MINOT STATE UNIVERSITY
LANDSCAPE MASTER PLAN

Design Development Submittal 2008

The Clark Enersen Partners

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I. INTRODUCTION

Background

In the fall of 2005, Minot State University (MSU) hired The Clark Enersen Partners to prepare a Campus Master Plan to help guide the University in the physical development of the campus for the future. The planning consultants met with President David Fuller and a Steering Committee over eighteen months and the final document was submitted in May 2007. At the completion of the Campus Master Plan, the Clark Enersen Partners was hired to prepare a Landscape Master Plan to provide defining detail and facilitate implementation of the landscape portion of the Campus Master Plan. This document is the conclusion of that effort.

The Minot State University campus is located in a unique geological area at the base of a coulee formed by glacial activity. The distinctive characteristics of the land in this location influenced how it was laid out initially and how it evolved over the following century. This Landscape Master Plan builds from this distinct beginning and attempts to reflect and communicate the uniqueness of this part of the country.

This plan focuses on two elements that help create a thriving college campus -- uniqueness of place and student engagement. In a survey to assess the common characteristics of campuses highly successful in recruiting, retaining, and graduating students, (Student Success in State Colleges and Universities, AASCU, September 2005), a team of evaluators noted that "student success at these institutions is more a product of an over arching shared culture than it is a result of a more narrowly-conceived, deliberate 'retention effort'." They noted that students at these successful campuses sensed an "institutional mission that recognized the campus as 'distinctive' or special."

In a paper to faculty and campus leadership entitled "MSU Planning and Vision" (January 18, 2006), Dr. David Fuller quoted bio-regionalist Wendell Berry who said, "With a sense of place, your identity is defined—to a significant extent—by the natural features of the place where you live." Expanding on this idea, Dr. Fuller wrote, "I believe that we have an obligation to teach students about the place where they live, and to understand the value and richness of our place, to use our economy, our arts, our history, our writing, our politics, our sciences, our environment and the other subjects of our university's keen interests. We need to instruct them not in the abstract, not in a detached or generalized way, but as it is in our local place, in its reality, and in its real presence. Henry David Thoreau claimed that truth was right under his nose, not somewhere else in far off lands or places. Our obligation to our youth in North Dakota is to allow them to know the truth of this place, its contrarieties, its richness, its beauty, its diversity, its cultural sophistication, and its depth. We have a profound opportunity to show students from elsewhere those truths about our place, too. If we can't help students develop an appreciation, knowledge, and intellectual sense of this place in the Great Plains, in northwestern North Dakota, in Minot, then why should we be surprised and discouraged that some decide to leave?"

Landscape Master Plan Purpose & Scope

As mentioned, this project involves developing a campus Landscape Master Plan at Minot State University which is aligned with the notion of **place** and **engagement --** dominant themes represented in the University's strategic vision and plan. The purpose of the project is also to create a safer, aesthetically-pleasing campus environment that supports increased social activity among students, faculty, staff and visitors. It is designed to help sustain a learning environment that is integrated with all of campus life, and connected to the unique natural and historical sense of place of North Dakota.

The Landscape Master Plan is intended to provide guidance to facilities staff in developing and prioritizing future landscape projects, adequate design direction for private contractors and nurseries to develop bidding and construction documents to implement projects over time.

Overview of Document

Chapter I of this document outlines the goals of the Landscape Master Plan developed in discussion with the steering committee.

Chapter II provides an overview of existing conditions and a topographic survey of the campus.

Chapter III describes the schematic concept background on which the Design Development Recommendations are based. It describes the intellectual foundation and the framework for applying the concept in eleven zones (A-K) on campus, each with distinct requirements, particular to location and context but integrated into the campus as a whole.

Chapter IV of this document outlines specific Design Development recommendations and detailed landscape planting plans. This section will provide the most helpful, location-specific guidance to MSU staff, consultants, and contractors when individual projects are implemented.

Chapter V outlines helpful information for implementing projects over time. It includes Design Development budgets for each of the eleven zones, and an Outline Specification listing the potential specification sections relevant to the recommended projects. Final Specifications detailing the specific products and execution methods required for each project must be developed as part of the construction documents generated for each project at the time they are implemented.

Chapter V also includes updated information on those areas of campus where current thinking differs from that of the Campus Master Plan. Changes are noted in red throughout the document, and the updated information is illustrated at the end of Chapter V.

Acknowledgements

The design team would like to thank the following individuals for their assistance in developing the Landscape Master Plan.

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Ursula Schittkio, Department of Biology
Dieter Hermsmeier, Department of Chemistry
Chris Beachy, Department of Biology
Joseph Jastrzembski, Department of History
Johnny Coomansingh, Department of Geography
Bethany Andreasen, Department of History
Neil Nordquist, Dean, College of Education and Health Sciences
Walter Piehl, Department of Art
Gary Ross, Interim Dean, College of Business
Rick Hedberg, Director, Athletics
Gary Rabe, Vice President, Academic Affairs
Linda Olson, President, Faculty Senate
Linda Cresap, Dean, Graduate School
Linda Benson, President, Staff Senate
Cathy Horvath, Director, Information Technology

Landscape Master Plan Goals

Several goals were identified for developing the Landscape Master Plan. They can be grouped in four categories -- circulation goals, community goals, meaning and context goals, and sustainability and functionality goals.

Circulation Goals

The landscape should enhance pedestrian and vehicular circulation on campus.

- Increase safety on campus by slowing traffic and minimizing pedestrian/vehicular conflicts.
- Develop a pedestrian circulation corridor through the “heart” of the campus.
- Create a strong sense of entry to the campus core for pedestrians and vehicular traffic.
  Provide emergency, service and delivery access through the campus.
- Provide accessible routes, parking spaces, etc. per ADA guidelines.
- Improve existing campus entry points and edges.
- Create linkages from the campus core to the adjacent community.

Community Goals

The landscape should reinforce a sense of community for learning, living and understanding.

- Enhance and support on-campus student experiences by creating places for a variety of academic, social, recreational and cultural experiences.
- Encourage interaction between students, faculty, staff and community.
- Design in response to the regional flavor, aesthetic context, and the campus’ original pastoral design sensibilities.
- Create outdoor places for learning.
- Create connections between existing and new activity areas.
- Create opportunities for community engagement and support opportunities for community, leader, and donor recognition.
- Provide quiet places for student study and relaxation.

Meaning & Context Goals

The landscape should convey a sense of place, history and meaning unique to Minot, ND.

- Communicate Minot State University values and mission in the design and execution of the project.
- Develop additional campus landmarks.
- Develop the landscape adjacent to Main to emphasize the building's importance as the campus' physical and ceremonial center.
- Incorporate information or details in the landscape to convey historical, cultural, and ecological context.

Sustainability & Functionality Goals

The landscape should conserve natural resources and promote functionality, and be easy to maintain.

- Promote low maintenance and native landscapes.
- Design safe spaces with appropriate lighting, pathway design, and landscape.
- Maintain access to underground utilities and upgrade utilities as needed.
- Create a sustainable landscape ethic.

The over-arching goal of the Minot State University Landscape Master Plan is to develop the campus landscape to align with the notion of ***place*** and ***engagement.***

II. EXISTING CONDITIONS

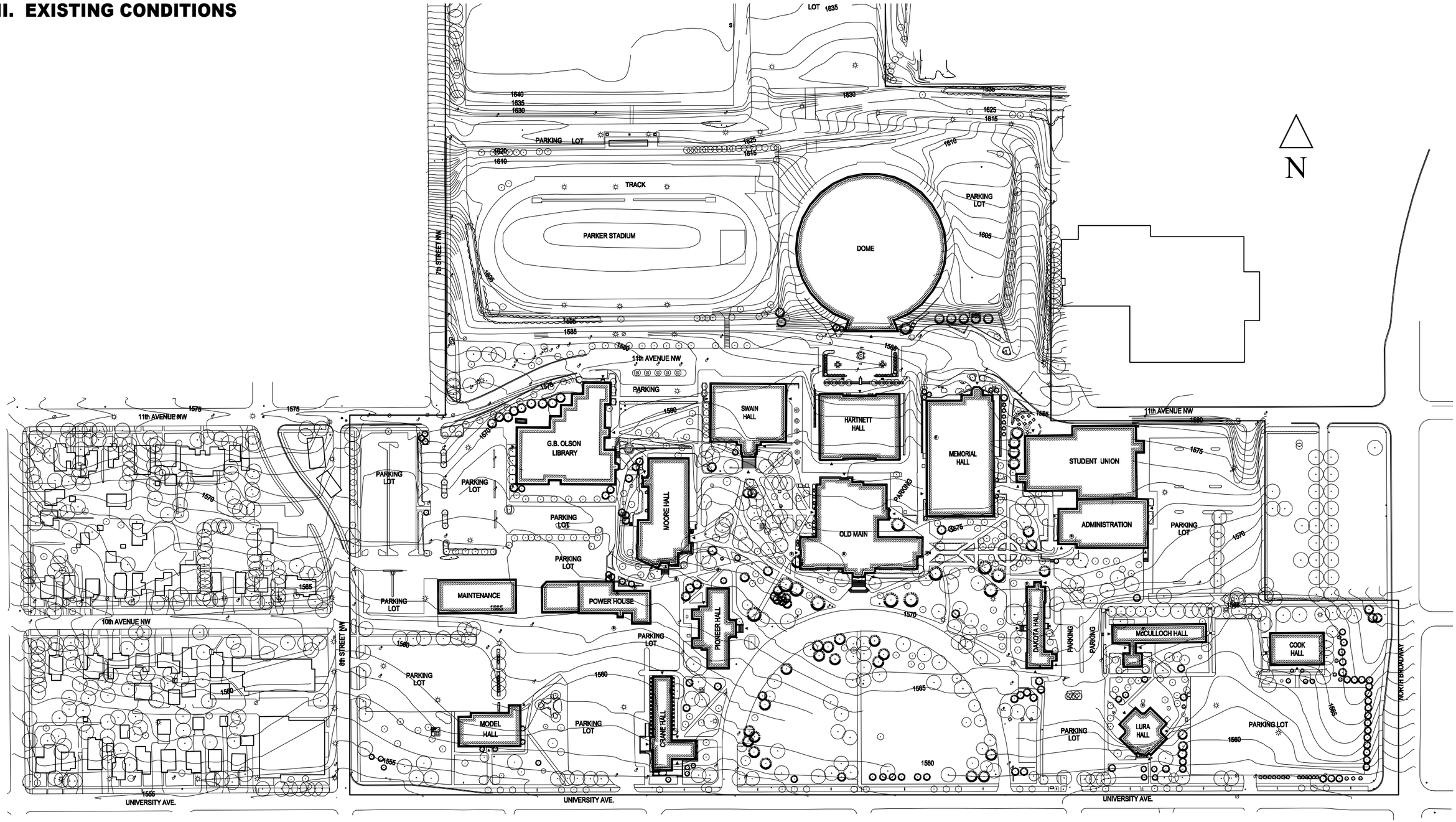


Fig. 1. Topographical Survey

II. EXISTING CONDITIONS

A plan indicating existing topography is shown in Figure 1 on the previous page.

The core of the Minot State University campus lies between 11th Avenue and University Avenue, 8th Street to Broadway. The majority of campus buildings and open spaces are located within this zone which generates a tremendous amount of pedestrian activity. Primary access drives that serve campus are located at the perimeter of this campus core area and include 11th Avenue, Broadway Avenue, and University Avenue.

The existing campus landscape is typical of many colleges and universities located in the United States. The landscape is dominated by large over-story and ornamental trees. The landscape is well maintained and much effort has gone into replacing and adding to the tree inventory. However, even though the natural landscape, topography and geography in and around Minot, North Dakota exhibit very unique “place” defining characteristics, the existing landscape character of Minot State University does not reflect or reinforce those unique characteristics.

The following are some general observations of existing conditions on campus:

Signage

- While current signage conveys basic information, it does not communicate the unique sense of place of the MSU campus.

Parking Lots

- Changing current parking islands into green islands is a more seamless approach to integrate parking into the landscape.
- Parking is operational but not integrated into the landscape.

Views & Vistas

- Views of current buildings and areas can be framed to accent the best features.
- Although well-maintained, current plantings do not communicate the unique character of Minot State University.
- Views into campus can be focused onto buildings and areas the university wants to highlight.

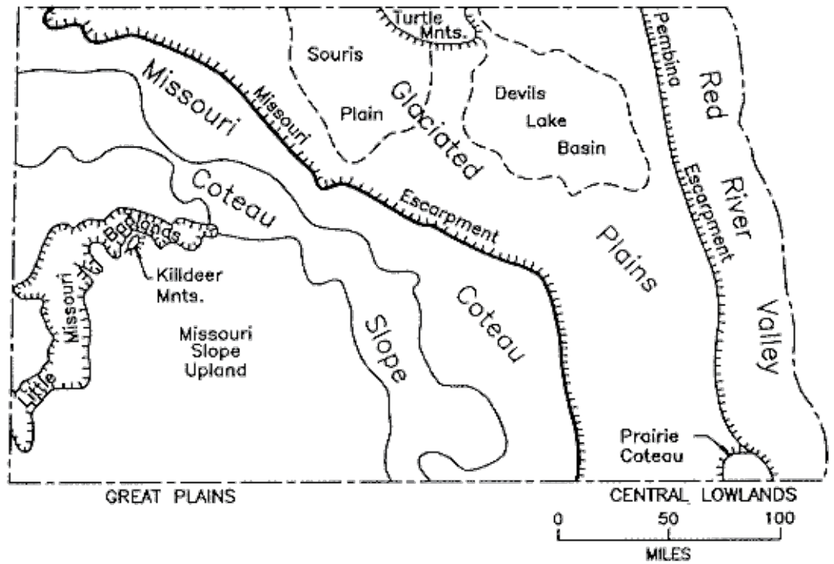
Plantings

- Current tree inventory is well-maintained but does not mirror the unique character of the university or the regional context.

III. SCHEMATIC CONCEPT

Uniqueness of Place

The campus landscape design concept is based on utilizing the vernacular of the North Dakota Great Plains environment and geography as design elements to reinforce sense of place, community and regional identity. A number of natural and historical features unique to the geography of North Dakota have been incorporated into the development on the plan. They include the following:



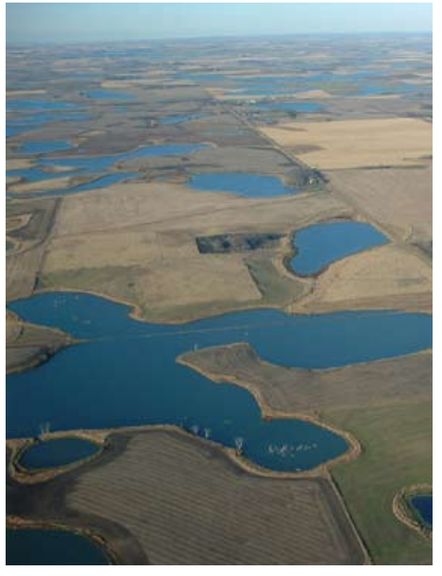
Coulees. Coulees were formed by glacial flood water and historically provided protected areas for plants and animals to be sheltered from the vagaries of the northern Great Plains climate. Consequently, they became natural places for various ecological and social communities to form and develop. At MSU, the coulee land form can be employed as a metaphor through the combination of existing building massing and proposed earth berming to define pedestrian corridors and gathering areas to help develop campus community.

Eskers. Eskers are long, winding earth mounds that were formed from rivers and streams flowing on or below receding glaciers. Ice-thrusts are irregular mounds of rock and sediment deposited by glacial movement. Drumlins are long ridges of rock and sediment deposited by glacial movement.

Moraines and Potholes. Dead-ice moraines and prairie potholes are the result of glacial activity that have helped create a unique wetland landscape character in areas of North Dakota.

Ice Drag. Ice drag is a feature that was formed by ice bergs as they moved across the sediment on the bottom of glacial Lake Agassiz.

At MSU, the basic form and composition of these various land features can be utilized when developing the shape, pattern and topography of campus outdoor spaces.



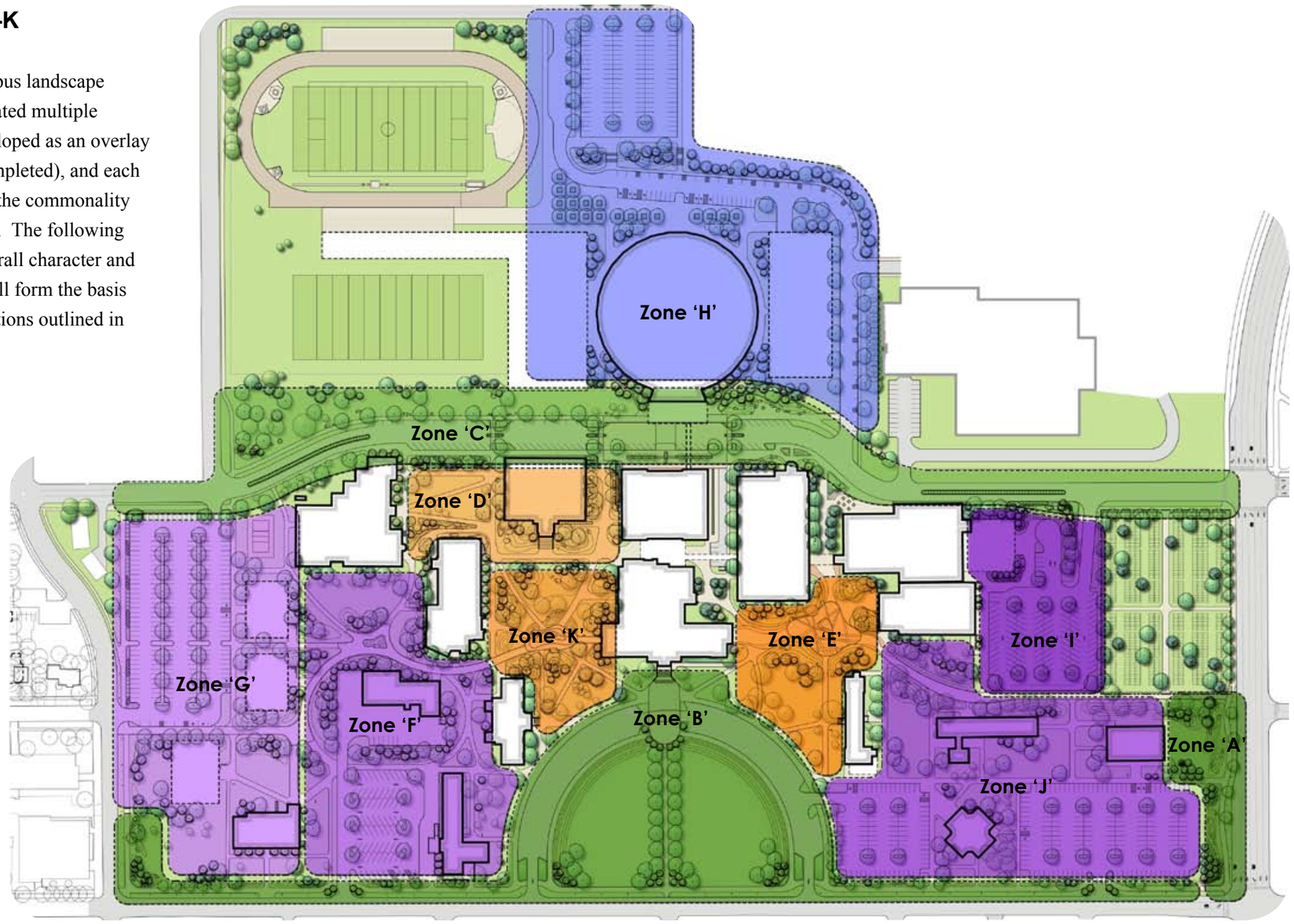
Human Impact. Human influences on the landscape at the MSU campus site can best be illustrated by the following event chronicled on page 5 in the 1976 Beaver, Volume 54: “One of his (A.G. Crane) first acts as president was not done in his office, but rather by dark of night, for another dispute had arisen, this one over where to put Old Main. One group favored a location closer to Ninth. Crane favored a site further back. In a compromise move, the stakes were set halfway, but Crane slipped out that night and moved the stakes back. In the next few days, he got into his Overland and drove a wide sweep from Ninth, across the prairie past the clandestinely located stakes, and back to Ninth. His wheels tracks became the circular driveway, one of the campus landmarks.” Preservation of existing important landmarks, including buildings should be part of any future planning process at MSU.

