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INTRODUCTION

The success of MUSC as a campus is largely dependent on the coherence and quality of its buildings and grounds. This document, along with MUSC’s physical master plan, outlines a course of action to guide improvement and growth. It is not intended to prescribe solutions nor limit creativity, but rather to establish a flexible framework for future designers.

MUSC’s Master Plan is focused on the achievement of three goals. The pursuit of these goals provides the basis for physical planning over the next twenty years.

1. Improvement of existing space
2. Creation of new space
3. Beautification of the campus

This document provides the detail necessary to ensure that the improvement and growth of grounds and buildings are implemented in a manner consistent with the Master Plan.
Vision 2020

The Medical University of South Carolina
Campus-Wide Facilities Master Plan

Volume 3
Chapter 1
Campus Design Guidelines
Grounds
GROUNDSD

The beautification of campus grounds is based on the following principles:

Pedestrian-friendly Campus
A network of tree-lined, brick pedestrian paths will connect open spaces, buildings and perimeter parking. Brick crosswalks will ease street crossings creating visible pedestrian zones on campus roads.

Removal of Surface Parking
Surface parking is proposed to be relocated in decks at the perimeter of campus, freeing land for additional open spaces and buildings.

Creation of Open Spaces
The creation of a sequence of centrally located, landscaped open spaces will provide gathering spaces for the MUSC community. These spaces, linked together by pedestrian pathways, will create a strong sense of place.

Well-defined Campus Boundaries
A system of gates and walls will define the edges and major entrances to MUSC. The consistent implementation of these gates and walls, along with a new palette of MUSC street furniture, lighting, planting, and signage will give the physical campus a strong identity.
This map is a reference for a variety of street and sidewalk types. The referenced sketches which follow illustrate various lane widths, sidewalks, lighting, islands, trees, and crosswalks.
The city of Charleston is known for its great streets. They are well-defined public corridors which contribute significantly to the character of the city. Buildings and walls form clear street edges. Street furniture is carefully selected and consistently implemented.

MUSC should strive to improve its streetscape to reach the same level of quality and consistency as found on Charleston city streets. A campus-wide palette of brick sidewalks, crosswalks, gates & walls, planting beds, light fixtures and street trees will improve the pedestrian experience and identify streets as part of MUSC.

Streets & Roads
Roads on the MUSC campus should have brick crosswalks and sidewalks. The visual continuation of brick from sidewalk to crosswalk will clarify and unify pedestrian circulation routes, while the change in material from asphalt to brick will identify pedestrian zones to motorists.
Curb ramps must provide an accessible route from sidewalk to sidewalk, and must meet ADA standards. A change in material (texture & color) must occur where the ramp begins; a 6” granite or concrete trim should be used between brick ramps, sidewalks, and crosswalks.

Plan Detail & Section of Crosswalk at Mid-Block Curb Cut

Curb Cuts & Crosswalks

The Medical University of South Carolina Campus-Wide Facilities Master Plan
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Crosswalks

Construction of brick crosswalks is different than brick sidewalks and must be able to withstand constant traffic weight associated with these roads. The brick pattern at crosswalks should be kept simple. Bricks should be laid parallel to the direction of traffic in a running bond pattern. This system will withstand constant abuse and require low maintenance. Drains should be placed to prevent water from pooling at intersections.

Granite Curbs

As seen throughout the city of Charleston, granite curbs should be used on roads within the campus. The City of Charleston has specifications for granite curbs and brick pavers - these specifications should be followed on the MUSC campus, and can be obtained from the Department of Parks.

Crosswalks & Curbs
A network of internal pedestrian pathways will physically weave the campus together. A consistent pathway system will encourage and improve pedestrian circulation, creating places for the MUSC community to interact, and give the campus a coherent sense of place. The City of Charleston has specifications for granite curbs and brick pavers - these specifications should be followed on the MUSC campus, and can be obtained from the Department of Parks.
This drawing shows the location of gates and walls as proposed on the MUSC Campus. The proposed walls delineate the existing and future boundaries of the University. The proposed gates create thresholds at points of entry around the campus, helping visitors identify MUSC within the city.
The historic brick wall is a landmark of the campus; it identifies the boundary between the campus and the public domain of the street. Additional gates and walls would help identify MUSC to visitors, creating thresholds and defining that part of the campus beyond the historic wall.

Gates and walls are used throughout Charleston; their increased use at MUSC would help relate the campus to the traditions of the city. Low walls would act as elements of scale, helping to transition between the adjacent neighborhoods and the larger campus buildings.
Gates & walls are an integral part of the streetscapes of Charleston. Walls create clear streetedges and define the boundary between public and private spaces. While high walls act as visual barriers, low walls form edges that are defined yet porous.

