>
<td>European Elderberry</td>
</tr>
<tr>
<td>Sambucus racemos (N)</td>
<td>Elderberry</td>
</tr>
<tr>
<td>Weigela ‘Eva Rathke’</td>
<td>Eva Rathke Weigela</td>
</tr>
</tbody>
</table>

**Zone 1**
- Acer ginnala var.: Amur Maple
- Amelanchier canadensis: Shadblow Serviceberry
- Berberis thunbergii: Japanese Barberry
- Berberis thunbergii ‘Atropurpurea’: Japanese Redleaf Barberry
- Euonymus alatus: Burning Bush, Winged Euonymus
- Euonymus alatus ‘Compactus’: Dwarf Burning Bush, Dwarf
- Winged Euonymus: Forsythia

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forsythia sp.</td>
<td>Forsythia</td>
</tr>
<tr>
<td>Hibiscus syriacus</td>
<td>Althea Shrub</td>
</tr>
<tr>
<td>Jamesia americana (N)</td>
<td>Waxflower</td>
</tr>
<tr>
<td>Prunus besseyi (N) var.</td>
<td>Western Sand Cherry</td>
</tr>
<tr>
<td>Prunus x Cistena</td>
<td>Cistena Plum</td>
</tr>
<tr>
<td>Prunus tomentosa</td>
<td>Nanking Cherry</td>
</tr>
<tr>
<td>Prunus triloba var.</td>
<td>Flowering Almond</td>
</tr>
<tr>
<td>Prunus virginia(N)</td>
<td>Western Chokecherry</td>
</tr>
</tbody>
</table>
RECOMMENDED PLANT LIST  Part 2.14-4

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhamnus frangula ‘Columnaris’</td>
<td>Tallhedge Buckthorn</td>
</tr>
<tr>
<td>Rhamnus smithii</td>
<td>Smith’s Buckthorn</td>
</tr>
<tr>
<td>Rosa woodsii (N)</td>
<td>Woods Rose</td>
</tr>
<tr>
<td>Rubus deliciosus N)</td>
<td>Boulder Raspberry</td>
</tr>
<tr>
<td>Spiraea froebeli</td>
<td>Froebel Spirea</td>
</tr>
<tr>
<td>Spiraea japonica cvs.</td>
<td>Japanese Spirea cultivars</td>
</tr>
<tr>
<td>Spiraea vanhouttei</td>
<td>Vanhoutte SpireaSyringa meyeri</td>
</tr>
<tr>
<td>Syringa patula ‘Miss Kim’</td>
<td>Miss Kim Lilac</td>
</tr>
<tr>
<td>Syringa persica</td>
<td>Persian Lilac</td>
</tr>
<tr>
<td>Syringa villosa</td>
<td>Late Lilac</td>
</tr>
<tr>
<td>Syringa vulgaris</td>
<td>Common Lilac</td>
</tr>
<tr>
<td>Viburnum trilobum var.</td>
<td>American Cranberrybush varieties</td>
</tr>
<tr>
<td>Viburnum dentatum</td>
<td>Arrowwood Viburnum</td>
</tr>
<tr>
<td>Viburnum lantana</td>
<td>Wayfaring Tree Viburnum</td>
</tr>
<tr>
<td>Viburnum lentago</td>
<td>Nannyberry Viburnum</td>
</tr>
<tr>
<td>Viburnum opulus</td>
<td>European Viburnum</td>
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</table>

**Zone 2**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amelanchier alnifolia</td>
<td>Saskatoon Serviceberry</td>
</tr>
<tr>
<td>Atriplex canescens (N)</td>
<td>Four-winged Saltbush</td>
</tr>
<tr>
<td>Cotoneaster apiculata</td>
<td>Cranberry Cotoneaster</td>
</tr>
<tr>
<td>Philadelphus coronarius</td>
<td>Sweet Mockorange</td>
</tr>
<tr>
<td>Philadelphus x virginalis</td>
<td>‘Minnesota Snowflake’</td>
</tr>
<tr>
<td>Physocarpus monogynus (N)</td>
<td>Mountain Ninebark</td>
</tr>
<tr>
<td>Physocarpus opulifolius var.</td>
<td>Atlantic Ninebark varieties</td>
</tr>
<tr>
<td>Potentilla fruticosa (N)</td>
<td>Shrubby Cinquefoil</td>
</tr>
<tr>
<td>Potentilla fruticosa var.</td>
<td>Shrubby Cinquefoil varieties</td>
</tr>
<tr>
<td>Rosa var.</td>
<td>Hardy Shrub Rose varieties</td>
</tr>
</tbody>
</table>