Till is a deposit of rock and soil that was blanketed over the land surface by a receding glacier. Similarly, campus landscape features at MSU should be designed as layers, or “blankets” over the Minot land surface.

Glacial Erratics. Glacial erratics are boulders and rocks deposited by receding glaciers. Some of this material was moved a short distance, but other material was moved hundreds of miles. The result is that materials of different composition and from various areas are located together. Metaphorically, the MSU campus community is a collection of glacial erratics -- a diverse group of people comprised of different cultures, backgrounds, and origins that have been re-distributed and located together. Literally, erratics can be utilized in the campus landscape as sculpture, sign foundations, benches and other site amenities.

Campus Framework: Zones A-K

In order to organize the design of the campus landscape plan, a framework was developed that created multiple development zones. The zones were developed as an overlay of the campus master plan (previously completed), and each area's boundary was defined according to the commonality of design goals and objectives for the area. The following narrative provides a description of the overall character and general proposed for each zone, which will form the basis of the Design Development Recommendations outlined in section IV of this document.



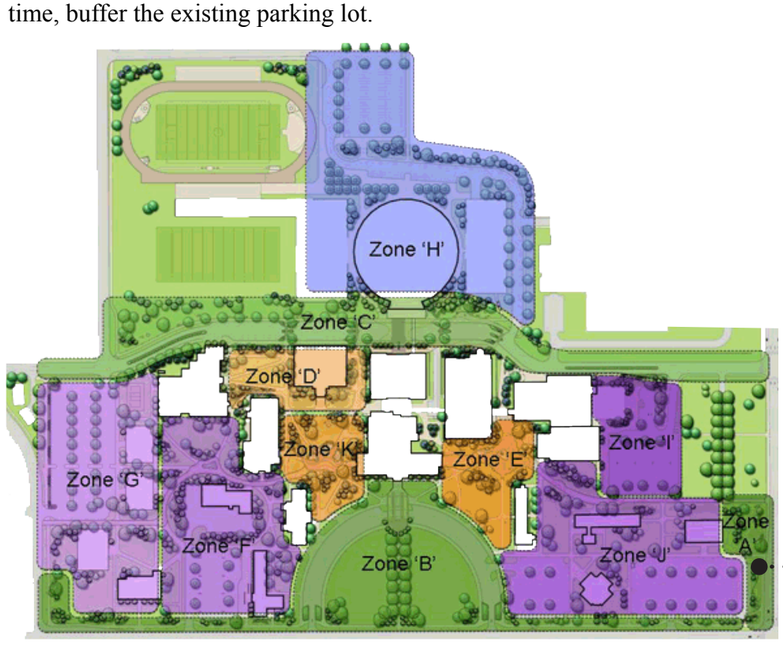
Zone A: Broadway Corner

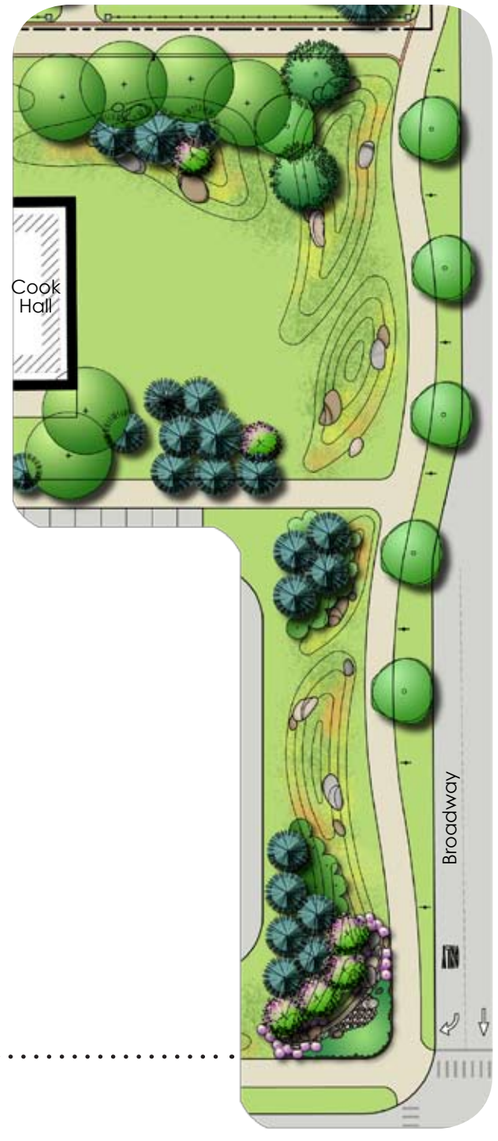
Monument Signage. Incorporate a new monument sign at the corner of Broadway and University Avenue. The monument sign should be designed with a base that incorporates the use of North Dakota stone or rock. The sign design should be integrated with new landscape that is representative of the North Dakota environment.

Landscaping. The existing landscape in this zone should be modified to open views into campus. Some of the existing evergreens located to the east of the existing parking lot should be removed or relocated to another area of campus. A few of the existing evergreens should remain in place. It is imperative to open views into campus at this location, but at the same time, buffer the existing parking lot.

New landscape should be installed in this zone to reinforce the campus design concept. New earthforms that represent North Dakota geology should be introduced as a part of the sign installation and also to help buffer the parking area. Ornamental grasses, wildflowers and native shrubs (especially evergreen species or shrubs that exhibit excellent winter bark and fruit characteristics) should be utilized at this location. This corner of campus is the most visible to the community and needs to be designed as a four-season landscape.

Streetscape. The landscape directly adjacent to Broadway should be designed as a streetscape that combines the Minot State University landscape aesthetic with the City of Minot landscape design goals for the Broadway street improvements project. Integrate the campus landscape with the community streetscape.





Zone B: Ellipse

Street Trees. Existing overstory elm and boxelder trees adjacent to University Avenue were removed in order to accommodate new ornamental lighting. New crabapple trees (a mix of red and white flowering species) have been purchased by the University for placement adjacent to University Avenue. Locate groupings of these trees near University Avenue driveway entrances. In order to comply with a more naturalistic planting concept, avoid alternating tree colors. Locate new trees between the driveway entrances, or locate groupings of same color species in the lawn area between the Main loop drive entrances. Do not install new trees to create a formal planting line adjacent to University Avenue. Install in natural groupings that create or accentuate views into campus from the street.

Open campus views from University Avenue into campus. Identify additional existing trees to be removed in the future in order to implement this idea (especially at the Main entrance drive).

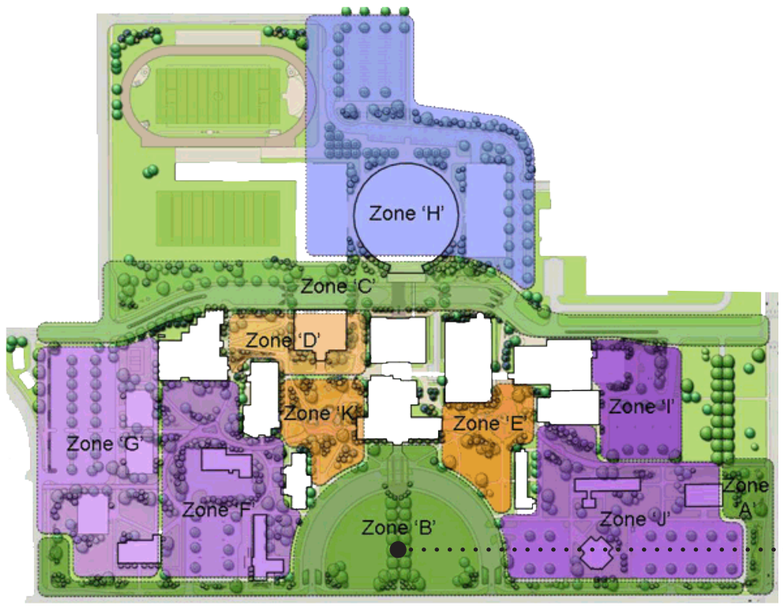
Earthwork. Incorporate new earthforms along University Ave. between the sidewalk and parking areas. This earthwork should be accomplished over a number of years in conjunction with tree removal and replacement operations.

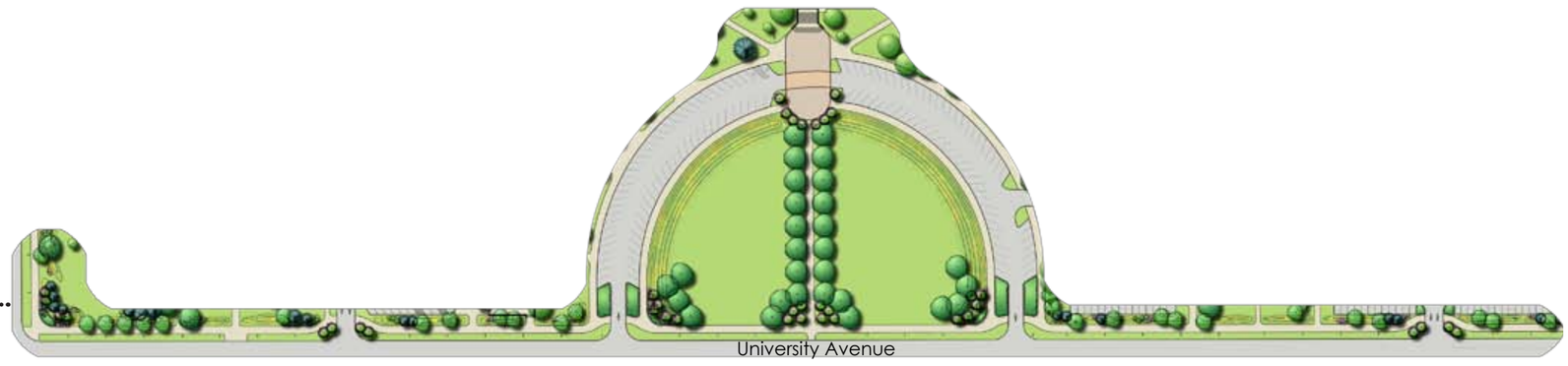
Streetscape. Create a continuous, well maintained (and aesthetically pleasing) sidewalk adjacent to University Avenue. Design new sidewalk pavements at driveway entrances to incorporate planting areas and entrance signage.

Parking. Add parking spaces along the Main loop drive and develop a pedestrian crossing south of the Main entrance that could be closed off to traffic during gatherings.

Low Landscaping. Emphasize the new design concept with ground level landscape along University Avenue, including the interior of the Main entrance drive. Integrate maintained turf, prairie grasses and wildflower areas. Design this material to integrate with the ground level landscape adjacent to Broadway.

Signage. Incorporate a new monument sign at the corner of University Avenue and 8th Street. The monument sign should be designed with a base that incorporates the use of North Dakota stone or rock. The sign design should be integrated with new landscape that is representative of the North Dakota environment.





Zone C: 11th Avenue NW Corridor

Vehicular Traffic. Re-open and re-configure 11th Avenue to be continuous from Broadway to 8th Street. Remove the existing plaza between the Dome and Hartnett.

Pedestrian-orientation. 11th Avenue should be designed as an active, lively streetscape for pedestrians. Street design geometries and details should "calm" vehicular traffic (reference Woonerf, or "Living Street" design principles). The street needs to be transformed from its current condition to a pleasant, memorable campus pedestrian dominated space. The south Dome entrance plaza should dominate the design on the north side of 11th Avenue. A continuous connecting sidewalk should dominate the design on the south side of 11th Avenue.

Streetscape. Ornamental lighting with banners should be installed in the sidewalk areas along the entire length of the street from the Student Center to the Library. The streetscape development on the south side of 11th Avenue between the Library and Swain should extend conceptually into the lawn area between the Library and Swain.

Develop the 11th Avenue corridor cross-section to create a streetscape that allows for parking on both sides of the street and incorporates center landscaped medians. The objective for 11th Avenue is to move traffic slowly through the area, and to allow for community access to a lively, fun campus streetscape.

Signage. In addition to the existing new building signs, more specific wayfinding and Minot State University "branding" signage should be installed along the sidewalk on the south side of 11th Avenue. Incorporate proposed signage ideas on the south façade of the Dome. Develop a location for electronic, messaging signage adjacent to 11th Avenue on the east side of the Student Center. Develop signage and other MSU brand imaging opportunities on the Dome façade.

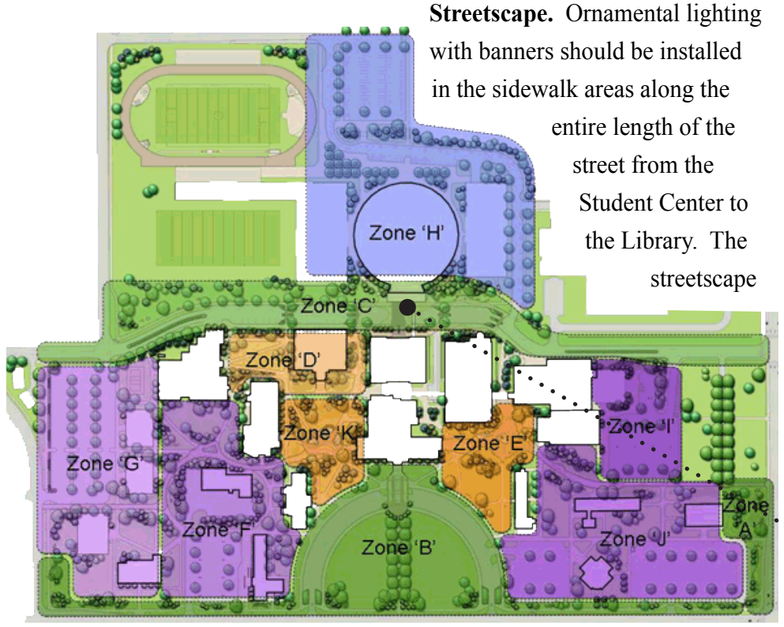
Connectors. Design outdoor "connections" (plazas, patios, entry zones, etc.) from existing buildings adjacent to 11th Avenue to the street. Each building has the potential to be connected from its 11th Avenue "front door" to the street. This will make the streetscape more interesting and engaging.

Art. Identify locations for temporary or permanent placement of public art within the 11th Avenue streetscape. Focus especially at building entry areas and at the outdoor gathering space adjacent to the Beaver Dam. Utilize the long Student Center masonry wall adjacent to 11th as a wall mural location.

Natural Landscapes. Utilize existing topography and building facades to emphasize the 11th Avenue corridor definition (in order to reflect the coulee metaphor, described above): Existing park space and adjacent slope between stadium and 11th Avenue should be developed and maintained as a natural landscape. Correlate this landscape to the existing open lawn located between the Library and Swain. Connect these landscape together visually across 11th Avenue.

Sidewalks. Remove the pedestrian sidewalk located on the north side of the Student Center between the outdoor patio adjacent to the Beaver Dam and the east entrance of the Student Center. This existing sidewalk is narrow, and located too near 11th Avenue. Route pedestrian traffic from the Beaver Dam patio area south between Memorial and the Student Center to the proposed new central campus pedestrian spine. Re-position the pedestrian sidewalk on the south side of 11th Avenue to be as near the adjacent buildings (Swain, Hartnett, especially Memorial, and Student Center) as possible.