Walls are used not only to create edges and boundaries but also to screen parking and service areas. Vegetation, such as creeping fig, is used to integrate the landscape and the built environment.
The placement of highly visible brick, limestone and iron gates will create a stronger sense of threshold at MUSC boundaries. Gates should vary in size and type to accommodate different road and pathway conditions. Major campus gates, as indicated on the previous keyed map, should be located at wide intersections. Minor gates should mark entry to campus at less significant boundaries and narrower roads. Mid-block gateways should be at a pedestrian scale, marking entry to open spaces and pathways.

Walls should be used to define edges and streets. They should be low and allow a visual connection between the campus and the city.

Proposed Gates & Walls
Exposed service areas and mechanical equipment should be screened from view wherever possible by stucco or brick screen walls and dense planting. Service areas should be integral to new building design; architects should strive to house loading and other service requirements within the ground floor of buildings. When this is not possible, screen walls should be used. Their materials should coordinate with adjacent building materials. The growth of Creeping Fig or other vines on screen walls should be encouraged.

Surface parking areas should also be screened from view by the use of a low brick wall, as seen in Charleston.
Surface parking and cars have taken over the MUSC campus, creating an environment unfriendly to pedestrians. Additional parking decks at the perimeter of campus will replace central surface lots and remove many cars from through streets. A series of shaded, landscaped open spaces connected by a network of tree-lined paths will create a pedestrian-friendly environment, providing gathering spaces for the MUSC community. These defined garden spaces also present naming and funding opportunities for major donors.
This detail of the central campus shows the sequence of open spaces linked along the main pedestrian / service spine. Note that this drawing assumes that the administration building and the horseshoe remain in the near term.
The College of Charleston has many beautifully landscaped open spaces. The wide-canopied shade trees, lush understory, consistent lighting and brick pathway help to create an attractive, pedestrian-friendly campus.

Planting
Planting

In developing the Landscape Plan for the Medical University of South Carolina, the college has the opportunity to establish a unique identity for itself within its regional setting. A rich, coherent landscape plan will not only add beauty to the school, but will add legibility to its urban environment. Trees can be used to define spaces, define boundaries, soften architectural lines, and create a shaded environment. A rhythmic pattern of tree-lined streets can serve as visual landmarks in establishing a sense of place. Efforts should be made to assess the existing tree canopy, preserving trees that contribute to the aforementioned values. The preservation of existing trees should be incorporated as exceptions to the recommendations described within these guidelines. The Landscape Plan can visually provide a hierarchy of space within the University’s boundaries. A more formal design along the University’s primary transportation corridors will provide clarity and delineate the boundaries between the University and surrounding city. Along the secondary corridors and pedestrian-oriented promenades, a variety of tree species can be used for beauty and shade. In the naturalized landscapes, a less rigid planting aesthetic is desirable. Additionally, water features such as fountains or pools can contribute to a naturalized landscape, while symbolically reaffirming South Carolina’s relation to the water.

Recommendations

Recommendations for MUSC are based on the Eastern Coastal Plain landscape. A basic framework includes the streetscapes, the main pedestrian promenades, and the cultivated or naturalized landscape. Streetscape landscapes on the campus would include Bee, Courtenay, Doughty, Ashley Street, President, Jonathan Lucas, Cherry, and Rutledge.

Streetscape

A good campus environment is one that is easy to understand without conscious attention. Clearly marked gateways, secondary entries, and a hierarchy of streets and passages enable visitors and residents alike to better comprehend and navigate the campus.

Streetscapes are composed primarily of rhythmic and uniform spacing of trees, lighting, signage and furnishings. Streetscapes also have the ability to establish hierarchical sequence of spaces that define the realms of circulation for both vehicles and pedestrians. For example, major gateways should link to major streets or spaces, minor gateways to minor streets, building courtyards and then buildings. The sequence of these spaces should enable people to form clear memories of the campus circulation system.

Tree selection and spacing is central to establishing streetscape character. The Sabel palmetto or cabbage palm has historically been associated with South Carolina. Its image is on the state flag as well as the state seal where it is symbolic of the defeat of the British fleet by the fort, which was built of palmetto logs on Sullivan Island. Incorporating it into the landscape plan solidifies the University’s regional identity in the state of South Carolina. The Sabel palmetto is the
recommended species to occur as an accent and to mark thresholds of the entrances to campus. Care should be taken to preserve the existing row of Palmettos along historic Calhoun Street, while planting new Palmettos to infill the existing voids along the corridor. Additionally, the Sabel palmetto should line the median of Courtenay Street.