**Zone 3**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorpha canescens</td>
<td>Leadplant</td>
</tr>
<tr>
<td>Amorpha fruticosa (N)</td>
<td>False Indigo, Leadplant</td>
</tr>
<tr>
<td>Caragana aborescens</td>
<td>Siberian Peashrub</td>
</tr>
<tr>
<td>Caragana microphylla</td>
<td>Littleleaf Peashrub</td>
</tr>
<tr>
<td>Caragana pygmaea</td>
<td>Pygmy Peashrub</td>
</tr>
<tr>
<td>Caryopteris clandonensis</td>
<td>Blue Mist Spirea</td>
</tr>
<tr>
<td>Cercocarpus montanus (N)</td>
<td>Mountain Mahogany</td>
</tr>
<tr>
<td>Chrysothamnus nauseosus (N) &amp; var.</td>
<td>Rabbitbrush</td>
</tr>
<tr>
<td>Forestiera neomexicana</td>
<td>New Mexico Locust</td>
</tr>
<tr>
<td>Perovskia atriplicifolia</td>
<td>Russian Sage</td>
</tr>
<tr>
<td>Purshia tridentata (N)</td>
<td>Antelope Bitterbrush</td>
</tr>
<tr>
<td>Rhus aromatica var.</td>
<td>Fragrant Sumac</td>
</tr>
<tr>
<td>Rhus glabra (N)</td>
<td>Smooth Sumac</td>
</tr>
<tr>
<td>Rhus typhina</td>
<td>Staghorn Sumac</td>
</tr>
<tr>
<td>Rhus trilobata (N)</td>
<td>Threeleaf Sumac, Skunkbush</td>
</tr>
</tbody>
</table>

**Sumac**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhus lacinata</td>
<td>Cutleaf Sumac</td>
</tr>
<tr>
<td>Ribes aureum</td>
<td>Golden Currant</td>
</tr>
<tr>
<td>Ribes cereum (N)</td>
<td>Wax Currant, Squaw Currant</td>
</tr>
<tr>
<td>Shepherdia argentea (N)</td>
<td>Silver Buffaloberry</td>
</tr>
<tr>
<td>Symphoricarpus albus (N)</td>
<td>Common Snowberry</td>
</tr>
<tr>
<td>Symphoricarpus orbiculatus</td>
<td>Coralberry, Indian Currant</td>
</tr>
</tbody>
</table>

**g. Evergreen Shrubs**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
</table>

RECOMMENDED PLANT LIST  Part 2.14-4
Zone 0
Zone 1
Paxistima canbyi  Mountain Lover
Picea pungens cvs.  Blue Spruce cultivars

Zone 2
Juniperus chinensis var.  Juniper **
Juniperus communis (N)  Common Juniper
Juniperus horizontalis var.  Juniper **
Juniperus sabina var.  Juniper **
Mahonia repens (N)  Creeping Oregon Grape Holly
Pinus mugo var.  Mugo Pine varieties

** Note: Many varieties of Junipers are available and acceptable for campus planting.

h. Ground Cover

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 0</td>
<td></td>
</tr>
<tr>
<td>Cornus canadensis</td>
<td>Bunchberry Dogwood</td>
</tr>
<tr>
<td>Galium odoratum</td>
<td>Sweet Woodruff</td>
</tr>
<tr>
<td>Zone 1</td>
<td></td>
</tr>
<tr>
<td>Ajuga reptans</td>
<td>Carpet Bugle</td>
</tr>
<tr>
<td>Duchesnea indica</td>
<td>Mock Strawberry</td>
</tr>
<tr>
<td>Vinca minor</td>
<td>Common Periwinkle</td>
</tr>
<tr>
<td>Zone 2</td>
<td></td>
</tr>
<tr>
<td>Arabis caucasia</td>
<td>Rockcress</td>
</tr>
<tr>
<td>Euonymus fortunei var.</td>
<td>Euonymus varieties</td>
</tr>
<tr>
<td>Mahonia repens (N)</td>
<td>Creeping Oregon Grape Holly</td>
</tr>
<tr>
<td>Phlox subulata</td>
<td>Creeping Phlox</td>
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<tr>
<td>Zone 3</td>
<td></td>
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<tr>
<td>Antennaria parvifolia (N)</td>
<td>Pussytoes</td>
</tr>
<tr>
<td>Artemisia frigida</td>
<td>Fringed Sage</td>
</tr>
<tr>
<td>Cerastium tomentosum</td>
<td>Snow in Summer</td>
</tr>
<tr>
<td>Thymus var.</td>
<td>Thyme</td>
</tr>
<tr>
<td>Veronica var.</td>
<td>Veronica</td>
</tr>
<tr>
<td>Sedum var.</td>
<td>Stonecrop</td>
</tr>
</tbody>
</table>