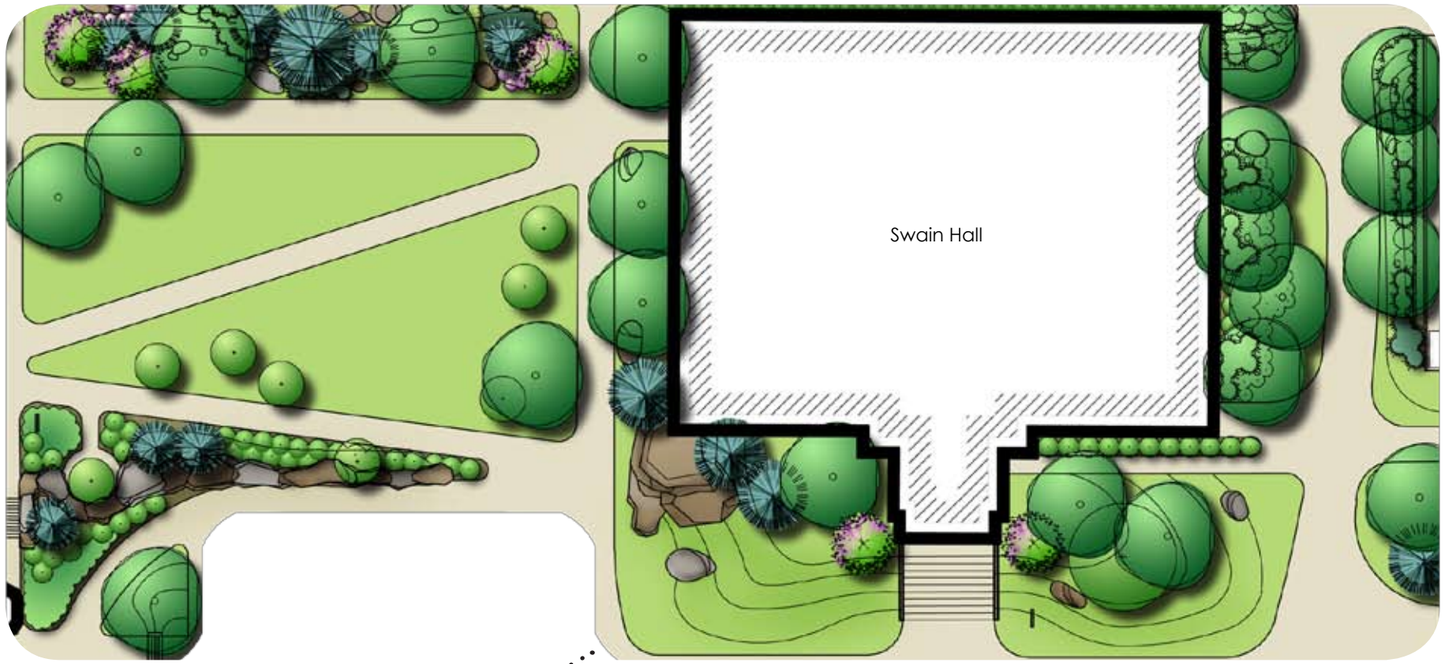
Amenities, etc. Provide as many pedestrian amenities, furniture, etc. as possible on this sidewalk and connecting spaces. Incorporate additional rock retaining walls similar to the rock wall located adjacent to the High School, where necessary along the 11th Avenue corridor.



Zone D: Swain Hall – West and South Quads

Parking Removal. Remove the parking lot between Swain and the Library adjacent to 11th Avenue and replace with on-street diagonal parking.

Landscaping. New landscape in the open space located to the west of Swain should be installed to reinforce the campus design concept. New earthforms that represent North Dakota geology should be introduced. North Dakota Badlands should be symbolized in the south half of the open space. Coulee "edge" slopes should be symbolized in the north half of the open space. Ornamental grasses, wildflowers and native shrubs should be utilized at this location. Existing landscape located to the south of Swain Hall should be re-designed. The existing quad located south of Swain, between Main and Moore is over-planted and overgrown, and in need of renovation. Existing trees need to be thinned.

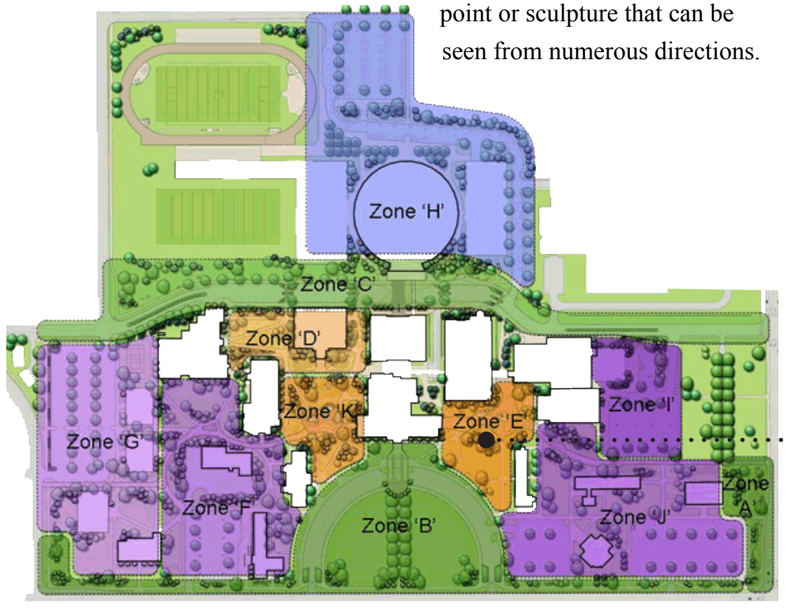


Zone E: Student Plaza between Main and the Administration Building

Sidewalks. Existing sidewalk routes should be modified slightly to accommodate a proposed east/west pedestrian corridor.

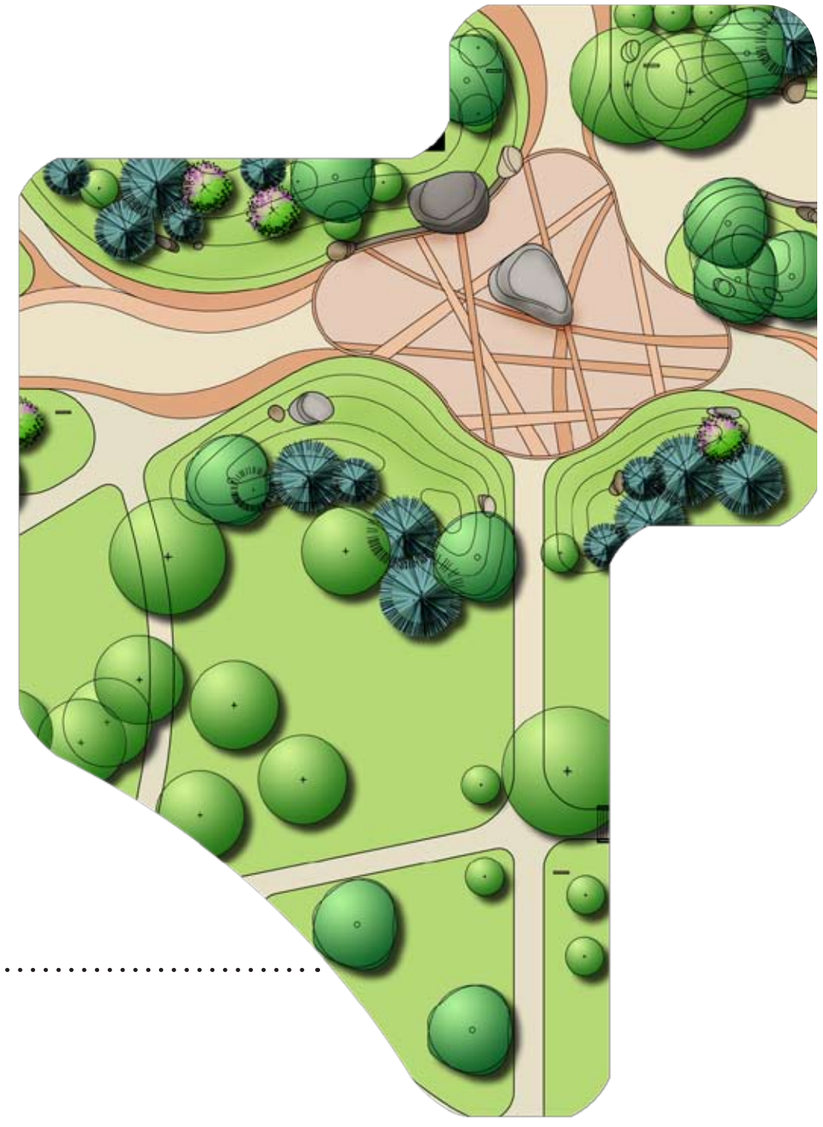
Existing Landscaping. Existing landscape plants are too ornamental to be integrated into new campus landscape concept and should be programmed for phased replacement.

Pavements. Existing pavements should be modified to incorporate indigenous North Dakota materials, symbols, and stories (i.e., plaza pavement joint patterns could be designed to reflect ice drag forms). The center of the plaza area should be designed to accommodate a raised focal point or sculpture that can be seen from numerous directions.



Earthforms. New earthforms that represent North Dakota geology should be introduced in the area to provide definition to the open space.

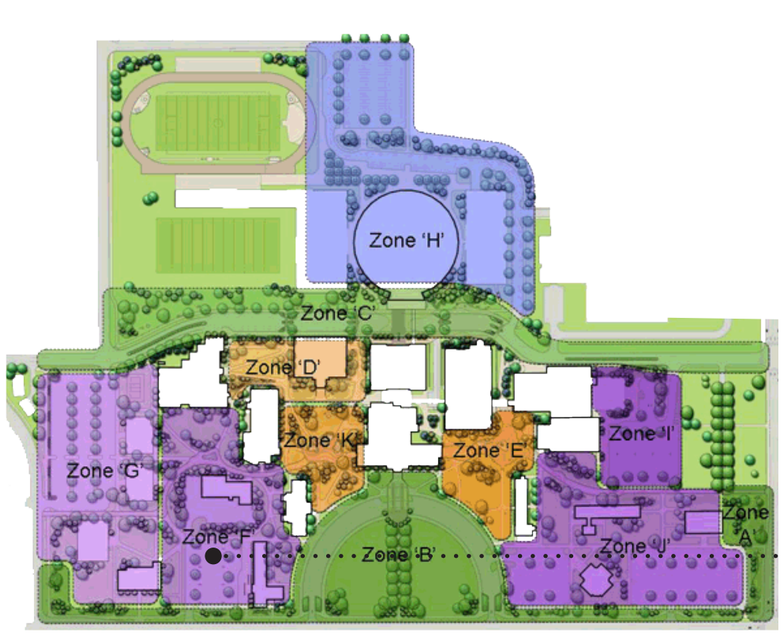
Amenities. Incorporate pedestrian amenities such as benches, lighting, and banners into the outdoor plaza design.



Zone F: Powerhouse

Parking. Re-orient the existing parking layout to accommodate the new campus landscape concept.

Greenspace. Introduce new green space to separate the Powerhouse Building parking from the remainder of the parking lot. The green space should include earthforms and planting areas. Add planting areas in the existing parking lot to provide locations for shade trees and perennials. Utilize new green space to provide the setting for pedestrian connections from Pioneer Hall to the west side of campus.



* See update on page 87.

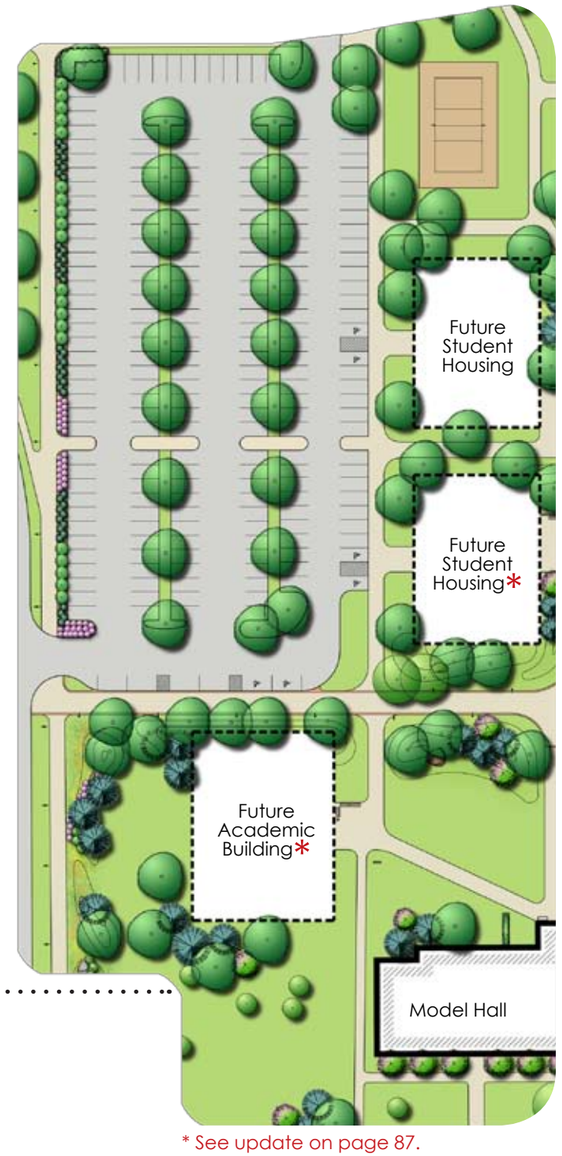
Zone G: Model Hall Corner

Signage. Before relocation of the Maintenance Building occurs, MSU should construct a new monument sign at the corner of 8th Street and University Avenue. The monument sign should be designed with a base that incorporates the use of North Dakota stone or rock. The sign design should be integrated with new landscape that is representative of the North Dakota environment.

Landscaping. Develop new landscape plantings at the perimeter of campus. The existing landscape should be enhanced to open views into campus. New landscape development should be limited to the perimeter of campus as this area will be developed as a housing zone in the future. It is imperative to buffer the existing and proposed parking lots with new landscape. After construction of future student housing, new landscape plantings should be installed to reinforce the campus design concept.

Streetscape. 8th Street is an important campus edge and should be developed as a streetscape environment that integrates the campus and adjacent neighborhood.

Parking. Once the Maintenance Building is relocated, MSU should expand the existing parking lot for short term use. Utilize parking areas as land bank for future housing sites.



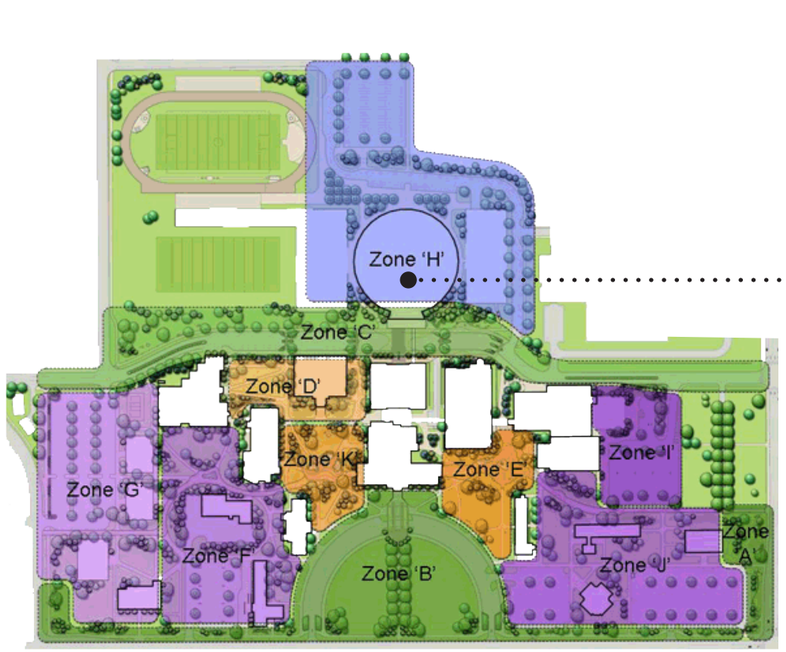
* See update on page 87.

Zone H: Dome & Athletic Fields

Landscaping. Increase the landscape development around the Dome. Coordinate the new landscape development with Dome signage proposals.

Develop new pedestrian plaza areas adjacent to the Dome entrances and adjacent to the Stadium entrances. Connect the north Dome entrance and the Stadium entrance with a pedestrian plaza.

Add tree planting areas to the existing parking lot located north of the Dome.

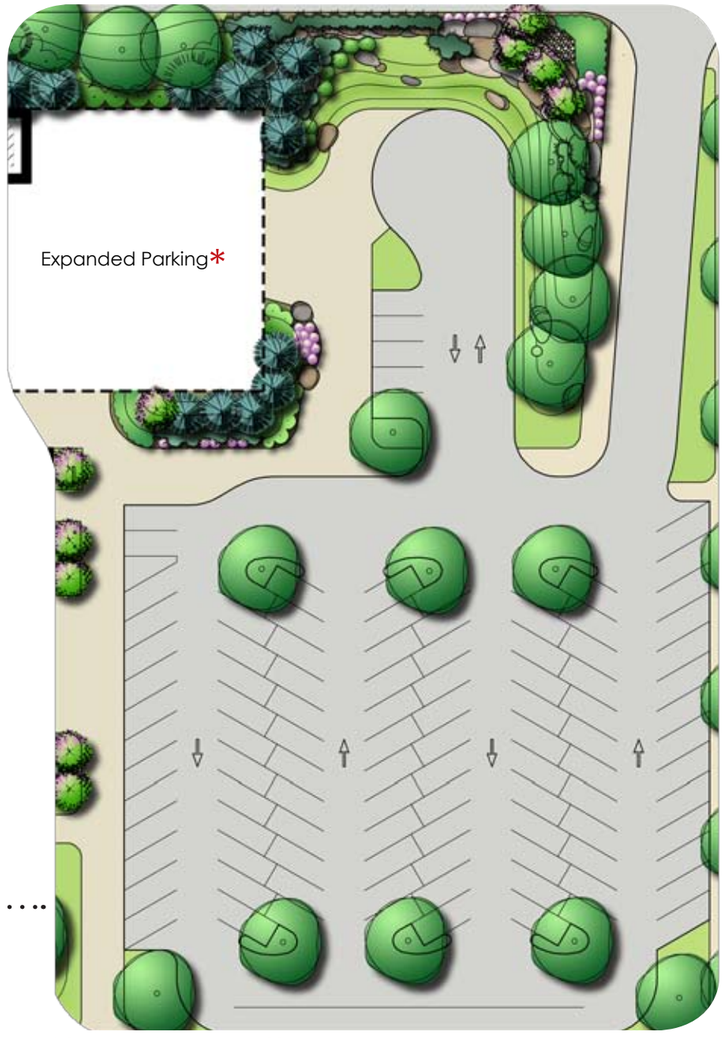


* See update on page 87 and 88.

Zone I: Student Center Zone

Entry Areas. Reconfigure the existing parking east of the Student Center to provide a new, larger pedestrian plaza/entry space to the Student Center. Design exterior student interaction and waiting space at the entrance to the Student Center. Incorporate pedestrian amenities such as benches, plantings, lighting, etc.

Signage. Incorporate a monument sign at the entrance to the Student Center parking area adjacent to 11th Avenue. The monument sign should be designed with a base that incorporates the use of North Dakota stone or rock. The sign design should be integrated with new landscape that is representative of the North Dakota environment. The sign should be integrated with the new Student Center entry area discussed previously.