The Live Oak is also a tree that is synonymous with South Carolina, especially along the Coastal Plain. Its aesthetic can be replicated along the primary street corridors through the planting of some of the faster growing Oak varieties that perform well in streetscape conditions. Here a diversity of Oak species such as Willow, White, Overcup, and Laurel are recommended in order to create a visually homogenous canopy, while avoiding possible biological damage that might occur in a monoculture planting. In a monoculture planting only one species is used. If that species is susceptible to a particular disease or insect that could destroy it, the entire planting is at risk. Therefore, a diversity of different species is recommended. The trees should be spaced every 50 feet on center, alternating species along rows.

Of equal importance is the manner in which street trees are installed. They must be given ample soil volume in which to grow and mature, as well as adequate moisture and drainage. In the more urban and heavily paved sections of street tree plantings, a successful method is to provide linear or connected planting strips with irrigation and drains as shown in the planting diagram.

Main Pedestrian Paths

The main pedestrian paths should utilize those species that give maximum shade while contributing to the beautification of the campus through features such as interesting flower, leaf, or bark texture. The following are recommended tree types for each area:

1. Red Maple, Riverbirch, Trident Maple
2. Southern Magnolia, Sweetgum, Eastern Redbud
3. Dogwood, Silverbell, Fringetree
4. Zelkova, Tulip Poplar, Crape Myrtle
Courtyards

The similar placement, size and shape of each courtyard is intended to give order and organization to the campus, while the unique character of each will lend variety. Differences occur in planting, ground surface, degree of enclosure, and placement of water features. The recommendations for the courtyard plantings are provided as part of the Plant Palette.
Plant Palette

- Streetscape - Canopy
- Streetscape - Understory
- Streetscape - Groundcover
- Open Spaces - Canopy
- Open Spaces - Understory
- Open Spaces - Groundcover
Street Trees

- Acer buergerianum
- Acer saccharum
- Fraxinus lanceolata
- Ginkgo biloba
- Koelreuteria paniculata
- Lagerstroemia indica
- Liquidambar styraciflua
- Liriodendron tulipifera
- Platanus x acerifolia
- Quercus alba
- Quercus laurifolia
- Quercus mariindica
- Quercus lyrata
- Quercus phellos
- Quercus stellata
- Quercus virginiana
- Sabel palmetto
- Ulmus parviflora
- Ulmus parviflora
- Ulmus parviflora
- Zelkova serrata

Cultivated Landscape Trees

- Amelanchier arborea
- Betula nigra
- Carpinus caroliniana
- Catalpa bignonioides
- Carya tomentosa
- Celtis laevigata
- Cercis canadensis
- Chionanthus virginicus
- Cliftonia monophylla
- Cornus florida
- Crataegus marshallii
- Cyrilla racemiflora
- Diospyros virginiana
- Fagus grandiflora
- Gordonia lasianthus
- Ilex vomitoria
- Juniperus virginiana
- Magnolia grandiflora
- Magnolia x soulangiana
- Magnolia virginiana
- Malus ssp.
- Nyssa sylvatica
- Nyssa sylvatica var. biflora
- Ostrya virginiana
- Pinus elliottii
- Pinus palustris
- Pinus serotina
- Pinus taeda
- Quercus laevis
- Rhamphodophyllum hystrix
- Styrax americana
- Symplocos tinctoria
- Taxodium ascendens
- Taxodium distichum
- Ulmus alatus
- Ulmus americana
- Vitex agnus - castus

Serviceberry
Riverbirch
Musclewood / Ironwood
Southern Catalpa
Mockernut Hickory
Sugar Hackberry
Eastern Redbud Tree
Fringetree
Buckwheat Tree
Dogwood
Parsley Hawthorne
Titi / Swamp Cyrilla
Persimmon
American Beech
Loblolly Bay
Yaupon Holly
Eastern Red Cedar
Southern Magnolia
Saucer Magnolia
Sweetbay Magnolia
Flowering Crabapple
Blackgum
Swamp Blackgum
Hop hornbeam
Slash Pine
Longleaf Pine
Pond Pine
Loblolly Pine
Turkey Oak
Needle palm
Storax / American Snowbell
Sweetleaf / Horsesugar
Pond Cypress
Bald Cypress
Winged Elm
American Elm
Chaste Tree

Proposed view of new tree plantings.
Shrubs

Aesculus pavia
Agarista populifolia
Callicarpa americana
Cephalanthus occidentalis
Clethra alnifolia
Cornus amomum
Croton alabamensis
Cycas revoluta
Euonymus americanus
Fatsia japonica
Illicium floridanum
Ilex coriae
Ilex decidua
Ilex glabra
Ilex verticillata
Leucothoe axillaris
Lyonia ferruginea
Lyonia lucida
Myrica cerifera
Myrica heterophylla
Nandina domestica
Nerium oleander
Osmanthus americanus
Pinckneya bracteata
Pittosporum tobira
Raphiolepis umbelata
Rhododendron atlanticum
Rhododendron viscosum
Rhus copallina
Sabal minor
Spanish Bayo
Serenoa repens
Styrax americana
Vaccinium arboeum
Vaccinium darrowii
Viburnum dentatum
Viburnum nudum
Viburnum obovatum
Yucca aloifolia