i. Vines

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 0</td>
<td></td>
</tr>
<tr>
<td>Zone 1</td>
<td></td>
</tr>
<tr>
<td>Clematis jackmanii</td>
<td>Jackman Clematis</td>
</tr>
<tr>
<td>Hedera helix</td>
<td>English Ivy</td>
</tr>
<tr>
<td>Lonicera japonica var. chinesis</td>
<td>Purple Japanese Honeysuckle</td>
</tr>
<tr>
<td>Lonicera japonica ‘Halliana’</td>
<td>Hall’s Japanese Honeysuckle</td>
</tr>
<tr>
<td>Zone 2</td>
<td></td>
</tr>
<tr>
<td>Parthenocissus quinquefolia ‘Englemannii’</td>
<td>Engleman Ivy</td>
</tr>
<tr>
<td>Campsis radicans</td>
<td>Trumpet Vine</td>
</tr>
<tr>
<td>Celastrus scandens</td>
<td>Bittersweet</td>
</tr>
<tr>
<td>Clematis maximowicziana</td>
<td>Sweet Autumn Clematis</td>
</tr>
<tr>
<td>Clematis var.</td>
<td>Clematis varieties</td>
</tr>
<tr>
<td>Zone 3</td>
<td></td>
</tr>
</tbody>
</table>
Parthenocissus quinquefolia  Virginia Creeper
Parthenocissus tricuspidata  Boston Ivy

j. **Turfgrass**

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For use in all Levels, unless otherwise approved by the UC Denver Fac. Ops through the UC Denver Project Manager:

Blending:

- 90% Festuca arundinacea (2 varieties)  Turf Type Tall Fescue
- 10% Poa pratensis  Improved Kentucky Bluegrass

**B. Goal:** All plants are to meet or exceed minimum sizes at time of planting.

1. **Guidelines - Required:**
   a. Trees in grates  3 inch minimum
   b. Deciduous trees  3 inch
   c. Ornamental trees  2 ½ inch
   d. Multi-stem Ornamentals  8-10 feet high
   e. Coniferous trees  6-8 feet high (75% of total trees)
   f. Coniferous trees  8-10 feet high (25% of total trees)
   g. Evergreen & Deciduous shrubs  5 gallon minimum
   h. Vines  1-gallon minimum
   i. Ground cover  1-gallon minimum

**C. Goal:** The campus landscape is to be assessed annually.

1. **Guidelines - Desired:**
   a. Retain horticulturist and landscape architect to assess planting areas and make recommendations concerning spacing, massing, size and to determine:

   1) Health of plants;
   2) Appropriateness of plant selection for its location;
   3) Recommended maintenance and management practices;
   4) Recommended replacement plants if necessary;
   5) Irrigation management and watering needs of plants;
   6) Recommended removal of existing plants;
   7) Assessment of transplant potential of plants;
   8) Designation of significant existing trees.

**D. Goal:** Landscape maintenance and warranty contracts are to be maintained.

1. **Guidelines - Required:**
   a. Warranty and contractor maintenance for all woody plant material installed as part of a Campus construction project to be in accordance with Part 4, Section 02950.

**E. Goal:** All planting to be matched with similar watering needs.

1. **Guidelines - Required:**
   a. Group plant material of similar watering needs together in the planting bed.
F. **Goal:** Excessive planting shearing is to be minimized.

1. Guidelines - Desired:
   
a. When shearing is necessary, shear shrub grouping as a whole to form a hedge. Do not prune individual plants.
   
b. Plants requiring shearing to be easily accessible.

G. See Diagram Below:
2.15 **Irrigation Guidelines:**

(Reference Manual Part 4.0, Section 02810)

Landscape areas must include a properly designed, automatic irrigation system that provides full coverage on all plants.

**A. Goal:** Irrigation is to be scheduled to avoid pedestrian activities.

1. **Guidelines - Desired:**
   
   a. Operate irrigation schedule when pedestrians are not likely to be present.

**B. Goal:** Campus standard irrigation equipment is to be used.

1. **Guidelines - Required:**
   
   a. Select irrigation equipment suited to the design of irrigation zones, where plants are grouped based upon similar watering needs and growing conditions.
   
   b. Provide and replace sprinkler heads using standardized parts that will maintain the desired level of irrigation.
   
   c. Provide controllers to irrigate shrubs, flowers and trees separately from turf; and controllers with timing systems that permit use of low-volume systems over longer cycles.
   
   d. Use pop-ups with low-pressure, low-volume spray heads. Irrigate shrubs and trees with drip or low-volume heads. Provide drip irrigation to all trees in addition to any spry or pop-up heads. Pop-up heads in turf are to have riders at least 4 inches high.
   
   e. Irrigate groundcovers with fixed rider or shrub high pop-ups, bubblers or drip systems.
   
   f. Irrigation systems are to be equipped with an automatic rain shutoff device.
   
   g. Refer to Part 4 Section 2810 irrigation systems.

**C. Goal:** Spray patterns are to be adjusted to fit site conditions.

1. **Guidelines - Required:**
   
   a. Coordinate foundation planting with irrigation to provide at least a 5-foot offset for spray irrigation and 3-foot offset for drip irrigation from building face.