* See update on page 88.

Zone J: University & Broadway Corner

Parking. Expand the existing parking area west of Lura Hall towards the Main loop drive and develop landscape adjacent to the parking lot in order to integrate with proposed University Avenue landscape design themes. Remove the existing parking areas between Cook Hall and McCulloch Hall and between Dakota Hall and McCulloch Hall. Develop green space at these locations.

Pedestrian Corridor. Develop an east/west pedestrian connection at the north edge of the new green spaces discussed above.

Zone K: Moore Hall & Pioneer Hall Quads

Pedestrian Corridor. Existing sidewalk patterns should be modified slightly to accommodate the proposed east/west pedestrian corridor (which is mostly located over an existing campus steam tunnel).

Landscaping. Existing landscape plants in this area are ornamental. Removal and replacement of this plant material should be incrementally accomplished to reflect the new campus landscape concept.

Earthforms. New earthforms that represent North Dakota geology should be introduced in the area to provide definition to the open space.

Pedestrian Plaza. A pedestrian plaza stopping point should be developed at the south end of the existing quadrangle, between Main and Moore Hall. A focal point should be designed at this plaza that emphasizes the wetland or "pothole" landscape.

IV. DESIGN DEVELOPMENT RECOMMENDATIONS

This chapter builds on the concepts generally described in the previous chapter and provides more specific recommendations consistent with a "Design Development" phase of a project.

Design Components

1. Site Grading

All new proposed features, including pavements, walls and design grading are designed to be integrated as much as possible with existing MSU campus topography and slope. Maximum slopes on parking area pavements and sidewalks should not exceed 5 percent in order to comply with ADA standards. Slopes on most pavements should be constructed between 2 and 4 percent. These are adequate slopes to drain the pavements, but not excessive so as to cause discomfort for walking, or cause safety problems during slippery winter conditions.

2. Site Planting

The site planting plans shown in this master plan indicate designs that comply with the proposed native and naturalized campus landscape concept, discussed previously. The plans have been designed to develop various areas of campus according to common landscape types found in the northern Great Plains, and more specifically, North Dakota.

Following is a description of numerous North Dakota landscape place types that have been utilized to help form the proposed MSU campus landscape:

Central Lowlands Province. This includes the Red River Valley and Glaciated Plains. Tall grass prairie species such as Little Bluestem, Sideoats Grama, and Blue Grama are most prevalent in these eastern portions of the State. Shrubs such as Juneberry, Wild Plum, Hawthorn, Buckbrush and Wild Roses are found in protected areas of these prairie landscapes.

Missouri Couteau. This area is distinguished by the presence of Prairie Potholes. The landscape in this region of the State is defined by a transition of species between tall grass and short grass prairies. Typical species in this region can include Canada Wild Rye, Little Bluestem, Needle and Thread Grass, and Junegrass.

Great Plains Province. This includes the Missouri Plateau, Little Missouri Badlands and Couteau Slope. Short grass prairie species such as Blue Grama, Hairy Grama, Needle and Thread Grass, and Buffalo Grass are most prevalent in these western portions of the State.

Missouri River Bottom Lands. The landscape character of the Missouri River Bottom Lands is defined by stands of Cottonwood, Elm, Green Ash and Boxelder trees. All of these species thrive in the rich river bottom lands which can be prone to flooding.

Devil's Lake Region. The upland areas of the Devil's Lake Region is defined by Quaking Aspen, Balsam Poplar, Bur Oak, Green Ash, American Elm and Linden.


Missouri River Bottom Lands


Cottonwood


Devil's Lake


Quaking Aspen


American Elm


Bur Oak


Linden


Paper Birch

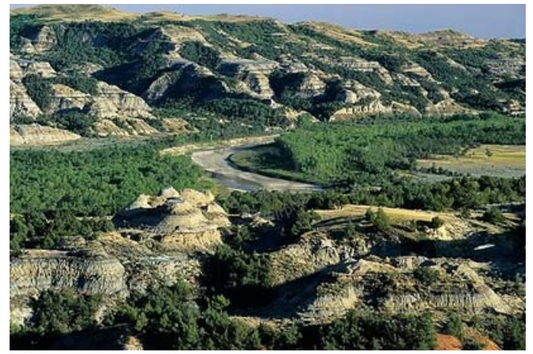
Kildeer Mountains Region. The landscape character of the rolling hills in the Kildeer Mountains Region is defined by growth of Quaking Aspen, Balsam Poplar, Bur Oak, Green Ash, Paper Birch and American Elm.

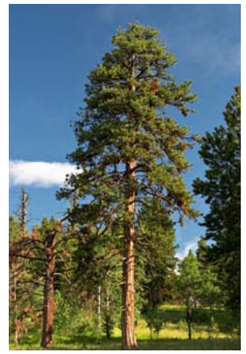
Little Missouri Badlands Region. The landscape character of Little Missouri Badlands Region is defined by a limited stand of Limber Pine, but more abundant growth of Ponderosa Pine, Rocky Mountain Juniper, Creeping Juniper and Common Juniper.

Pembina Gorge Region. The landscape character of the Pembina Gorge Region is defined by growth of Quaking Aspen, Balsam Poplar, Linden, Bur Oak, Green Ash and American Elm.

Turtle Mountains Region. The landscape character of the Turtle Mountains Region is defined by growth of Quaking Aspen, Balsam Poplar, Bur Oak, Green Ash, Paper Birch and American Elm.


Kildeer Mountains


Little Missouri Badlands


Ponderosa Pine


Pembina Gorge


Balsam Poplar

3. Site Amenities

Public Art & Plaza Features. All plaza features and public art located on the MSU campus should be designed to reinforce sense of place. For example, the focal point designed for the pedestrian plaza space located between Main and the Student Center should embody concepts associated with local history, culture, geography, geology and the like. An iceberg form has been discussed previously in this report for the feature in this area, but other ideas such as a sun dial, Beaver sculpture, etc. could also be explored for this space. Numerous other sculpture or focal point locations have been identified in this plan. All should be developed with respect to the unique sense of place extant at MSU.

Pavements. In addition to cast-in-place concrete, two other types of pavement materials are indicated on the development plans. These materials have been recommended in order to add a deeper level of detail to the place-making aspects of proposed campus walkways. Both are described in more detail below.

Concrete Unit Pavers. Concrete unit pavers offer the look of natural stone or clay brick pavers but hold up well to uses that are required on campus including maintenance and emergency vehicles. They are easy to install and can be removed and reused if access is needed below grade. This characteristic is very desirable in public spaces where repair work often permanently alters the beauty of original pavements if constructed from monolithic materials such as concrete.

Concrete unit pavers are often utilized to create a visual change in the pavement through the use of multiple colors, textures and patterns. This will be accomplished throughout the MSU plaza spaces to represent various natural and cultural phenomena. In so doing, each distinct outdoor space will exhibit a pavement character that will help describe the concept of the area, but at the same time connect it to others.

Concrete unit pavers can be manufactured in many rectangular sizes. Larger unit pavers that fit the scale of larger spaces can be utilized in those spaces. Various color blends could be used in a stand-alone application or mixed together to create a unique blend. For example, a proper mixing of paver colors could represent various shades of earth, and or rock desirable to reinforce the landscape concept of one of the various MSU plazas or public space

Colored Concrete. Colored concrete offers the opportunity to delineate the pattern along the central campus corridor, or other sidewalks, such as those adjacent to 11th Avenue. Integral colored concrete should be mixed so that the color is present throughout the entire slab depth. Warm earth tones such as beige are easily available, and easily worked. Stenciled concrete is a surface application of color (and possibly texture) that has been utilized very successful in recent applications. Stenciled concrete could be utilized in lieu of concrete pavers or integral colored concrete for much less cost.




Site Furniture. Site furniture that is installed at the MSU campus must be well built, durable, easy and inexpensive to maintain. It must also "fit" the design concept of the space in which it is to be placed. These include benches, trash receptacles and bike racks. Many manufacturers offer cohesive furniture lines. Design continuity is best achieved when site furniture styles match.

Benches. Benches should be constructed of steel that can withstand many years of campus pedestrian traffic. Steel is a more durable long-term material than wood, plastic, or recycled composites. The benches to be used should exhibit a classic style (not trendy) and also exhibit simple forms. In so doing they will not become dated or overpower the spaces they occupy. Benches should be accessory by nature and not attract attention. The size and length of a bench should be selected to support a specific purpose for seating in a space. Short benches tend to support intimate seating locations. Longer benches tend to support seating areas that are more community oriented.

Natural, earthy colors such as green, brown or black should be selected for benches at MSU. Do not give into the temptation to select brightly colored, or logo color benches because they are accessories by definition and should not attract undo attention. Dark colors are easier to maintain than light colors. All color should be applied and set as part of a powder coating system.

Trash Receptacles. Trash receptacles should be constructed of steel that can withstand many years of campus traffic. Trash receptacles should accommodate capacity that is large enough to provide for easy maintenance and pickup. Trash receptacles should be accessory by nature and not attract attention. They should match the style, form and color of the benches selected.

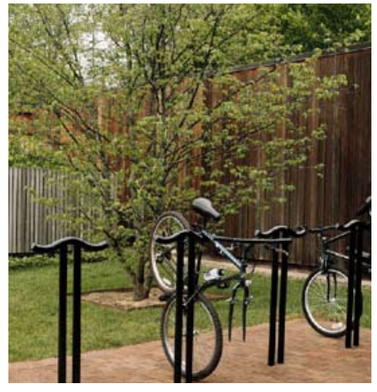
Natural, earthy colors such a green, brown, or black should be selected for trash receptacles. Dark colors are easier to maintain than light colors. All color should be applied and set as a part of a powder coating system.

Bicycle Racks. Bicycle racks should be constructed of steel that can withstand many years of campus use. Bicycle racks should exhibit simple forms. Bicycle racks should be friendly to bikes and not damage bicycle frames, wheels or other components when attached. They should be located near entrances to buildings or activity spaces.

Bicycle racks should dark in color. Light colors will show tire marks and other damage from locking devices.

Retaining Walls. Retaining walls shown on the plans are intended to be constructed from segmental retaining wall units. Segmental retaining walls are constructed from pre-cast concrete units that simulate natural stone walls. Segmental retaining walls are economical, easy to construct, exhibit excellent durability and require less maintenance than natural stone.

A number of segmental retaining wall manufacturers have developed systems that utilize three different widths and two different heights. This creates a wall that mirrors the natural appearance of stone. This style of wall will work well with the native, organic design of the MSU landscape plan. Many segmental retaining wall units are available in multiple color blends that mimic the appearance of natural stone.

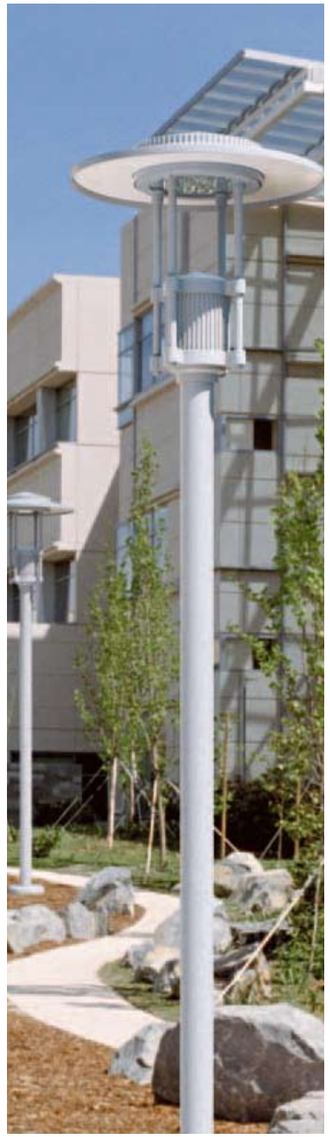


Parking Lot Lighting. Parking area lighting should be provided by IES categorized full-cutoff, pole-mounted lighting fixtures on approximately 30-foot tall poles. Parking areas should be lit in order to achieve an average footcandle level of approximately 2.0 footcandles with an average-to-minimum uniformity of approximately 5 to 1 or less. Every effort should be made to locate the poles in islands or around the perimeter of the parking areas in order to avoid them being obstacles for drivers. Any poles that are required to be located in the parking area (not on the perimeter or in islands) should be provided with bases that protrude 3'-0" above grade.

General Pedestrian Lighting. Lighting throughout the pedestrian areas of campus should be designed in order to provide a safe and secure area for pedestrians and in order to blend with the campus environment. Lighting fixtures should be placed so as to avoid becoming obstructions to the overall aesthetic and function of the campus outdoor spaces. Additional accent lighting for special features can be added as budget allows.

General lighting should be provided by pedestrian scale, pole-mounted, cutoff type lighting fixtures. The poles should be equipped with provisions for decorative banners. These fixtures should be placed along pedestrian pathways in the commons area. This lighting is intended to provide pedestrians with safe paths during nighttime hours. This lighting should be provided with photocell and/or timeclock control.

Special Area Lighting. Additional lighting may be provided in the proposed plaza areas. Campus entry signs should be lit using ground mounted flood lights or internal lighting systems. Low-level lighting such as bollards may be used to light portions of plaza spaces. Additional sculpture lighting can be provided as required. Security "Blue lights" should be installed where student traffic is highest, such as along pedestrian corridors.



Significant Places

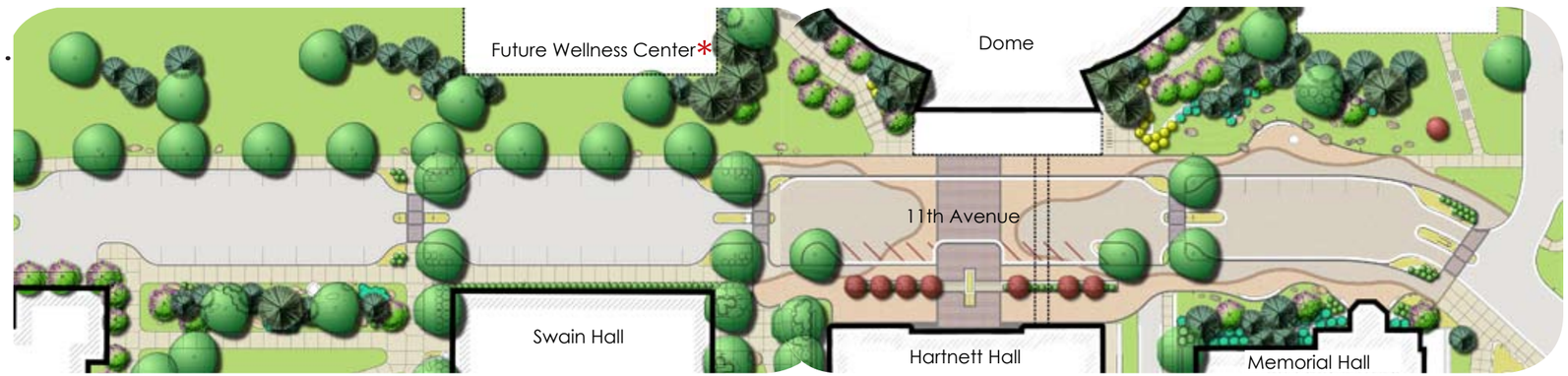
Various components and features combine to form the new landscape improvements at Minot State University. Together they will transform the physical nature of the campus into a more meaningful, aesthetic and functional environment. Following are a description of the most important areas of campus that should be transformed. These descriptions include recommendations that go beyond landscape planting recommendations. But it is important that the layout considerations described below are integrated with the traditional landscape planting plans that follow in this section.

Significant Place #1: 11th Avenue Corridor

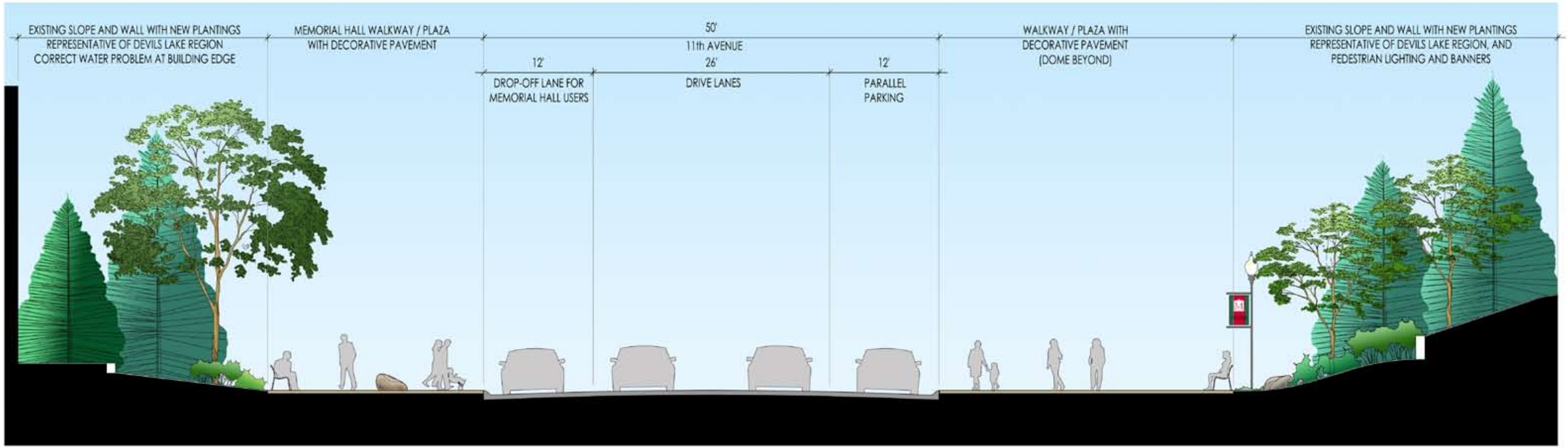
This area reflects the giant coulee on which the campus was built a century ago. The is the area of campus where the topography drastically changes with a steep grade change going north up behind the dome and ancient glacial formations are evident. The design of 11th Avenue will reflect the powerful presence of this coulee in the selection of paving patterns, sculpture opportunities, landscape materials, and the use of pavement imprints.

This area is also significant for functional reasons. By opening up 11th Avenue, as proposed in the Campus Master Plan, overall vehicular and pedestrian circulation on campus is greatly improved. It will eliminate the tendency for drivers to take dangerous short cuts around Hartnett Hall to the south and the Dome to the north. Furthermore, through the traffic-calming recommendations outlined in this document, it will make this area of campus safe for pedestrians crossing the newly opened 11th Avenue.