Herbaceous Plants

Amsonia cilanta
Aster oblongifolius
Baptisia alba
Ceratiola ericoides
Coreopsis rosea
Coreopsis verticillata
Echinacea pallida
Gaylussacia dumosa
Hibiscus aculeatus
Kosteletzky virginica
Lachnanthes carolina
Liatris pscnostachya
Penstemon digitalis
Phlox pilosa
Pityopsis graminifolia
Santolina chamaecyparissus
Spigelia marilandica
Stokesia laevis

Grasses

Andropogon gerardii
Andropogon ternarius
Andropogon virginicus
Aristida stricta
Chasmanthium latifolium
Ctenium aromaticum
Dichromena latifolia
Erianthus strictus
Fuerena squarrosa
Muhlenbergia capillaris
Panicum virgatum
Paspalum floridanum
Schizachyrium scoparium
Sorghastrum nutans
Sorghastrum elottii
Sorghastrum secundum
Spartina alternifolia

Texas Bluestar
Shale Aster
White Baptisia
Sanhill Rosemary
Pink Coreopsis
Threadleaf Coreopsis
Pale Coneflower
Dwarf Huckleberry
Pineland Hibiscus
Seashore Mallow
Redroot
Cattail Gayfeather
White Beardtongue
Downy Phlox
Golden Aster
Lavender Cotton
Indian Pink
Stokes Aster

Plant Palette

Big Bluestem
Splitbeard Bluestem
Broomseed
Wiregrass
Riveroats
Toothache Grass
White Topped Sedge
Plume Grass
Umbrella Sedge
Hairgrass
Switchgrass
Tall Paspalum
Little Bluestem
Indian Grass
Elliot's Woodgrass
Drooping Woodgrass
Salt Cord Grass
### Ferns

- *Asplenium platyneuron*  
- *Osmunda cinnamomea*  
- *Polystichum acrostichoides*  
- *Pteridium aquilinum*  
- *Woodwardia virginica*

### Groundcovers

- *Ajuga reptans*  
- *Aspidistra elatior*  
- *Hedera canariensis*  
- *Hypericum frondosum*  
- *Liriope muscari 'Big Blue'*  
- *Liriope spicata*  
- *Ophiopogon japonicus*  
- *Smilax pumila*

### Vines

- *Ampelopsis arborea*  
- *Bignonia capreolata*  
- *Campsis radicans*  
- *Clematis armandii*  
- *Cocculus carolinum*  
- *Ficus pumila*  
- *Gelsemium sempervirens*  
- *Parthenocissus quinquefolia*  
- *Rosa banksiae*  
- *Rosa carolina*  
- *Rosa laevigata*  
- *Smilax lanceolata*  

*Ebony Spleenwort*  
*Cinnamon Fern*  
*Christmas Fern*  
*Bracken Fern*  
*Large Chain Fern*  
*Peppervine*  
*Crossvine*  
*Golden Trumpet Vine*  
*Evergreen Clematis*  
*Carolina Moonseed*  
*Creeping Fig Vine*  
*Carolina Jessamine*  
*Virginia Creeper*  
*Lady Banks Rose*  
*Carolina Rose*  
*Cherokee Rose*  
*Greenbriar*  
*Bugle Flower*  
*Cast Iron Plant*  
*Algerian Ivy*  
*Golden St. John's Wort*  
*Big Blue Lily Turf*  
*Creeping Lilyturf*  
*Mondo Grass*  
*Dwarf smilax*
The proposed campus plan is organized by a series of courtyard spaces linked by a major pedestrian pathway. Although the courtyards are different in character, each is highlighted by a fountain or water feature. Water features add visual interest and focal points to outdoor spaces, and give the perception of cooling. These images of fountains and water features in Charleston and on other campuses show a variety of sizes and types, from serene, small reflecting pools to larger, active fountains.

Site Features - Fountains
Like fountains, sculpture can assist in placemaking throughout campus. Sculpture can represent a historical campus figure or event, or simply mark an important space with a piece of art.
1.4 Street Furniture

MUSC has an array of street furniture that is often randomly arranged and varied in type. These inconsistencies prevent a sense of unity and place throughout the campus. Benches, light fixtures, and waste receptacles are the most prevalent furniture components on campus, yet none of these items are “initialized” in a way that would associate them with the University.