2. **Guidelines - Desired:**
   
   a. Confine normal spray patterns to mass vegetated areas or root zones of plants. Provide 100 percent overlap in these areas.
   
   b. Avoid spraying walks, courtyards, plazas, patios, driveways, buildings and fences. If spraying of walkways and bikeways cannot be avoided, the controller must be timed to spray at night.
2.16 Site Accessories Guidelines:

(Reference Manual Part 4.0, Section 02870)
It is intended that a coordinated Site Accessories program will enhance and reinforce the overall campus image. Maintenance, safety and comfort are primary considerations in the selection, design and placement of site accessories. Reference to a specific manufacturer is for approval of appropriate style and character only and does not imply a preferred manufacturer.

Most site accessories to be “Stormcloud”, a dark gray color. Examples include lights, benches, trash receptacles, bicycle racks, kiosks, bollards, etc. The intent is to use a color that does not draw attention while creating unity.

Accessories used for wayfinding are to be distinctive and an accent color depending on the message to be sent. Objects that are used for orientation are to attract attention and typically are to be seen from some distance. Examples of colorful objects include signs, maps, art, flags, awnings, patio furniture, umbrellas, temporary signs, emergency phones, etc.

A. Goal: Site accessories are to be economical and easy to maintain.

1. Guidelines - Required:
   a. Readily available.
   b. Manufacturers’ standard.
   c. Use of campus standard colors and finish.
   d. Use campus standard products or approved equals.

B. Goal: All site accessories are to be permanently located.

1. Guidelines - Required:
   a. Permanent locations to be compatible with building and landscape design.
   b. Locations are not to interfere with emergency vehicle access.
   c. Accessories to be strategically placed for maximum use.
   d. Avoid site accessories as focal points, except for art, towers and fountains.
   e. Trash receptacles to be located so they are unobtrusive, yet functional.

C. Goal: Site walls are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Site walls to match design character of surrounding landscaping, buildings or site work.
   b. Mow strips or other details necessary to minimize maintenance.
   c. Materials: concrete or brick.

D. Goal: Screen walls are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Location: Trash service areas.
   b. Materials: Concrete or brick.

E. Goal: Seat walls are to meet both visual and functional needs.

1. Guidelines - Required:
b. Finish: Sand blasted or acid etched.
c. Color: Natural gray.
d. Height: 24” standard.
e. Width: 18” standard.

2. Guidelines - Desired:
   a. Surface detailed to discourage skateboarding.

F. **Goal:** Fences are to meet both visual and functional needs.

1. Guidelines - Required:

2. Guidelines - Desired:
   a. Posts: 8” diameter painted steel with welded cap.

G. **Goal:** Benches are to be high quality, low maintenance, resistant to vandalism and sensitive to replacement costs.

1. Guidelines - Required:
   a. Anchor into paving in hard surface areas, or concrete foundation on lawn.
   b. Screen from cold wind.
   c. No Advertising permitted on benches.
   d. Combine bench with minimum one campus standard chair. Where appropriate, include one campus standard table.

2. Guidelines - Desired:
   a. Orient bench toward:
      1) Area of greatest pedestrian activity.
      2) Pleasant view.
      3) Other benches to encourage social interaction.
      4) Building entrance.
      5) Related functions.
   b. At least 6’-0” between the front edge of the bench and stationary objects, such as litter receptacles, sign posts or trees.
   c. At least six hours of sunshine on bench location per day.
   d. Mowing around benches to be easily accommodated.

H. **Goal:** Tables and chairs are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Tables and chairs for outdoor dining areas.
   b. Tables and chairs permanently fixed.
   c. Provide minimum one low, coffee table height table and minimum one chair arrangement adjacent to campus benches.
I. **Goal:** Trash and ash receptacles are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Provide quantity sufficient to meet demand.

J. **Goal:** Handrails/guardrails are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Location: ADA requirements met as a minimum.
   b. Campus standard detail.
   c. Height: ADA requirements met.

K. **Goal:** Pay telephones are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Location: Coordinate with site plans.
   b. Campus standard telephones.
   d. Color: Stormcloud.

L. **Goal:** Bicycle racks are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Racks to be visible but not focal points.
   b. Location: Per site plans.
   c. Location not to interfere with pedestrian circulation or snow plowing.

M. **Goal:** Tree grates are to meet visual and functional needs.

1. Guidelines - Required:
   a. Location: Where trees are located in paved areas.
   b. Size: 5' - 0" x 5' - 0" minimum.
   c. Material: Cast Iron, radial and expandable.
   d. Color: Natural oxidized.

N. **Goal:** Fixed and removable bollards are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Material: Painted metal for fixed bollards and for movable bollards.
   b. Color: Stormcloud.
   c. Reflectors used on bollards where safety or fire coding is a concern.