In summary, the natural topography of this area, the traffic-calming strategies, and the landscape design recommendations outlined here will communicate a sense of safety and shelter on campus, functioning much like the coulees did for early settlers and native residents on the North Dakota landscape.



* See update on page 88.



11th Avenue looking west at the vicinity of Memorial Hall

Design Development Recommendations:
11th Avenue South of the Dome east of Memorial Hall

1. Re-open 11th Avenue to vehicular traffic south of the Dome to create a continuous route from Broadway to 8th Street.

2. Develop vehicular parking and drop-off areas on either side of 11th Avenue between the Dome and Hartnett Hall.

3. Reduce the width of 11th Avenue traffic lanes and further restrict the width at the north/south pedestrian crosswalk at the northwest and northeast corners of Memorial Hall.

4. Introduce a center median and pedestrian stop signs at these crosswalks.

5. Create a "gateway" at the west side of the 11th Avenue Street intersection to emphasize that 11th Avenue between Memorial Hall and the Library is a low-speed, high pedestrian amenity streetscape. The street can be temporarily closed to vehicular traffic at this gateway in order to utilize this zone as a location for special events, street dances, etc.

6. Construct a drop-off zone directly north of the Memorial Hall entrance.

7. Connect pedestrian sidewalks between this area of campus southward to the campus core.

8. Construct pedestrian plazas and fore-courts furnished with benches and other pedestrian amenities between the new 11th Avenue curb line and Memorial Hall Hartnett Hall, the Dome, Swain Hall and the Library.

11th Avenue view looking west from the east side of Memorial Hall

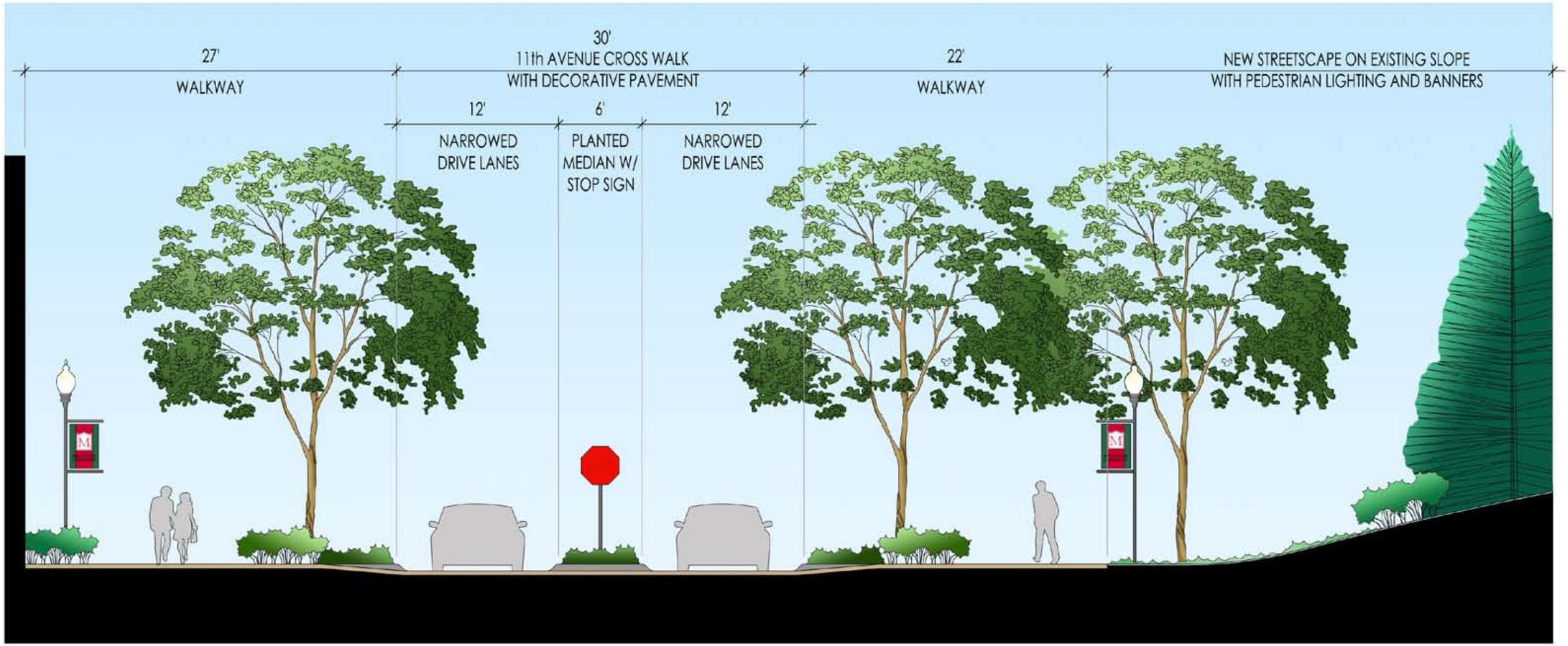
Design Development Recommendations:
11th Avenue South of the Dome east of Memorial Hall (Continued)

9. Place public art on the north and south side of 11th Avenue, adjacent to the Dome (Beaver sculpture), Hartnett Hall, and Memorial Hall. Add something about how art might be commissioned or selected. Add sample or types of sculpture most appropriate.

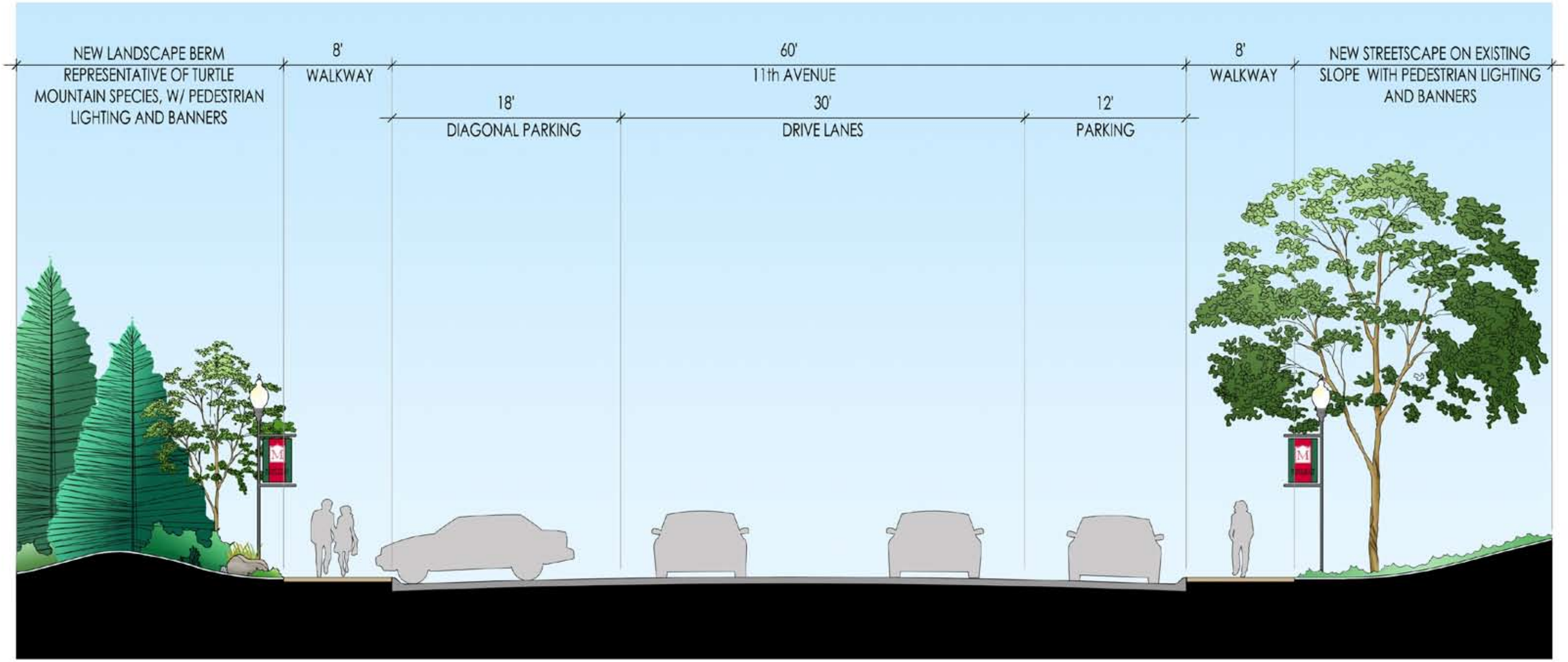
10. Incorporate decorative pavement (e.g. concrete pavers or colored concrete) to help define pedestrian plaza areas and crossings. These pavement treatments could delineate bands in the landscape that symbolize elevation changes associated with natural geological features such as coulees where habitation and settlement historically may have occurred.

11. Incorporate stamped pavement imprints in the paved bands reflecting historical artifacts of early Native and European settlers and native animal paw prints. Where desired, commemorative interpretive panels can be incorporated into these paved bands to provide historical interpretation or recognition of a founder or donor.

11th Avenue view looking east between Dome and Hartnett Hall



11th Avenue looking west at the vicinity of Swain Hall



11th Avenue looking west between Swain Hall and the Library

Design Development Recommendations:
11th Avenue West of the Dome to the Library (Continued)

12. Install ornamental lighting with banners, wayfinding signage and branding signage along both sides 11th Avenue.

13. Place public art on the south side of 11th Avenue, between the Library and Swain Hall.

14. Modify the existing parking area on the south side of 11th Avenue between the Library and Swain Hall in order to develop a new green space with berm to reinforce the south edge of 11th Avenue. The new green space created will help complete the north edge of the pedestrian quad created by Swain, Moore and the Library.

15. Remove the existing parking area and replace with new parallel or diagonal parking created along the south curb of 11th Avenue.

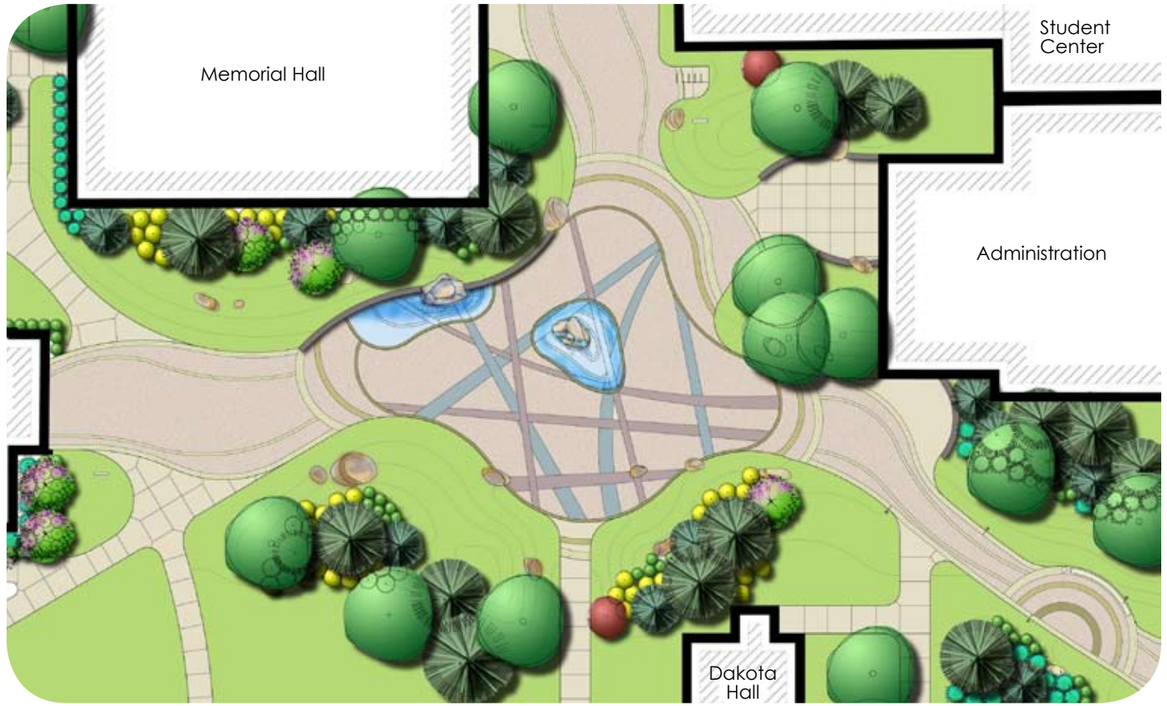
16. Reduce the width of 11th Avenue traffic lanes and further restrict the width at the north/south pedestrian crosswalk at the northwest corner of Swain Hall.

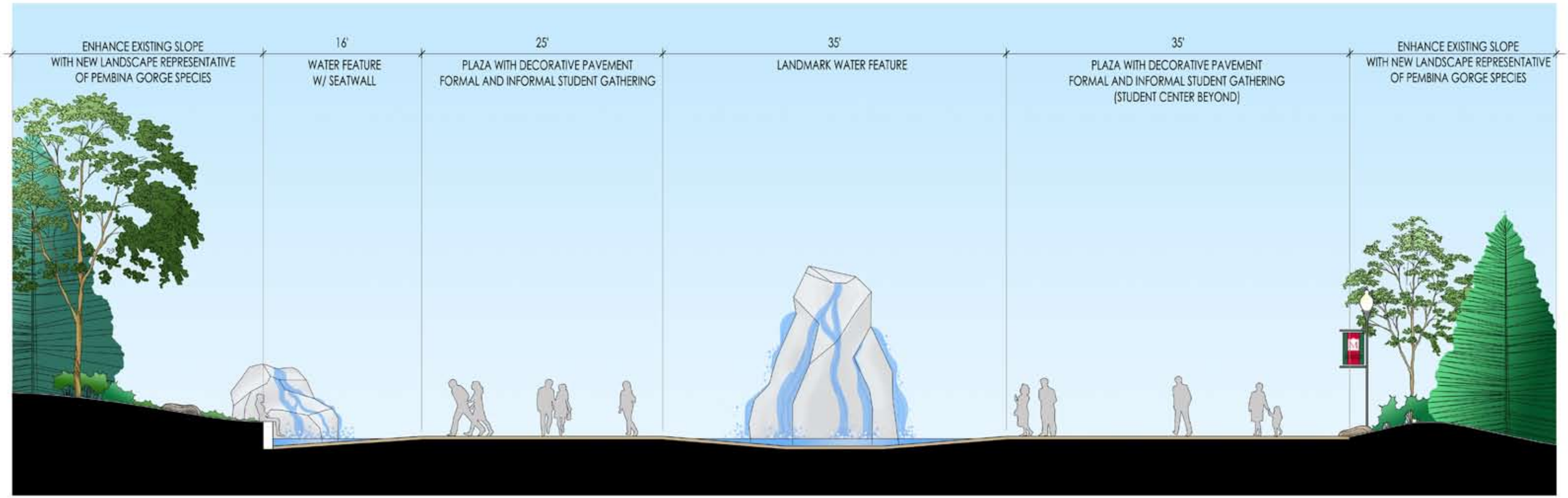
17. Introduce center median and stop signs at the crosswalk.

11th Avenue view looking east toward Swain Hall crosswalk location

Significant Place #2: Pedestrian Plaza Between Main and the Student Center

This area marks the major pedestrian crossroads of campus where outdoor social interaction takes place. This is the area where student organizations and clubs will set up tables during mild weather. This area will be the primary location on campus for promoting activities and encouraging engagement among students as they move through campus. This area is designed to accommodate both planned activities and impromptu gatherings where people "pool" together. The area is designed to reflect the pools that formed in North Dakota as a result of melting ice, which formed glacial lakes, such as Lake Agassiz. These distinctive water bodies show the effects of centuries of freezing and melting in the bands which line their banks. This plaza will tell the story of these glacial lakes, the patterns they have left behind, and the impact of glacial ice on the land. It will include plant communities, which developed in response to this phenomenon. This plan generally identifies only opportunities for sculpture rather than the specific forms those sculptures should take because we believe it should be a separate commissioning and selection process directly involving artists. However, this plan would encourage MSU to explore the potential for a thematic sculpture selection centered on the idea of ice or water to help reinforce the story told in this area.





Looking east from Old Main toward new Pedestrian Plaza

Design Development Recommendation: Pedestrian Plaza

1. Modify this existing plaza space to create an area that can accommodate a signature sculpture and large student gatherings. The current plaza is well designed as a connecting link and ornamental landscape. An opportunity exists at this location to develop more fully a sense of place that acknowledges the natural North Dakota landscape and unique geography.

2. Incorporate pedestrian amenities such as seating areas, plantings, and lighting.

3. Commission or purchase an appropriate sculpture for this space. This area should be developed to create point a focal point for year-round interest and should incorporate ideas and imagery that draw on unique North Dakota geological features. Illustrated here is a plaza concept that references the presence of icebergs in pre-historic North Dakota. It shows the surrounding plaza pavement patterns designed to represent ice scour and ice drag lines in the landscape. Bands of pavement patterns at the outer edges of the plaza are designed to represent the receding contours of glacial lakes. Imprints of fossils can be incorporated into the pavement contour lines to represent different geological periods.

View looking east across New Pedestrian Plaza with Administration Building in the background

Significant Place #3: Pedestrian Corridor

This area forms the primary pedestrian thoroughfare across campus from east to west. It acknowledges that on a cold, windy North Dakota day, moving across campus involves a heightened awareness of man's relationship to the elements. This design provides pedestrians with real elements of shelter such as high berms and thick planting materials to lessen the impact of the wind, as well as perceived relief through the use of special destinations. Like the North Dakota coulee where early settlement was concentrated, the physical and psychological protection provided by nature to humans encouraged societies to develop. It is fitting, therefore, that the campus pedestrian corridor is also the social "highway" of the campus where people interact and nature and civilization merge. Campus "civilization" will be reflected in the heightened vibrancy of the landscape and human-imposed amenities, such as banners, meandering pathways, plazas, art, and special lighting.