The climate of Charleston lends itself to outdoor activity throughout the year. Streets and outdoor spaces are important places for these activities where the MUSC community can gather. Street furniture such as benches, planters, and lighting helps to enrich and animate these spaces. Providing standard furniture types in consistent arrangements identifies these spaces and streets with the University and gives them their own particular character. When installed campus-wide, these individual components work together to create a sense of place, providing clarity, organization, and unity throughout.
**Bench Place**

<table>
<thead>
<tr>
<th>Manufacturer:</th>
<th>Kingsley-Bate</th>
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</thead>
<tbody>
<tr>
<td>Address:</td>
<td>558-B Guinea Road</td>
</tr>
<tr>
<td>Phone:</td>
<td>703-978-7200</td>
</tr>
<tr>
<td>Fax:</td>
<td>703-978-7222</td>
</tr>
<tr>
<td>Model:</td>
<td>Hyde Park HP60, HP80</td>
</tr>
<tr>
<td>Size:</td>
<td>6'-8' length</td>
</tr>
<tr>
<td>Finish/Color:</td>
<td>Natural Teak</td>
</tr>
</tbody>
</table>

Bench placement should generally be horizontal, along sides of brick paths. Occasionally, benches should be placed facing each other so as to facilitate small group conversations.

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**Bench Anchor Details**

- **Bench anchor detail**
- **Bench anchor detail**
The arrangement of picnic tables must allow for easy access. Groups of tables must allow for wheelchair clearance and movement of benches. The placement of picnic tables should complement their surroundings and encourage student interaction within public gathering spaces.

Picnic table anchors are designed to limit the movement and arrangement of outdoor tables. This is important in maintaining the aesthetic quality and durability of these fixtures. Anchors should not be exposed or compromise the appearance of tables.

Manufacturer: Kingsley-Bate
5587-B Guinea Road
Fairfax, Virginia 22032
Phone: 703-978-7200
Fax: 703-978-7222

Model: Evanston Table TR66
Size: 66”x36”x29”H, 60”
Model: Evanston Backless Bench ET50
Finish/Color: Natural Teak
### Trash Receptacles

**Manufacturer:** Victor Stanley, Inc.  
Brick House Road  
Dunkirk, Maryland 20754  
Phone: 301-855-8300  
Fax: 410-257-7579

**Model:** Ironsides Bethesda Series S-424  
32 gal.

**Finish/Color:** PMS 288  
Polyester Powder Coat

**Special Features:** Rain Guard Lid  
Custom Lettering, White

![Victor Stanley Trash Receptacle](image)

### Trash Receptacle Lids

**Manufacturer:** Victor Stanley, Inc.  
Brick House Road  
Dunkirk, Maryland 20754  
Phone: 301-855-8300  
Fax: 410-257-7579

**Model:** Ironsides Bethesda Series, Lid  
S-42

**Finish/Color:** PMS 288  
Polyester Powder Coat

![Victor Stanley Lid](image)

Trash and recycling receptacles should be placed at regular intervals along the streetscape and at gathering areas. They should be placed discretely, to the side of spaces and paths. Custom MUSC lettering will identify areas as within MUSC boundaries.
Trash Receptacle Base Assembly

Manufacturer: Victor Stanley, Inc.
Brick House Road
Dunkirk, Maryland 20754
Phone: 301-855-8300
Fax: 410-257-7579

Model: Ironsides Bethesda Series
Base Assembly, S-42

Finish/Color: PMS 288
Polyester Powder Coat

Cigarette Urns

Manufacturer: Victor Stanley, Inc.
Brick House Road
Dunkirk, Maryland 20754
Phone: 301-855-8300
Fax: 410-257-7579

Model: Ironsides Bethesda Series S-20

Finish/Color: Black Polyester Powder Coat
Recycling Receptacles

Manufacturer: Victor Stanley, Inc.
Brick House Road
Dunkirk, Maryland 20754
Phone: 301-855-8300
Fax: 410-257-7579

Model: Ironsides Bethesda Series S-424
24 gal.

Finish/Color: Black Polyester Powder Coat
Custom Lettering, white
Custom Recycling Lid
(Black with white lettering)

Victor Stanley Recycling Receptacle with Lettering and Custom Lid
Bike Racks

<table>
<thead>
<tr>
<th>Manufacturer:</th>
<th>Madrax</th>
</tr>
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<tbody>
<tr>
<td>Address:</td>
<td>2210 Pinehurst Drive</td>
</tr>
<tr>
<td>City:</td>
<td>Middleton, WI</td>
</tr>
<tr>
<td>Zip Code:</td>
<td>53562</td>
</tr>
<tr>
<td>Phone:</td>
<td>608-831-9040</td>
</tr>
<tr>
<td>Fax:</td>
<td>608-831-7623</td>
</tr>
<tr>
<td>Model:</td>
<td>HW238-13,-9</td>
</tr>
<tr>
<td>Size:</td>
<td>11 and 7 Loop Heavy Duty Winder</td>
</tr>
<tr>
<td>Finish/Color:</td>
<td>PMS 288 (Black) Polyester Powder Coat</td>
</tr>
<tr>
<td>Special Features:</td>
<td>In-ground mount</td>
</tr>
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</table>

Placement of bike racks should be easily accessible to bikers yet should not clutter building entrances or open spaces.