O. **Goal:** Kiosks are to meet both visual and functional needs.

1. Guidelines - Required:
   a. Location: Kiosks are not to be a focal point, located on axes or near main building entrances.
   b. Size: Varies to meet functional needs.
c. Material: Painted metal.
d. Color: Stormcloud.

**P. Goal:** Flagpoles are to meet both visual and functional needs.

1. Guidelines - Required:
   
b. Material: Metal.
c. Color: Stormcloud.
d. Poles to have security roping.
2.17 Exterior Lighting Guidelines:

(Reference Manual Part 4.0, Section 16530)
Exterior lighting systems to provide safe, functional illumination that contributes to the visual quality and identity of the campus. The exterior lighting system is to provide nighttime visibility, emphasize location of entrances, and delineate boundaries. Exterior light is to strengthen the character of the campus and provide a sense of vitality within the open spaces.

Site lighting fixtures are to be designed and placed to maximize the driver’s and pedestrian’s ability to see adequately into parking areas, along pathways to building entries, drop-off zones and pedestrian plazas. Consistent light levels with low illumination gradients are preferred over brightly-lit areas and highly contrasting light levels.

A. **Goal:** Lighting is to be used to enhance the campus image.
   1. **Guidelines - Required:**
      a. Continuity of lighting to create and overall campus ambiance.
      b. Accent lighting for campus identification signage.
      c. Accent lighting for significant building and space.
      d. Accent lighting for significant art.
   2. **Guidelines - Desired:**
      a. Campus lighting to be distinctive from neighborhood, Colfax Avenue and Peoria Street lighting.

B. **Goal:** Lighting is to be used to strengthen and define campus edges.
   1. **Guidelines - Required:**
      a. Consistent light fixtures to be used along street forming campus edges.
      b. Light fixtures to complement street character.
   2. **Guidelines - Desired:**
      a. Light color and fixtures to be the same on both sides of street.

C. **Goal:** Lighting is to emphasize campus entrances.
   1. **Guidelines - Required:**
      a. Higher lighting levels to be used at campus entrances.
      b. Signage at entrances to be well lit.
   2. **Guidelines - Desired:**
      a. **Light levels and character of each entrance and levels to reflect the importance and function**

D. **Goal:** Lighting is to ensure security and a sense of safety.
   1. **Guidelines - Required:**
      a. Adequate light levels for vehicles and pedestrians to minimize security risks.
      b. Significant light levels at building entrances and sufficient levels at fire exits.
c. Adequate light levels between parked vehicles.
d. All stairs and ramps are lighted.
e. Perimeters of spaces are lighted.
f. Special lighting for emergency phones.

2. Guidelines - Desired:
   a. Glare from light sources to be avoided.
   b. Contrasts in light levels to be minimized.

E. **Goal:** Lighting is to provide direction and orientation.

1. Guidelines - Required:
   a. Significant lighting is to be used for campus identification signs.
   b. Use special lighting to provide directional marking within the landscape.
   c. Maps and signage to have the information lighted.
   d. Maps and signs are to have lower brightness ratios in the rear to avoid silhouetting.

2. Guidelines - Desired:
   a. Special lighting to provide direction, information and definition.

F. **Goal:** The selection of light color is to be compatible with the lights of surrounding functions.

1. Guidelines - Required:
   d. Service areas: color corrected metal halide.

2. Guidelines - Desired:
   a. Avoid conflicts in building lighting and site lighting.

G. **Goal:** Light intensities are to be used to distinguish various functional areas of the campus and will be determined in the design phase.

H. **Goal:** Types of light fixtures used on campus are to be limited.

1. Guidelines - Required:
   a. Campus standard fixtures or approved equal.

2. Guidelines - Desired:
   a. Alternative light sources which provide special effects or energy efficiency (such as fiber optics or low-level lighting) encouraged.
   b. Decorative and specialty lighting considered on a case-by-case basis.

I. **Goal:** Highest light levels are to be established at destinations.

1. Guidelines - Required:
a. Highest light levels at major building entrances and at major pedestrian intersections.

b. Higher light levels at building entrances and transit stops than in adjacent open spaces.

**J. Goal:** Accent lighting is to be used to highlight special campus features.

1. Guidelines - Required:

   a. **Building Entrance:**
      Special lighting at building entrances to create a safe and distinct appearance.
   b. **Recessed Wall Lighting:**
      Recessed, wall-mounted fixtures to light elevation changes such as stairs and ramps.
   c. **Lighting Emphasis:**
      Before placing light fixtures, assess the need to for focus or emphasis on a space.
   d. **Up-lighting:**
      Up-lighting to be used to light exteriors of buildings, signs, walls, other vertical elements, and is not to shine directly in the eyes of pedestrians.
   e. **Tree Up-lighting:**
      For tree up-lighting, avoid ground-mounted fixtures where surface moisture could potentially cause maintenance problems. Use only low voltage fixtures.
   f. **Highlighting:**
      Consider highlighting entrances, art, terraces and landscaping wherever possible.
2.18 Campus Signage Guidelines