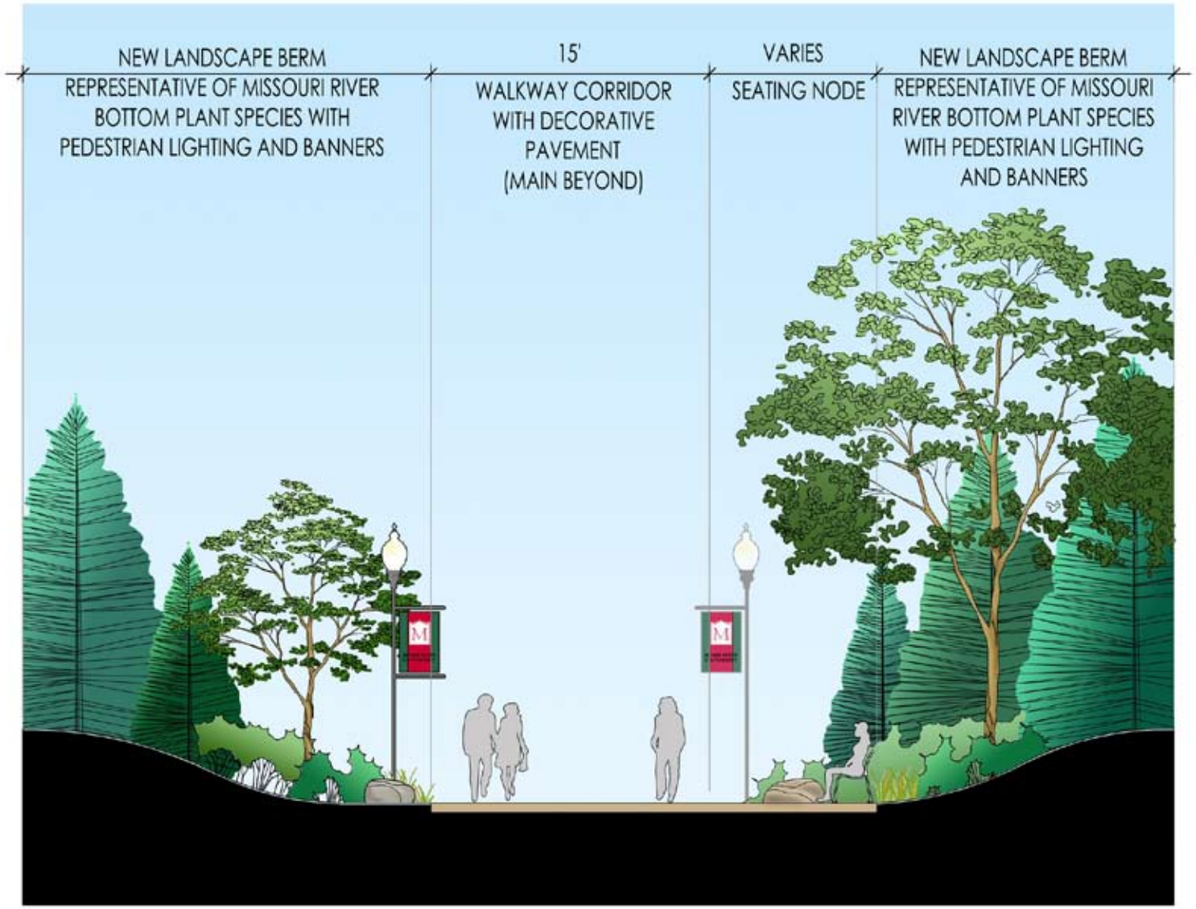
* See update on page 87.

Design Development Recommendations: Pedestrian Corridor

1. Develop new earthforms associated native plantings adjacent to either sides of the pedestrian corridor to represent the effect of the protecting banks of a coulee.

2. Develop seating nodes at intervals along the corridor.

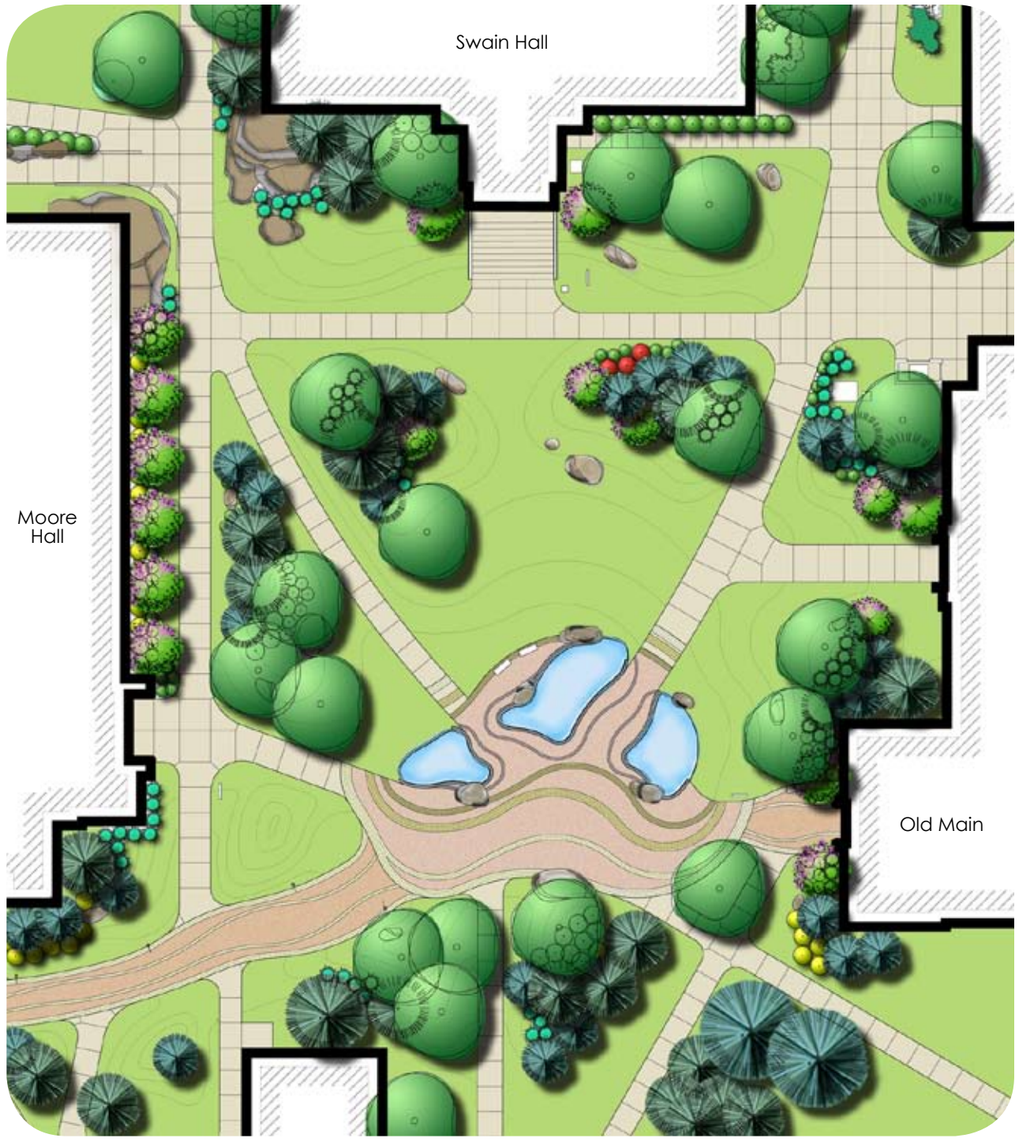
3. Incorporate patterns into the corridor pavement that represent the flow of melting ice that helped form natural coulee features.

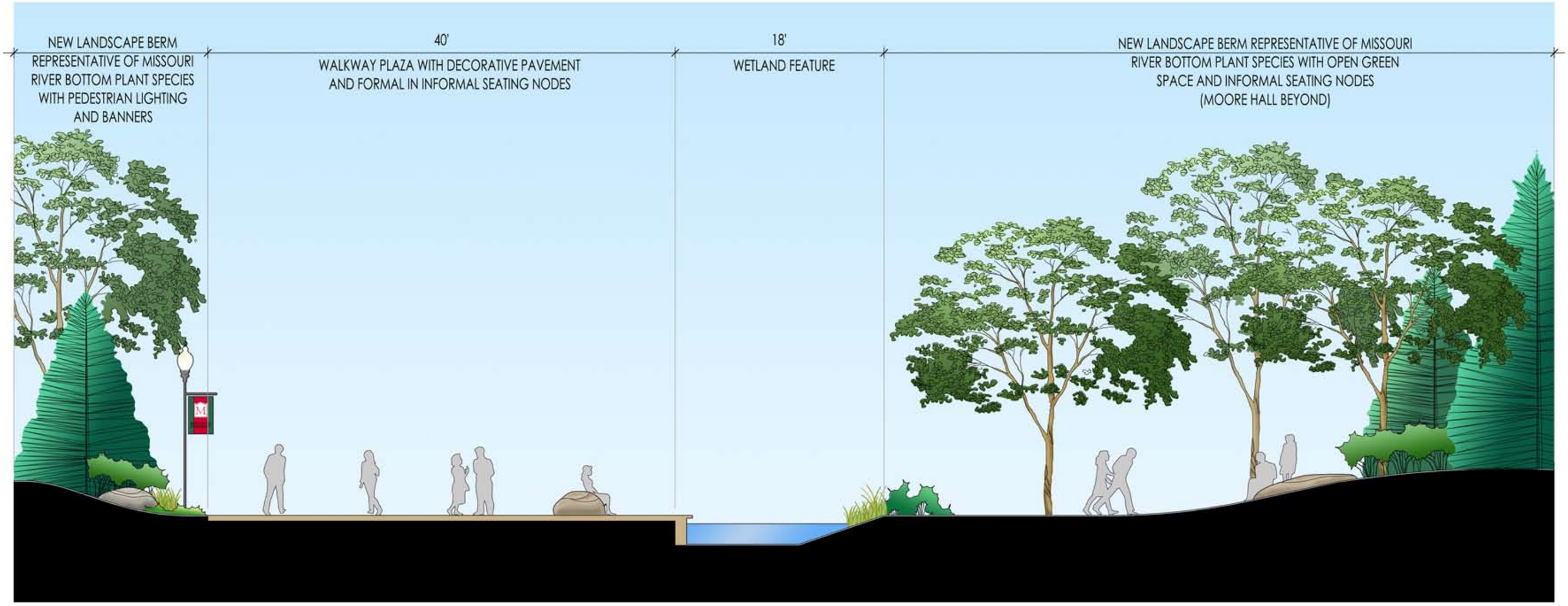


Looking west through Pedestrian Corridor toward Pedestrian Plaza

Significant Place #4: Swain Hall Quadrangle

This area will illustrate how prairie potholes formed in North Dakota, forming unique wetlands and fascinating patterns on the natural landscape. The design of pavements will communicate how receding water marks the land, leaving behind the imprints of plants and animals in its moving path. Adjacent to Moore Hall, this area will create space that can be used as an outdoor classroom for science classes taught in Moore Hall.





Looking West Across Swain Hall Quad Plaza

Design Development Recommendations: Swain Hall Quadrangle

1. Modify the existing ornamental campus landscape in order to develop a new pedestrian plaza located between Moore Hall and Main. An opportunity exists at this location to develop more fully a sense of place that acknowledges the natural North Dakota landscape and unique geography.

2. Incorporate a focal point for this space designed to provide year-round interest. The graphic illustration provided here shows an organic water feature that represents a typical wetland or prairie pothole landscape. It proposes a formal edge adjacent to the plaza pavement and an organic or informal edge adjacent to the campus lawn located to the north of the plaza.

3. Incorporate new earthforms north of the new plaza to represent the rolling, irregular hills that are part of the prairie pothole landscape of North Dakota.

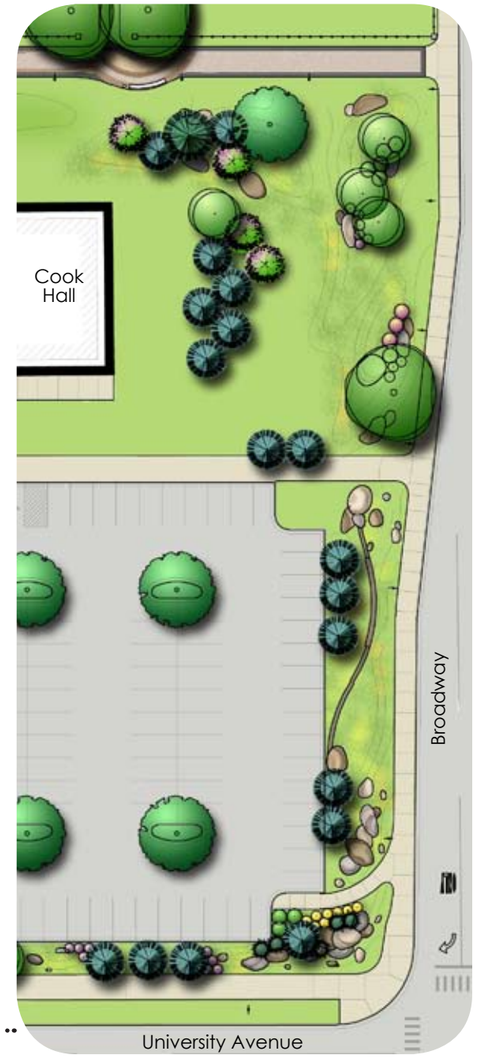
4. Incorporate patterns in the plaza pavement that represent the annual cycle of water levels in a prairie pothole. An outer pavement band could represent the fullness of the pothole in the spring, with inner bands reflecting evaporation through the summer and autumn months. The pavement bands could also accommodate animal tracks, including ducks and other wildlife and native plants found in wetland environments.

View looking west across Quadrangle with Moore Hall in the background

Significant Place #5: Broadway Avenue Monumental Sign

This area is the prime corner and major identification point for the MSU campus in the city of Minot. The artist-designed monument sign recommended for this location is intended to communicate the importance of the built (campus architecture) and non-built (natural) features embodied by the campus. Designed by MSU Art Department faculty member Walter Piehl, the sign incorporates an abstract skyline of prominent campus buildings in a setting of native plant materials, glacial rocks, and naturalized landforms. A simplified version of the sign (omitting the building forms) can be adapted for use at major entries and corners of campus as funding allows.

As of this writing, bidding and construction documents for the sign were developed but no contractor has been selected. Detailed drawings of the monument sign are included at the end of this document.



Design Development Recommendations

1. Design and construct a new “signature” sign adjacent to Broadway Avenue that incorporates elements of art, architecture, and landscape into one integrated composition.

2. Integrate the new sign with the existing adjacent mature landscape.

3. Incorporate imagery of MSU’s most recognizable architectural landmarks, including Main and the Dome and use of school colors.

4. Incorporate natural and constructed horizon profiles in the design of the sign.

5. Incorporate the use of North Dakota stone or rock and integrate with new landscape that is representative of the North Dakota environment.

6. Design the sign for maximum readability from the adjacent traffic lanes at all hours, including illumination.

Looking southwest to Broadway signage

Significant Place #6: Ellipse

This area exemplifies the human impact on the campus – the founding of the institution and the importance of education to the greater community. This area is highly formalized, highlighting the built environment and historical campus views. Formal elements include flagpole, circular drive, formal entrances, expansive lawn, and higher maintenance planting areas. An expanse of parking is provided on the ellipse but the adverse impact of it is mitigated by plantings intended to screen views of the cars and direct one's eyes toward the buildings instead. This area is highly ceremonial in appearance and function. Great care has been taken to preserve its well-documented role as a symbolic place for observing graduations, institutional milestones, and special events that bring the campus and community together.

Design Development Recommendations: Ellipse

1. Design and construct a new "signature" sign adjacent to Broadway Avenue that incorporates elements of art, architecture, and landscape into one integrated composition.

2. Integrate the new sign with the existing adjacent mature landscape.

3. Incorporate imagery of MSU's most recognizable architectural landmarks, including Main and the Dome and use of school colors.

4. Incorporate natural and constructed horizon profiles in the design of the sign.

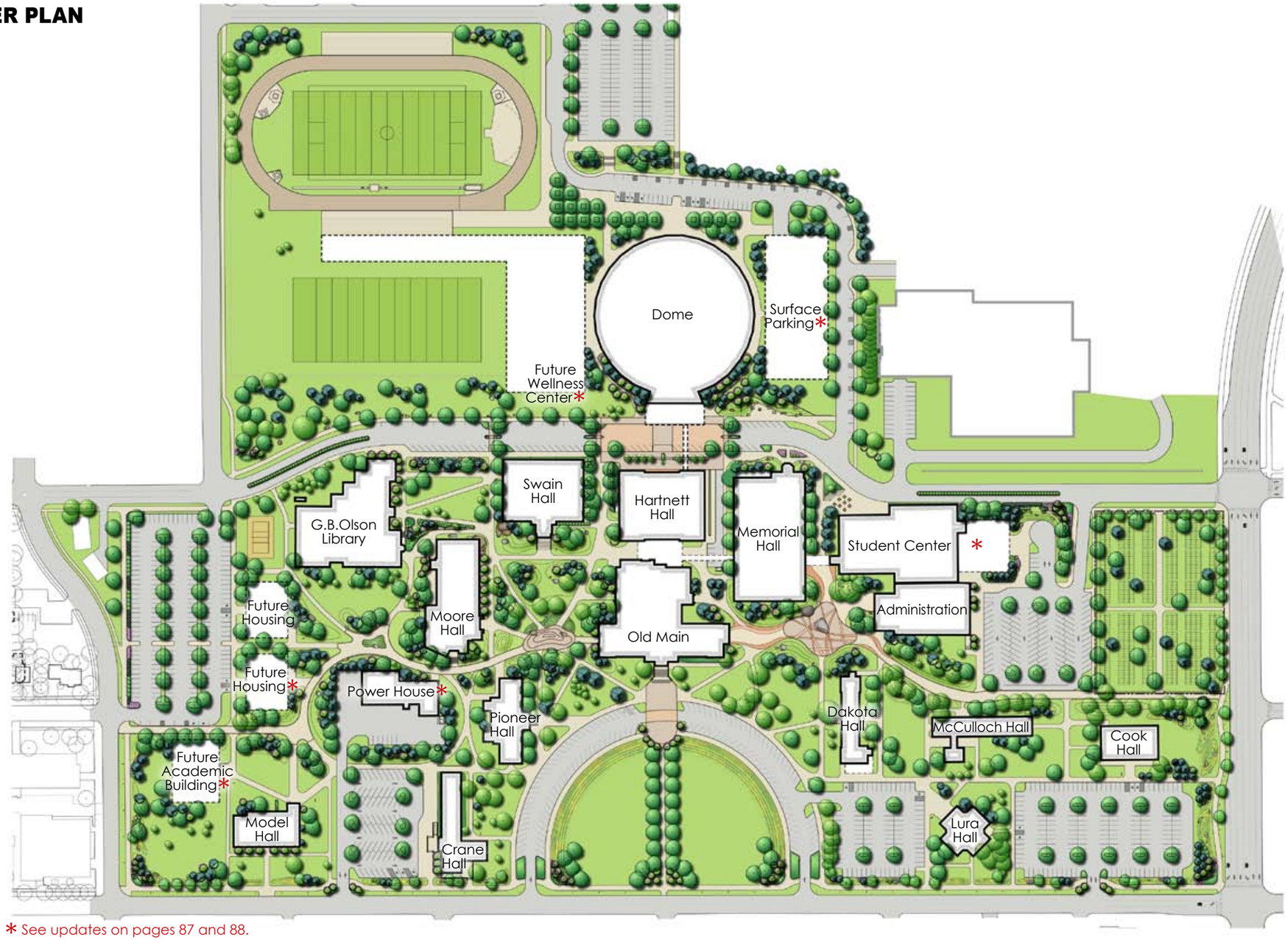
5. Incorporate the use of North Dakota stone or rock and integrate with new landscape that is representative of the North Dakota environment.