![Madax Bike Rack](image)

![Bike Rack Anchor](image)
Manufacturers:

**Dura Art Stone**
100 Lee's Mill Road
Forest Park, Georgia 30050
Phone: 404-763-9000
Fax: 404-763-9001

**Model:**
- Design X
  Mediterranean Round Planter
  Cast Stone
- Color: Slate Gray, White, Nordic Cream
- Finish: Acid Etch

**Design X, Mediterranean Round Planter**

Manufacturers:

**Dura Art Stone**
100 Lee's Mill Road
Forest Park, Georgia 30050
Phone: 404-763-9000
Fax: 404-763-9001

**Model:**
- Design Z
  Mediterranean Rectangular Planter
  Cast Stone
- Color: Slate Gray, White, Nordic Cream
- Finish: Acid Etch

**Design Z, Mediterranean Rectangular Planter**

Planters should be placed along pedestrian paths, open spaces, and at building entrances. Their size and shape may vary, although their color and material should remain consistent. Plantings should be seasonal and colorful.
Lighting has a major role in expressing the presence of the University. Although existing fixtures are functional, they vary in appearance and placement. An even spacing of fixtures along paths and roads creates a unified sense of place. The consistent placement of lighting would help achieve several goals:

- create an inviting environment and a presence for the University at night
- ensure safe pedestrian and vehicular travel
- enhance security
- accentuate key aspects of the University
- direct pedestrians through the campus

Where larger street fixtures are deemed necessary for vehicular safety, city standards should be utilized.

Lighting at sidewalks and pedestrian paths

Manufacturer: Hadco
P.O. Box 128
Littlestown, PA 17340
717-359-7131
Model: Citadel V25
Size: 12' Mounting Height
Finish/Color: A (Black)
Lamp Type: White Metal Halide
Existing Signage is consistent in color but often oversized and randomly placed. Signage should be consistently placed and sized, coordinated into the system of gates & walls, lighting, and other site equipment.
BUILDINGS

The creation and improvement of campus buildings incorporate the basic principles outlined for the improvement of campus grounds:

Creation of Open Spaces
Buildings are placed to define the proposed sequence of open spaces. Interior spaces are shown as having a strong relationship with exterior spaces, forming a coherent, cohesive campus plan.

Well-defined Campus Boundaries
Proposed buildings help define street edges. Careful consideration will be given to the transition of scale between MUSC and surrounding properties. Growth is proposed within a defined, limited area; this will strengthen the identity of the campus and reduce the impact on surrounding communities.

Pedestrian-friendly Campus
Growth is proposed within a five minute walking radius of central campus. Buildings allow easy connections to open spaces and other buildings. Ground-level porches provide shaded walkways and gathering spaces for the MUSC community.

Removal of Surface Parking
Additional parking decks are proposed at the perimeter of campus, freeing land for additional open spaces and buildings.
2.1 Architectural Guidelines

Existing Buildings

Like many other medical campuses, MUSC’s physical growth has been driven largely by demands for space, often without consideration for a coherent campus aesthetic. Buildings were built or purchased that exhibit a variety of heights, materials, entries, window proportions, roof forms, and general architectural styles. In addition, the placement of the buildings seems to have occurred without regard for the spaces between them, adding to the lack of a coherent campus environment.

Proposed Buildings

Future buildings are placed to create edges to streets and open spaces. These guidelines do not propose a particular architectural style or aesthetic, as there is no prevailing architectural style on campus. These guidelines do establish a set of overall goals:

- The balance of buildings and open spaces.
- A consistent architectural palette of materials, entrances, windows, bridges, and loggia.
- Building heights and elements of scale that are sensitive to adjacent residential and historic neighborhoods.

Specific recommended locations for new buildings as well as for roads, parking areas, service courts and walkways are indicated on the Campus Plan. While detailed footprints, massing and architectural treatment will need to be worked out at the time of they are implemented, the recommended sitings are vital to the success of the plan. Together with appropriate landscape development, they will help create a more unified campus setting.
Overall Architectural Goals

The Balance of Buildings & Open Spaces

Critical to MUSC’s growth is the infilling of future buildings within the existing campus such that clear, memorable open spaces are formed. New buildings should be placed in locations that reinforce existing spatial relationships or create new spaces. Generally, new buildings should be aligned along open spaces, forming an architectural edge and enclosing space, thereby forming clear quadrangles and pathways. These simple guidelines intend to give a cohesive character to the campus and create more coherent transitions between campus spaces.