A. Design Intent Statement

1. The purpose of this Design Intent Statement is to establish goals and objectives for the Campus Signage.

2. The campus signage standard shall:
   a. Clearly, concisely and consistently communicate, providing identification, directional, regulatory and operational information
   b. Perpetuate the identity of University of Colorado Denver / University of Colorado Hospital / The Children's Hospital by conveying established graphic standards for logo, shape, colors and typography
   c. Provide a vehicle with which to distinguish various portions of the campus, using shape, color or other means of coding
   d. Complement the established palette of architectural and landscape materials and colors provide tools with which those navigating through the campus may establish and maintain their orientation to the campus, by reinforcing their proximity to campus landmarks
   e. Shall establish prescriptive guidelines for present and future implementation of campus signage
   f. Conform to the goals and standards set in the Institutional Master Plan
   g. Reflect a sense of quality and community
   h. Accommodate and enhance existing and future programs and the needs of those navigating through the campus, while remaining sensitive to the site and environment
   i. Be durable, economical and aesthetically lasting, designed to accommodate future growth and change
   j. Conform to the approved Campus Signage Standards package
   k. Create a hierarchy of signs that communicate directions to campus landmarks, thereby requiring fewer signs to properly direct those navigating through the campus.
   l. Be appropriately designed for both daytime and nighttime functions.

B. Exterior Sign Types

<table>
<thead>
<tr>
<th>Sign type</th>
<th>Description</th>
<th>Campus Sign</th>
<th>Project Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Signature Entry Identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Street Entry Identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Boundary Marker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Primary Directional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Secondary Directional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Building Complex Identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Primary Institution Identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Primary Building Identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Secondary Building Identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Building Entry Identification</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Signage Type and Description

<table>
<thead>
<tr>
<th>Sign Type</th>
<th>Description</th>
<th>Campus Sign</th>
<th>Project Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>Door Graphic</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>L</td>
<td>Street Name Identification</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>M</td>
<td>Regulatory</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>O</td>
<td>Events</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

### C. Campus Signage Criteria

Sign Criteria (cross reference with Sign Location Diagram, Fig. 2.18-1 and Fig. 2.18-2)

<table>
<thead>
<tr>
<th>Sign</th>
<th>Purpose</th>
<th># of Signs</th>
<th>Sign Style</th>
<th>Max Size per face</th>
<th>Max Height</th>
<th>Text/Message</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Entry ID</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>follow basic design of campus signage&lt;br&gt; routed aluminum sign face&lt;br&gt; push-through flush which acrylic letters&lt;br&gt; complement way finding and boundary markers&lt;br&gt; installation priority for major intersections</td>
</tr>
<tr>
<td>B</td>
<td>Street Entry ID</td>
<td>as req'd</td>
<td>freestanding internally illuminated</td>
<td>30 sq ft</td>
<td>5'-4&quot;</td>
<td>inside campus perimeter, on entry streets</td>
<td>proposed as later project, allowing time for early development of campus and potential affiliate relationships&lt;br&gt; sensitive to affiliate issues&lt;br&gt; complement Anschutz Medical Campus boundary signage&lt;br&gt; specific need and design to be determined at a later date</td>
</tr>
<tr>
<td>C</td>
<td>Boundary Marker</td>
<td>as req'd</td>
<td>freestanding non-illuminated</td>
<td>20 sq ft</td>
<td>5'-4&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Primary Directional</td>
<td>as req'd</td>
<td>freestanding non-illuminated reflective graphics</td>
<td>30 sq ft</td>
<td>5'-4&quot;</td>
<td>directional info&lt;br&gt; campus street intersections</td>
<td>should generally direct to areas, not specific buildings unless building is a landmark/directional location&lt;br&gt; not to exceed six entities or lines of copy per sign without review/approval&lt;br&gt; routed aluminum sign face&lt;br&gt; push-through white acrylic letters&lt;br&gt; adapt as campus grows and directional info changes&lt;br&gt; sign messages should be grouped according to arrow direction (i.e.: all of the ahead arrows together, all of the left arrows together and then all of the right arrows together) and commonly</td>
</tr>
</tbody>
</table>