6. Design the sign for maximum readability from the adjacent traffic lanes at all hours, including illumination.

7. Provide a place for a work of art or sculpture that captures the essence of Minot State University.

View looking east in front of Old Main with Dakota Hall in the background

LANDSCAPE MASTER PLAN

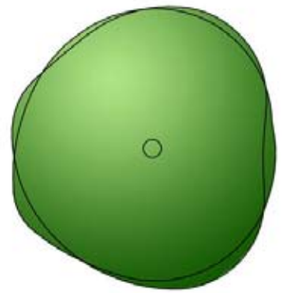


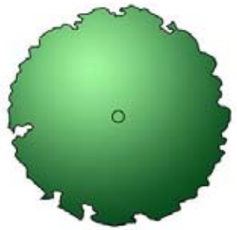
* See updates on pages 87 and 88.

Landscape Planting Plans

The landscape planting plans that are shown on the following pages have been designed to indicate the primary North Dakota "Landscape Type" for the area under consideration. Specific proposed plant locations are shown on the plans. However, the plant locations are not matched to a specific species. Instead, plant locations are matched to a group of plant species (listed on each plan drawing) that satisfy the requirements of those locations. This format gives a proper amount of latitude to those who will be responsible for implementing the planting plans. The legend that indicates various symbols for each category of plant is shown on the right.

Legend for Planting Plans


Large Overstory Deciduous Tree


Medium Overstory Deciduous Tree


Small Deciduous Tree


Large Evergreen Tree


Evergreen Tree


Evergreen Shrub

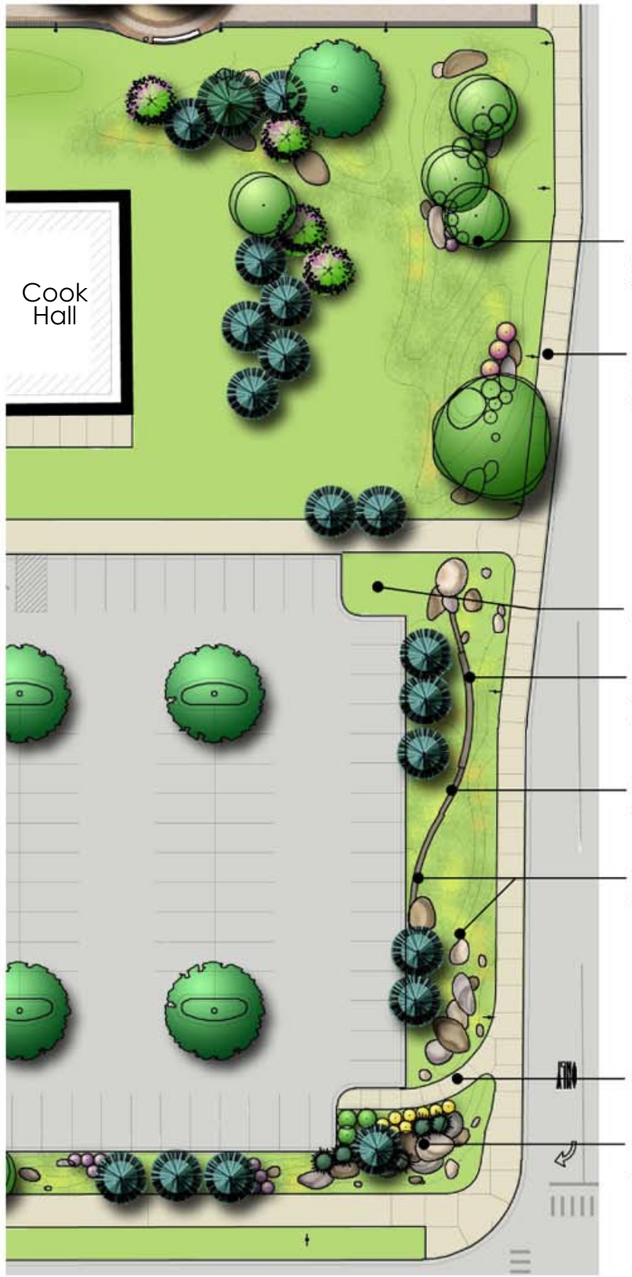

Small Ornamental Tree


Small Understory Deciduous Tree


Deciduous Shrubs


Perennials and Grasses

ZONE 'A' PLANTING PLAN



LANDSCAPE TYPE: TURTLE MOUNTAIN
Typical Native Plant Community:
Northern Great Plains Oak Savanna: Bur Oak - Mixedgrass
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to areas surrounding the proposed signage and the berming along Broadway Blvd from University Ave to the proposed Pedestrian Corridor.

Deciduous Trees
Fraxinus pennsylvanica 'Patmore' – Patmore Green Ash
(Use minimally due to Emerald Ash Borer)
Populus tremuloides - Quaking Aspen
*Quercus macrocarpa - Bur Oak
Quercus rubra - Red Oak

Evergreen Trees
Picea gluauca 'Densata' – Black Hills Spruce
Picea pungens var. glauca – Colorado Blue Spruce

Ornamental Trees
Amelanchier 'Autumn Brilliance' - Autumn Brilliance Serviceberry
malus spp. - Crabapple

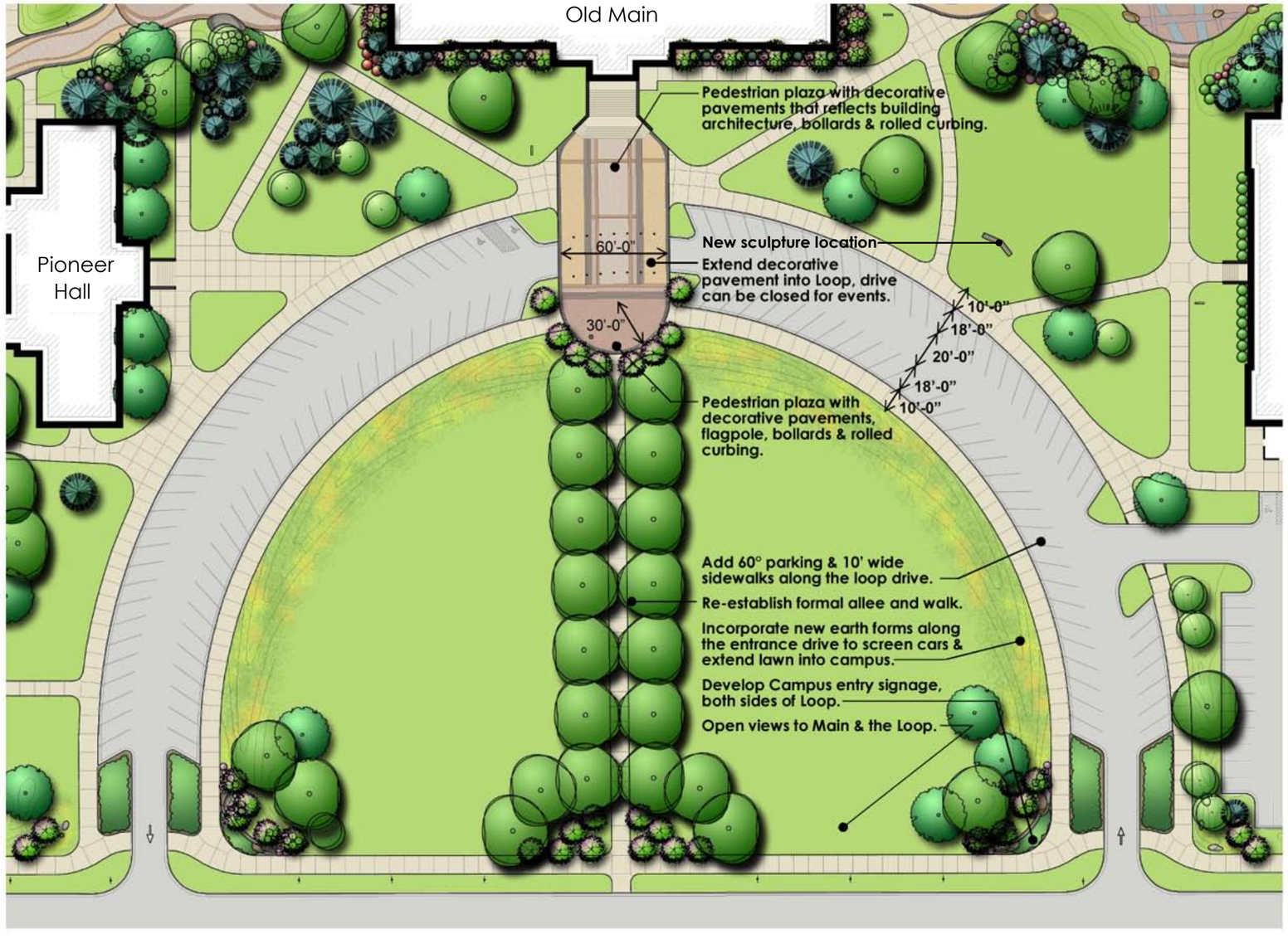
Deciduous Shrubs
Amelanchier alnifolia 'Regent' - Regent Serviceberry
Rhus aromatica 'Gro-low' – Gro-low Sumac
Rosa 'Jacrulav – Wildberry Breeze Rose
Amorpha canescens - Lead Plant
Symphoricarpos 'Kolcharm' – Charming Fantasy Snowberry

Evergreen Shrubs
Juniperus horizontalis 'Youngstown' – Youngstown Andorra Juniper

Grasses
Andropogon gerardii - Big Bluestem
Bouteloua curtipendula – Sideoats Grama
Bouteloua gracilis – Blue Grama
Schizachyrium scoparium - Little Bluestem

Perennials
Anemone multifida 'Major' – Major Anemone
Dalea purpurea - Purple Prairie Clover
Echinacea angustifolia - Purple Coneflower
Heuchera sanguinea 'Firefly' – Firefly Coralbell
Liatris punctata - Blazing Star

ZONE 'B' PLANTING PLAN



LANDSCAPE TYPE: GLACIATED PLAINS
Typical Native Plant Community:
Midwestern Sand & Gravel Tallgrass Prairies: Little Bluestem – Grama Species - Porcupine Grass
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the sculpted berms along the Loop.

Grasses:
Bouteloua curtipendula - Sideoats Grama
Bouteloua gracilis - Blue Grama
Stipa viridula - Needlegrass
Schizachyrium scoparium - Little Bluestem
Sprobolus heterolepis - Prairie Dropseed

LANDSCAPE TYPE: HUMAN INFLUENCE
Formal Allee

Acceptable Species for Consideration
Note: Species apply to the formal Allee along with the planting beds along Main's front façade.

Deciduous Trees:
Quercus macrocarpa - Red Oak
Quercus rubra - Red Oak
Tilia americanna - American Linden

Ornamental Trees:
Malus sp. – Crabapples

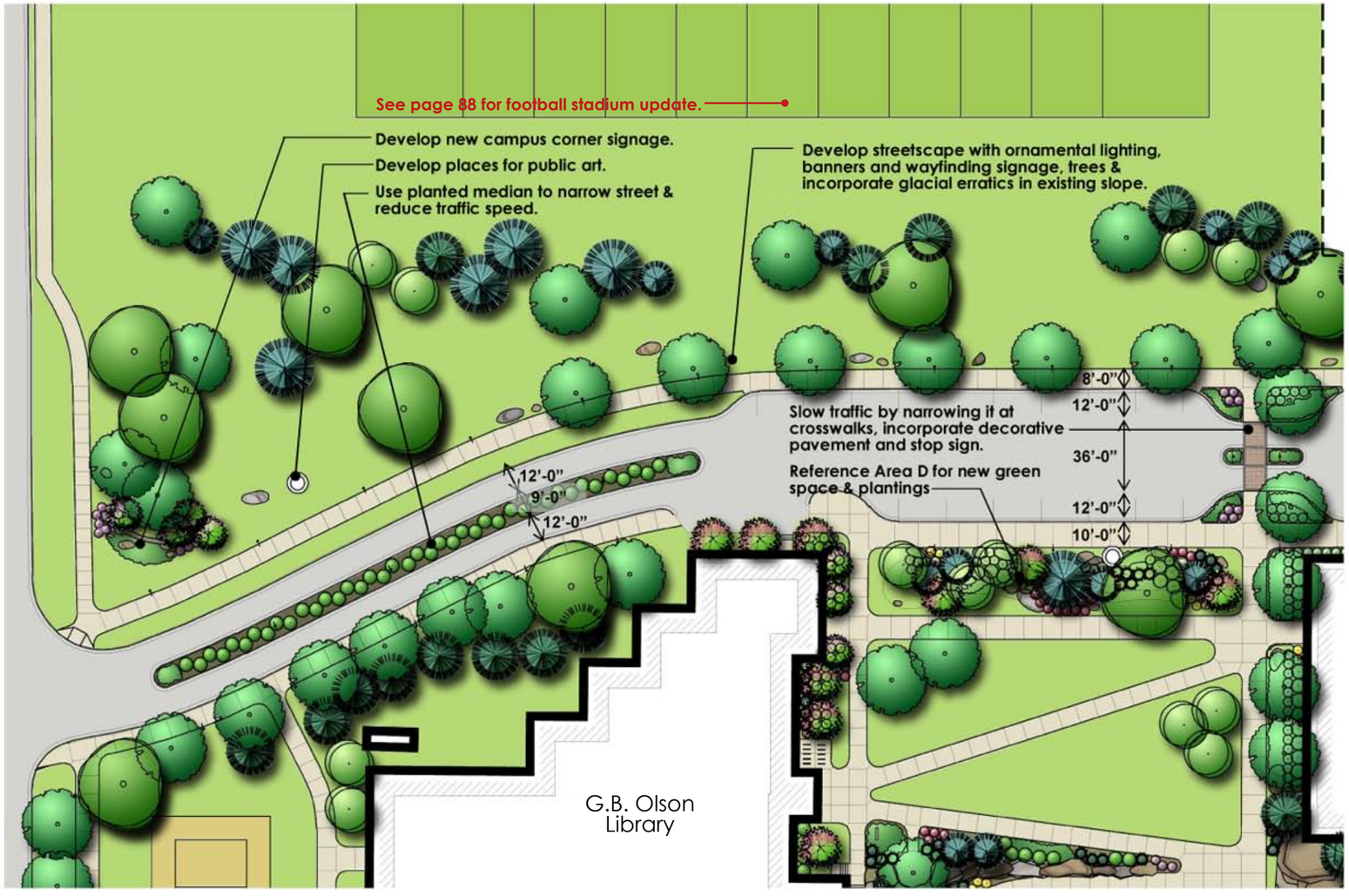
Deciduous Shrubs:
Syringa x hyacynthiflora 'Pocahontas' – Pocahontas Lilac

LANDSCAPE TYPE: HUMAN INFLUENCE
Formal Lawn

Acceptable Species for Consideration
Note: Species apply to the formal lawn located with in the Loop and all turf lawn areas on campus. This does not include the bermed areas where native grasses are located.

Grasses:
Fescue Blend

ZONE 'C-1' PLANTING PLAN



LANDSCAPE TYPE: KILLDEER MOUNTAINS
Typical Native Plant Community:
Northern Great Plains Aspen – Birch Woodlands: Paper Birch - Beaked Hazelnut
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the Streetscape and hills along 11th Ave. up to the Swain Hall Pedestrian crossing and excluding the proposed bermed area north of the Swain Quad.