In initiating the design process for any building or open space, design teams should begin with a comprehensive look at the campus context. A primary goal of all building projects should be to create clear open spaces that connect to one another and to existing and proposed adjacent spaces. In this regard, buildings should be budgeted to extend their site work as far as reasonably possible. In the schematic design phase, site plans should show the ground floor plan of the buildings within the overall campus context. Elevation studies should also include as much context as possible.

A Consistent Architectural Palette

These guidelines do not advocate the replication of historic buildings, but rather suggest that basic principles can be derived from existing campus buildings that are admired for their aesthetic qualities, such as the Nursing School and Hollings Cancer Center. With the use of a consistent yet inventive architectural palette with similar scale, proportions, form, materials, and hierarchy, one can design in harmony with the best of MUSC’s buildings and forge a relationship with the architecture of Charleston.
Sensitivity to Surrounding Neighborhoods

Proposed building heights are responsive to the scale of the adjacent residential neighborhoods. The tallest six and seven story heights are oriented towards the interior of the campus with a stepped section that presents a lower 4-story face along Bee Street. The 55' height at the street is compatible with other existing buildings in the area and reinforces the spatial quality of the street by creating a strong edge and cornice line. In addition, the buildings proposed along Bee Street are articulated in plan to create a modulated rhythm of individual buildings that reflects other parts of the street.

Along the northern edge of campus, where the Spring/Cannon Corridor Study proposes a gateway park, the MUSC plan indicates new buildings framing an entry to the campus.

Massing studies advocate the implementation of elements of human scale at the street level of the buildings. Careful attention should also be paid to the treatment of mechanical penthouses and service zones. While these are essential to the functions of University, they can be incompatible with neighbors in some settings. The images above are intended as examples in which the mechanical systems are successfully integrated with the overall architectural design of the buildings.

In summary, the sustained implementation of MUSC’s Master Plan relies on the establishment and maintenance of a core set of basic principles of campus buildings. The successful implementation of these principles is intended to create a coherent campus with a strong sense of place that also fits well into the fabric of Charleston.
The proposed research buildings along Bee Street and Courtney Street functionally require internal connections between buildings that will be achieved with a system of single level bridges at the second floor. The buildings and bridges together will create gateways into the open spaces that they help to define. It is anticipated that each these buildings may be built in two phases and connected by a central public space. Multiple entrances and ground level loggia or porches within each block will establish a strong relationship between buildings and open space and create a positive interaction with the sidewalk.
The massing of the proposed buildings along Bee Street is developed in plan and in section to achieve a scale that is compatible with the adjacent neighborhood. Stepping the buildings in section, a strong cornice line will emphasize an appropriate height of 4 stories to define the street edge. The articulation of recessed and projecting bays in plan will create a rhythm of multiple buildings along the street found in other areas of Charleston. The historic brick wall along Bee Street will remain and further reduce the impact of the buildings on the pedestrian experience of the street.

The bridge system will create an opportunity to further relate the buildings to the scale of the surrounding neighborhoods by creating a two-story datum common to each of the buildings. While functioning as bridges to connect the interior circulation of the buildings, they are also conceived as gateways to the campus for those passing beneath.

“Bridge” Building Type - Massing & Building Height
The city of Charleston provides many examples of parking decks that are well designed and detailed to fit in with the scale and character of their surroundings. In addition to being convenient and functional, structured parking decks can have the architectural integrity to make a positive contribution to the physical environment.

Future decks are proposed at the perimeter of campus and therefore need to respond to the context of the city in the design of their facades, landscaping, and entry. The placement of occupied spaces at street fronts and ground levels is recommended at future decks as a transition between parking and other uses. Screening devices, such as plantation shutters, not only hide cars from view but also create a sense of scale while providing necessary ventilation. Appropriate plantings can also greatly enhance the visual appeal of decks.
A consistent palette of materials should be used for all future MUSC buildings to help create a unified and coherent physical appearance to the campus. New buildings should complement the existing buildings where appropriate and create a strong sense of campus identity.

The material selection is conscious of the materials of the existing palette on campus, as well as materials that are common to the area in general. Buildings should be predominately clad with a red brick similar in color to that of the more historic buildings on campus. Limestone or pre-cast concrete should be used at building bases, window sills and lintels, door frames, belt courses, columns, loggia features and steps. Decorative ironwork in the Charleston tradition is especially appropriate for grates, handrails and other decorative accent features.