CAMPUS SIGNAGE GUIDELINES

Part 2.18-2
<table>
<thead>
<tr>
<th>Sign</th>
<th>Purpose</th>
<th># of Signs</th>
<th>Sign Style</th>
<th>Max Size per face</th>
<th>Max Height</th>
<th>Text/Message</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Secondary Directional</td>
<td>as req'd</td>
<td>freestanding non-illuminated reflective graphics</td>
<td>20 sq ft</td>
<td>3'-10&quot;</td>
<td>directional info</td>
<td>accepted conventions</td>
</tr>
<tr>
<td>E</td>
<td>Building Complex ID</td>
<td>1 per complex</td>
<td>freestanding internally illuminated</td>
<td>30 sq ft</td>
<td>6'-10&quot;</td>
<td>building complex name only</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Primary Institution</td>
<td>4 per facility</td>
<td>building mount reverse pan-channel letters halo illuminated</td>
<td>TBD</td>
<td>below roof</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Primary Building ID</td>
<td>4 per building</td>
<td>building mount, individual, cut-out-letters, non-illuminated</td>
<td>15&quot; capital letter height</td>
<td>generally below underside of 3rd floor windows of bldg.</td>
<td>▪ typeface, illumination and characteristics should be complementary to bldg architecture</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Secondary Bldg ID</td>
<td>1 per bldg</td>
<td>freestanding non-illuminated</td>
<td>20 sq ft</td>
<td>3'-10&quot;</td>
<td>bldg name + address + bldg number</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Bldg Entry ID</td>
<td>1 per bldg</td>
<td>bldg mount may be illuminated</td>
<td>4 sq ft</td>
<td>10'-0&quot; above grade</td>
<td>bldg name + address + &quot;Urgent Care&quot; as req'd</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>▪ plaque w/cut out letters or illum.cabinet</td>
<td></td>
</tr>
<tr>
<td>Sign</td>
<td>Purpose</td>
<td># of Signs</td>
<td>Sign Style</td>
<td>Max Size per face</td>
<td>Max Height</td>
<td>Text/Message</td>
<td>Recommendations</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
<td>------------</td>
<td>-----------------------------</td>
<td>-------------------</td>
<td>--------------------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>JT</td>
<td>Bldg Entry ID</td>
<td>1 per bldg</td>
<td>bldg mount non-illuminated</td>
<td>4 sq ft</td>
<td>10'-0&quot; above grade</td>
<td>bldg name + address = &quot;Urgent Care&quot; as req'd</td>
<td>• plague w/painted or vinyl graphics cabinet sign?</td>
</tr>
<tr>
<td></td>
<td>temporary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Door Graphics</td>
<td>1 per entry</td>
<td>vinyl letters on glass</td>
<td>1&quot; capital letter height (4 sq ft, max sign area)</td>
<td>n/a</td>
<td>bldg name + address + bldg number + notices / policies</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Street Name ID</td>
<td>1 per intersection</td>
<td>pole mount</td>
<td></td>
<td></td>
<td>campus street name</td>
<td>• Aurora city standard</td>
</tr>
<tr>
<td>M</td>
<td>Regulatory</td>
<td>as req'd</td>
<td>pole mount</td>
<td></td>
<td></td>
<td>Stop, Yield, etc.</td>
<td>• Aurora city standards</td>
</tr>
<tr>
<td>O</td>
<td>Events</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>see “O” Events Marquee Sign for recommendation for permanent signs</td>
</tr>
</tbody>
</table>

**Note:**
No roof mounted signs.
All building mounted signs must be located below the eave or parapet.
All building mounted signs must be mounted flat against the building and may not project more than the required sign depth.
Sign messages are limited to the content described herein.
All signage is subject to review and approval by University of Colorado Design Review Board & The UC Denver Office of Public Relations.
All power supplies shall be concealed.
No exposed conduit.
D. Signage Design Intent  
(Reference Sign Criteria 2.18.C)  

1. “B” Street Entry Identification  
   a. Sign shall be freestanding, two-sided  
   b. Sign face shall be .100” aluminum, welded to ABC Sign Products “EZ Retainer”, Paint finish, MAP Nuance black, no equal  
   c. Copy shall be routed and backed with push-through white acrylic, 1/16” past sign face.  
   d. Sign is internally illuminated with high output fluorescent lamps as required  
   e. Cabinet shall be ABC Sign Products “Large A” Extrusion; Paint finish, MAP Nuance black;  
   f. No equal  
   g. Typeface: Univers Condensed 57  

Detail drawing (see Sign Cabinet and Base Detail drawings for additional info):  
(Messages shown are for example only)
2. “D” Primary Directional

   a. Sign shall be freestanding, two-sided
   b. Sign face shall be .100” aluminum, welded to ABC Sign Products “EZ Retainer”, Paint finish, MAP Nuance black, no equal
   c. Sign is non-illuminated; copy shall be white, Reflective 3M Scotchlite vinyl
   d. Cabinet shall be ABC Sign Products “Large A” Extrusion; Paint finish, MAP Nuance black;
   e. No equal
   f. Typeface: Univers Condensed 57; Stroke of arrow shall match stroke of type.