Materials
Several existing buildings on campus provide examples of incorporating architectural features that create a character and scale appropriate to a campus in the context of Charleston. In materials, massing, and details these buildings have an architectural integrity that is responsible for them being consistently cited among the “favorite buildings” on campus by the campus community.
All buildings should have clear and well-defined points of entry. Multiple entrances are encouraged to establish strong relationships between buildings and open space and to create a positive interaction with the walks. However, a hierarchy should be created for the entrances of each building so that one “main” entrance is clearly understood. The pedestrian circulation system should reinforce the hierarchy of entrances on campus.

All entrances should be vertical in proportion and clearly express a sense of threshold. Building entrances adjacent to major open spaces should have a clear entry from that space. Entrances should be well-lit and all major front doors identified by building name to assist visitors in wayfinding. Service entrances should be screened from view and located away from front doors.

Building Entrances
Existing bridges on campus generally seem architecturally unrelated to the buildings they connect. The bridges from the Administration Building, while functional, are constructed of materials and window proportions unlike those of either the Basic Sciences Building or the Administration Building. They appear foreign and unrelated to the overall campus environment.

Bridge spanning Ashley Street

Bridge from Administration Building to Basic Science Building

Bridge from Administration Building to Hospital

Existing Campus Bridges
Bridges between buildings form physical thresholds to the spaces beyond. They are as significant to those passing beneath as to those walking within and therefore provide opportunities to create memorable gateway identities.

New bridges are conceived as extensions of the second floor of the buildings they connect, architecturally integrated yet visually interesting to reinforce the role of gateway. The bridge at President Street provides a unique opportunity to create a vehicular gateway at the heart of campus and its design should reflect this intent.
In the tradition of Charleston and its many porches and gardens, porches or loggia are shown on the ground floor of many proposed buildings. Located on the courtyard side, these loggia are intended to provide shaded gathering spaces overlooking and accessible to future open spaces, gardens and fountains. A one or two story loggia can serve as an element of scale between a pedestrian and a tall building, and create a transitional zone between interior and exterior spaces. To establish a coherent, unified identity for campus buildings, a consistent column spacing should be maintained from building to building.

Loggias
The MUSC campus is comprised of buildings of diverse styles built in different time periods. This variety in building aesthetics contributes to a lack of coherence among campus buildings.

Windows on existing buildings vary from horizontal strips of reflective glass to deep, punched openings with limestone lintels. To develop a consistency yet maintain variety, future buildings should generally have windows in vertical openings with clear glass; grouping, composition, articulation and character may vary.

Windows
Where steps or ramps occur along pathways or porches, handrails are necessary to provide support to users. All campus handrails should follow guidelines for layout and connections. Handrail posts should be firmly anchored to insure stability. Handrails adjacent to building walls should be a minimum of 3 inches from the wall surface. Consistent use of the lamb’s tongue end piece will increase formality and promote consistency throughout campus.
See path - post connection

Bottom rail end post

Post may be poured integral w/ footing or may be set into sleeved joint.

Brick path - post connection detail

Handrails
Guardrails

See handrail detail

Note:
1. Guardrail height varies from 34" - 42" according to code.
2. Guardrails shall be primed and painted with 2 coats black paint.
3. All joints to be welded.

Cross section of railing

Typical Guardrail Elevation and Detail

Finished grade

Set pipe in quick-setting hydraulic cement. Pipe to be placed in lead sleeve. Top of sleeve to be flush with ground surface.
The sketches on the following pages attempt to diagram how buildings of various proportions can benefit by incorporating scale-defining elements in their facade design. The sketches are not intended as specific proposals but rather to simply illustrate the application of basic design principles to existing building types on campus.

The basic architectural design guidelines proposed for MUSC include the following concepts:

- Wall plane, with horizontal and vertical divisions, is organized by base, middle, and top
- Repetitive openings at regular intervals with hierarchical definition at entry and top
- Wall versus Frame reading at center to further articulate base, middle, top and to vertically emphasize the center and end bay organization
Existing Building

Tower  
Horizontal Reading Base, Middle, Top  
Articulation of Entry and Top  
Wall vs. Frame at Middle
The intention of the architectural guidelines is to set priorities and criteria through which all individual buildings or site improvement projects can be addressed simply and elegantly. They are established to provide a general level of direction necessary to create a coherent campus, yet provide enough latitude to allow flexibility and change, design creativity and building individuality.

The accompanying sketches represent options for the design of a building on campus based on general architectural guidelines for scale, materials, massing, and fenestration. The results of an abbreviated design exercise, the sketches represent numerous possible options that would be consistent with the guidelines to create the desirable architectural quality on the MUSC campus.
Renderings of MUSC Campus by Peter Lorenzoni
The Medical University of South Carolina
Campus-Wide Facilities Master Plan