Detail drawing (see Sign Cabinet and Base Detail drawings for additional info):
(Messages shown are for example only)
↑ Anschutz Outpatient Pavilion
↑ Anschutz Cancer Pavilion
↑ Rocky Mountain Lions Eye Institute

graphic image area: 2-1/2" border, 4 sides

reveal shall be 1/8"x1-1/2" aluminum angle; recess to provide access to retainer; paint finish MAP Nuance black
3. “E” Secondary Directional

a. Sign shall be freestanding, two-sided
b. Sign face shall be .100” aluminum, welded to ABC Sign Products “EZ Retainer”, Paint finish, MAP Nuance black, no equal
c. Sign is non-illuminated; copy shall be white, reflective 3M Scotchlite vinyl
d. Cabinet shall be ABC Sign Products “Large A” extrusion; paint finish, MAP Nuance black;
e. No equal
f. Typeface: Univers Condensed 57; Stroke of arrow shall match stroke of type.

Detail drawing (see Sign Cabinet and Base Detail drawings for additional info):
(Messages shown are for example only)
4. “F” Building Complex Identification

a. Sign shall be freestanding, two-sided
b. Sign face shall be .100” aluminum, welded to ABC Sign Products “EZ Retainer”, Paint finish, MAP Nuance black, no equal
c. Copy shall be routed and backed with push-through white acrylic, 1/16” past sign face.
d. Sign is internally illuminated as required
e. Cabinet shall be ABC Sign Products “Large A” extrusion; Paint finish, MAP Nuance black;
f. No equal
g. Typeface: Univers Condensed 57

Detail drawing (see Sign Cabinet and Base Detail drawings for additional info):
(Messages shown are for example only)
5. “G” Primary Institutional Identification

Front Elevation of Letter (not to scale)

- 1" trim cap
- Fabricated aluminum letter
- Neon tube support
- 15mm neon corrosion resistant anchors, as req'd
- 15" minimum height
- 1" trim cap
- Wall

Remote Wire Pan Channel Letter
Section through wall & letter

- Neon transformer in galvanized sheet metal box
- Flexible conduit
- Ceiling
- P-K neon housing

UC Denver Guidelines and Design Standards
Rev 02/2009
6. “G” Primary Institutional Identification

Front Elevation of Letter (not to scale)

Flat Cut-out Letter
Section through wall & letter

floor/deck

ceiling

wall

flat, cut-out aluminum letter
mount with threaded studs, as req’d & 3/4” spacer behind

15’

3/4”

1”
7. "I" Secondary Building Identification

a. Sign shall be freestanding, two-sided
b. Sign face shall be .100" aluminum, welded to ABC Sign Products “EZ Retainer”, Paint finish, MAP Nuance black, no equal
c. Sign is non-illuminated; copy shall be white, reflective 3M Scotchlite vinyl
d. Cabinet shall be ABC Sign Products “Large A” Extrusion; paint finish, MAP Nuance black;
e. No equal
f. Typeface: Univers Condensed 57

Detail drawing (see Sign Cabinet and Base Detail drawings for additional info):
(Messages shown are for example only)
8. "K" Door Graphic

a. Computer-cut vinyl letters shall be white, installed first surface on the exterior of the glass, 6’0” to top of address number, centered left-right in pane

b. Typeface: Univers Condensed 57

(Message shown are for example only)
9. “O” Events Marquee

a. Sign shall be freestanding, one-sided
b. Sign face shall be .100” aluminum, welded to ABC Sign Products “EZ Retainer”, Paint finish, MAP Nuance black, no equal
c. Copy shall be routed and backed with push-through white acrylic, 1/16” past sign face.
d. Sign is internally illuminated as required
e. Electronic Message board shall be LED panels, remotely programmable and controlled
f. Cabinet shall be ABC Sign Products “Large A” Extrusion; paint finish, MAP Nuance black;
g. No equal
h. Typeface: Univers Condensed 57

Detail drawing (see Sign Cabinet and Base Detail drawings for additional info): (Messages shown are for example only)
10. Typical Sign Cabinet Detail

- seat cover
- retainer
- sign face
- weld, sign face to retainer
- ABC Sign Products, Large A Cabinet
- aluminum extrusion
- HO fluorescent lamp
11. Typical Sign Base Details

- 4" standard steel pipe, to top of sign cabinet
- 8" CMU, interior core fill, as required; top of block shall be above stone
- 4"t "Lyons Red" sandstone; caulk all joints.

Vertical joint in stone

- 4"ø standard steel pipe, to top of sign cabinet
- 8" CMU, interior core fill, as required; top of block shall be above stone
- 4"t "Lyons Red" sandstone

grade

- 5'-4" x 1'-4" concrete footing; set top of footing below finished grade; one row of #4 rebar, both directions at 12" on center
- four #4 rebar, vertical, in caisson
- 16"ø concrete caisson
Cross-reference with 19.3 Campus Signage Criteria

- sign type "A" Signature Entry ID is not shown, to be designed by others
- sign type "L" Street Name ID is not shown, shall be Aurora city standard sign
- sign type "M" Regulatory Sign is not shown, shall be Aurora city standard sign
- architecture, landscaping, roadways, etc.
- as shown for reference only

Fig. 2.18 - 2