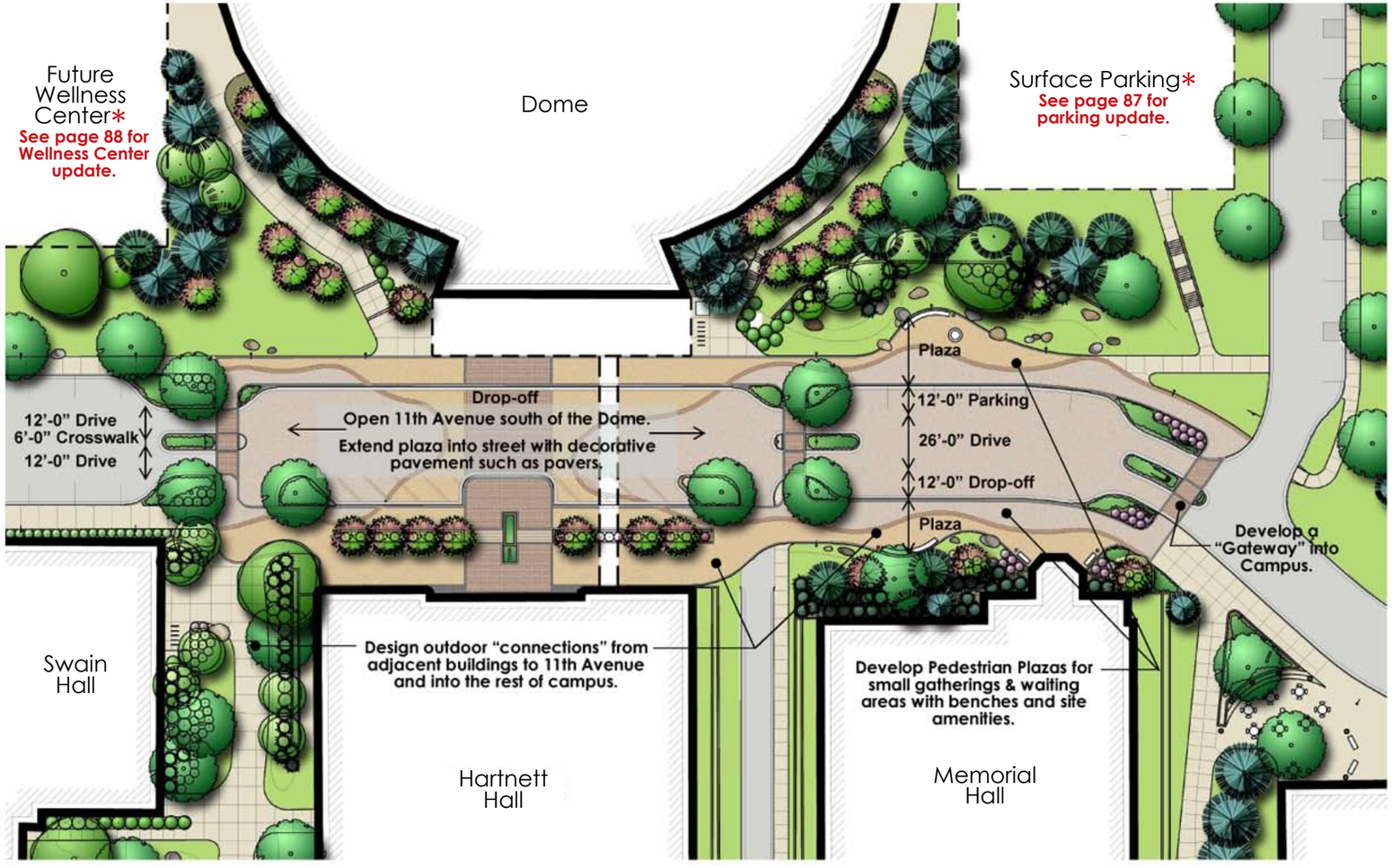
Deciduous Trees:
*Betula papyrifera 'Varen' – Prairie Dream Paper Birch
Fraxinus pennsylvanica 'Wahpeton' – Dakota Centennial Ash
(Use minimally due to Emerald Ash Borer)
Populus tremuloides 'Pikes Bay' – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak

Evergreen Trees:
Picea glauca 'Densata' – Black Hills Spruce
Pinus ponderosa - Ponderosa Pine

Ornamental Trees:
Crataegus crusgalli var. inermis – Thornless Hawthorn
Malus spp. – Crabapple

Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
Cornus canadensis - Bunchberry
Corylus americana - American Hazelnut
*Corylus cornuta - Beaked Hazelnut
Rosa 'Purple Pavement' – Purple Pavement Rose
Symphoricarpos 'Kolcharm' - Charming Fantasy Snowberry

ZONE 'C-2' PLANTING PLAN



LANDSCAPE TYPE: PEMBINA GORGE
Typical Native Plant Community:
Northern Great Plains Bur Oak Woodlands:Bur Oak - Serviceberry - Rough Leaf Dogwood- Wild Sarsaparilla
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the Streetscape and Pedestrian Plazas along 11th Ave from the Swain Hall pedestrian crossing west.

Deciduous Trees:
Celtis occidentalis - Hackberry
Fraxinus pennsylvanica 'Rugby'- Prairie Spire Ash
(Use minimally due to Emerald Ash Borer)
Ostrya virginiana - Ironwood
Populus tremuloides 'Pike's Bay' – Pikes Bay Aspen
*Quercus macrocarpa - Bur Oak
Quercus rubra - Red Oak
Tilia americana 'Sentry' - American Sentry Linden
Ulmus americana 'New Harmony' – New Harmony American Elm
(Use minimally due to Dutch Elm Disease & Cold Hardiness)

Evergreen Trees:
Picea glauca - White Spruce
Pinus strobus - Eastern White Pine

Ornamental Trees:
Acer pennsilvanica - Striped Maple
Cornus racemosa 'Jade' - Snow Mantle Dogwood
Viburnum lentago - Nanneyberry Viburnum

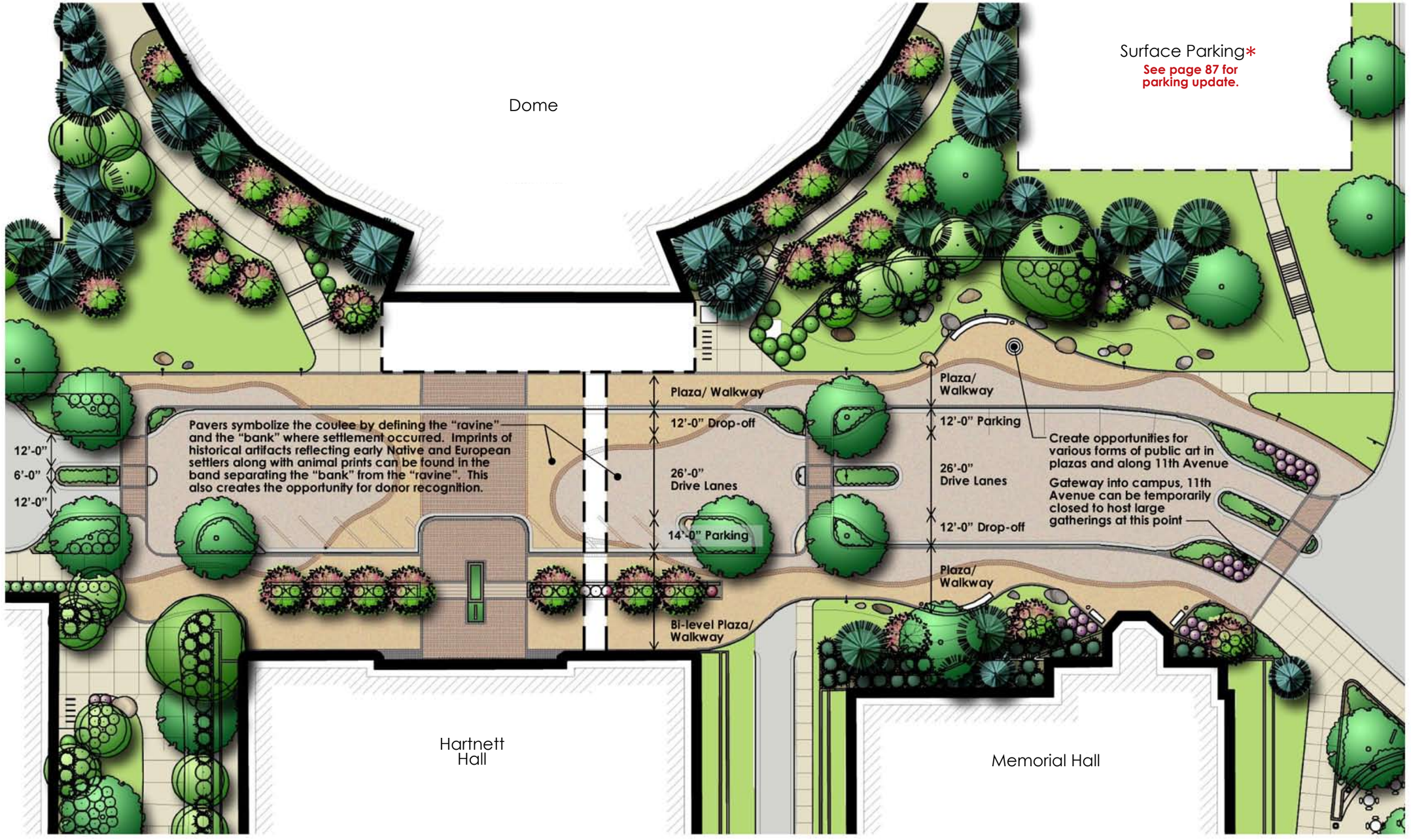
Deciduous Shrubs:
*Amelanchier alnifolia 'Regent' - Regent Serviceberry
Cornus drummondii - Roughleaf Dogwood
Cornus racemosa 'Muszam' - Muskingum Dogwood
Symphoricarpos 'Kolcharm' – Charming Fantasy Snowberry

Evergreen Shrubs:
Juniperus horizontalis 'Blue Chip' – Blue Chip Juniper

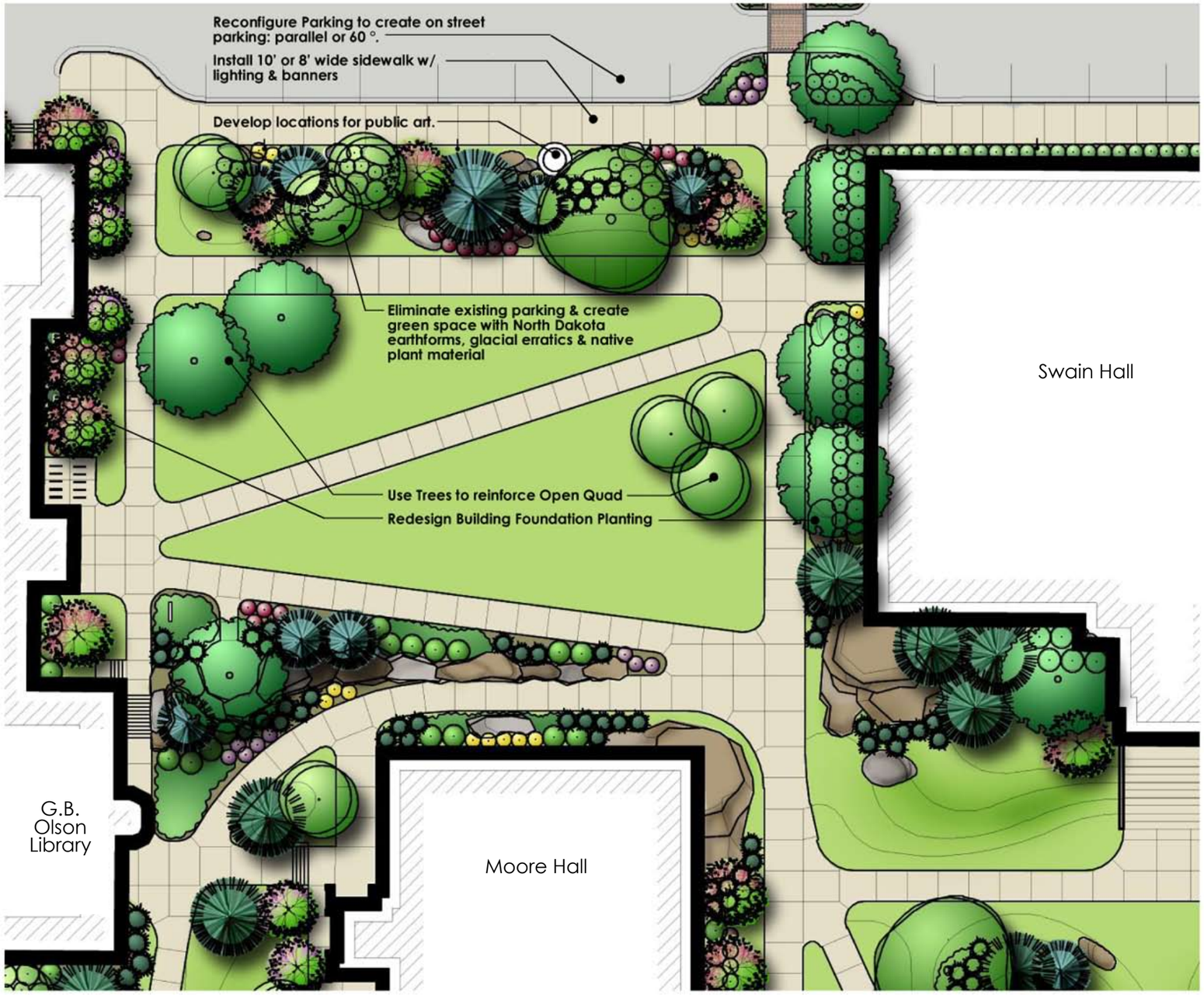
Grasses:
Carex grayi. – Gray Sedge
Carex plaintaginea – Plaintain Sedge

Perennials:
Allium stellatum - Wild Pink Onion
Hosta spp. - Hosta
Maianthemum stellatum - False Solomon's Seal
Monarda 'Petite Delight' – Petite Delight Beebalm
Narcissus spp. - Daffodils
Polygonatum biflorum - Solomon's Seal

ZONE 'C-3' PLANTING PLAN



ZONE 'D-1' PLANTING PLAN



LANDSCAPE TYPE: LITTLE MISSOURI BADLANDS
Typical Native Plant Community:
Rocky Mountains Aspen Forests: Quaking Aspen – Beaked Hazelnut Forest
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the north half of Swain Hall Quad including the proposed berm, walkway and parking.

Deciduous Trees:
Betula papyrifera 'Varen' - Prairie Dream® Paper Birch
Fraxinus pennsylvanica 'Rugby' – Prairie Spire Green Ash
(Use minimally due to Emerald Ash Borer)
*Populus tremuloides 'Pike's Bay' – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak

Evergreen Trees:
Picea glauca 'Densata' – Black Hills Spruce
Pinus flexilis - Limber Pine
Pinus ponderosa - Ponderosa Pine
Pinus resinosa - Red Pine

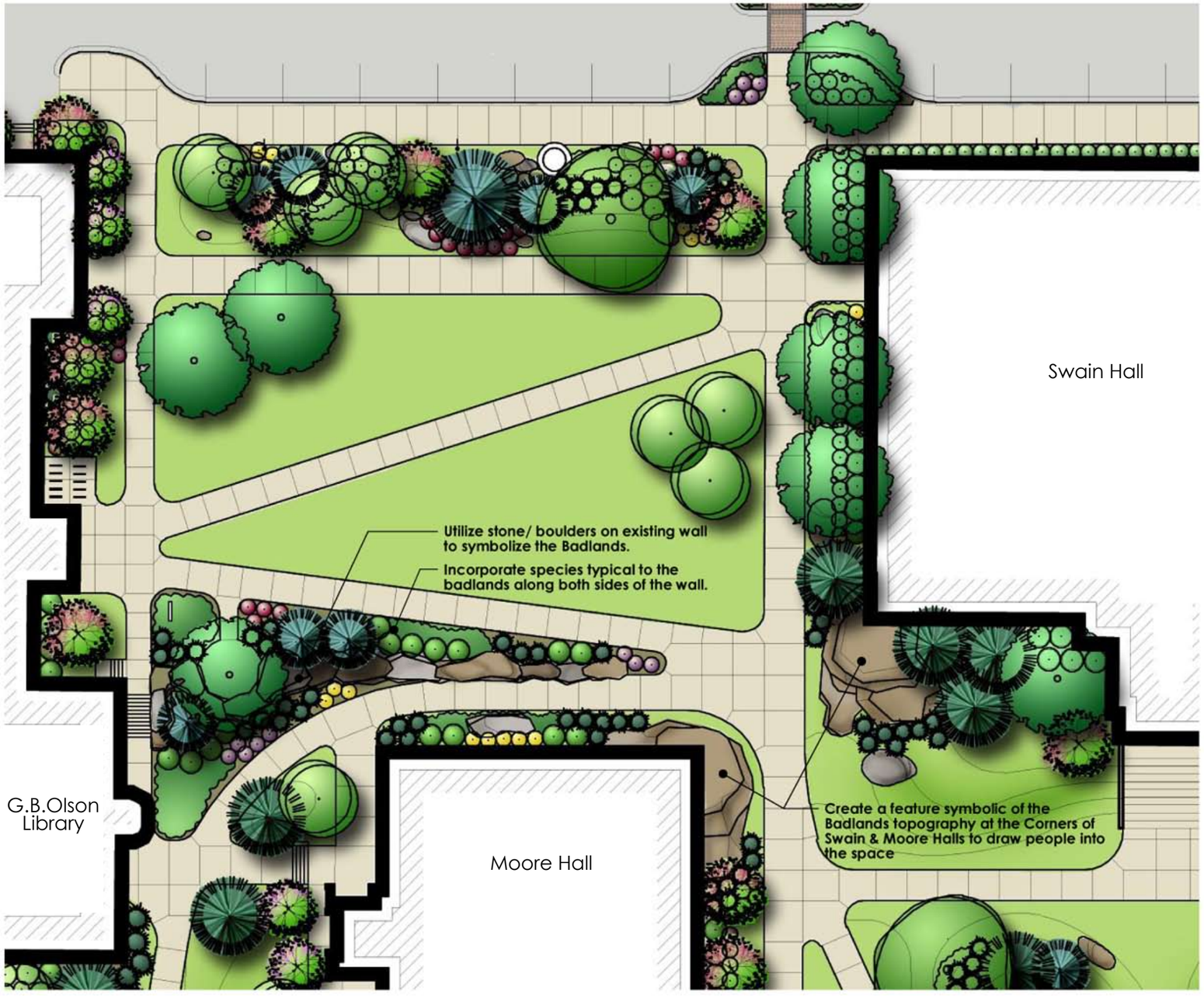
Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
Cornus canadensis - Bunchberry
*Corylus cornuta - Beaked Hazelnut
Symphoricarpos 'Scarlet Pearl' - Scarlet Pearl Snowberry
Spiraea betulifolia 'Tor' – Tor Birch Leafed Spirea

Evergreen Shrubs:
Juniper chinensis 'Armstong' – Armstong Juniper
Juniper communis depressa 'AmiDak' – Blueberry Delight Juniper

Grasses:
Carex pensylvanica - Pennsylvania Sedge

Perennials:
Maianthemum canadense - Canadian Mayflower
Narcissus spp. - Daffodils
Polygonatum biflorum - Solomon's Seal

ZONE 'D-2' PLANTING PLAN



LANDSCAPE TYPE: LITTLE MISSOURI BADLANDS
Typical Native Plant Communities:
Northern Great Plains Juniper & Pine Forests & Woodlands: Limber Pine/ Bluebunch Wheatgrass
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the south half of the Swain Hall Quad including the wall north of Moore Hall and the proposed Badlands landscape feature.

Evergreen Trees:
Juniperus scopulorum 'Cologreen' - Cologreen Juniper
*Pinus flexilis 'Vanderwolf's Pyramid' - Vanderwolf's Pyrimid Pine
Pinus ponderosa - Ponderosa Pine

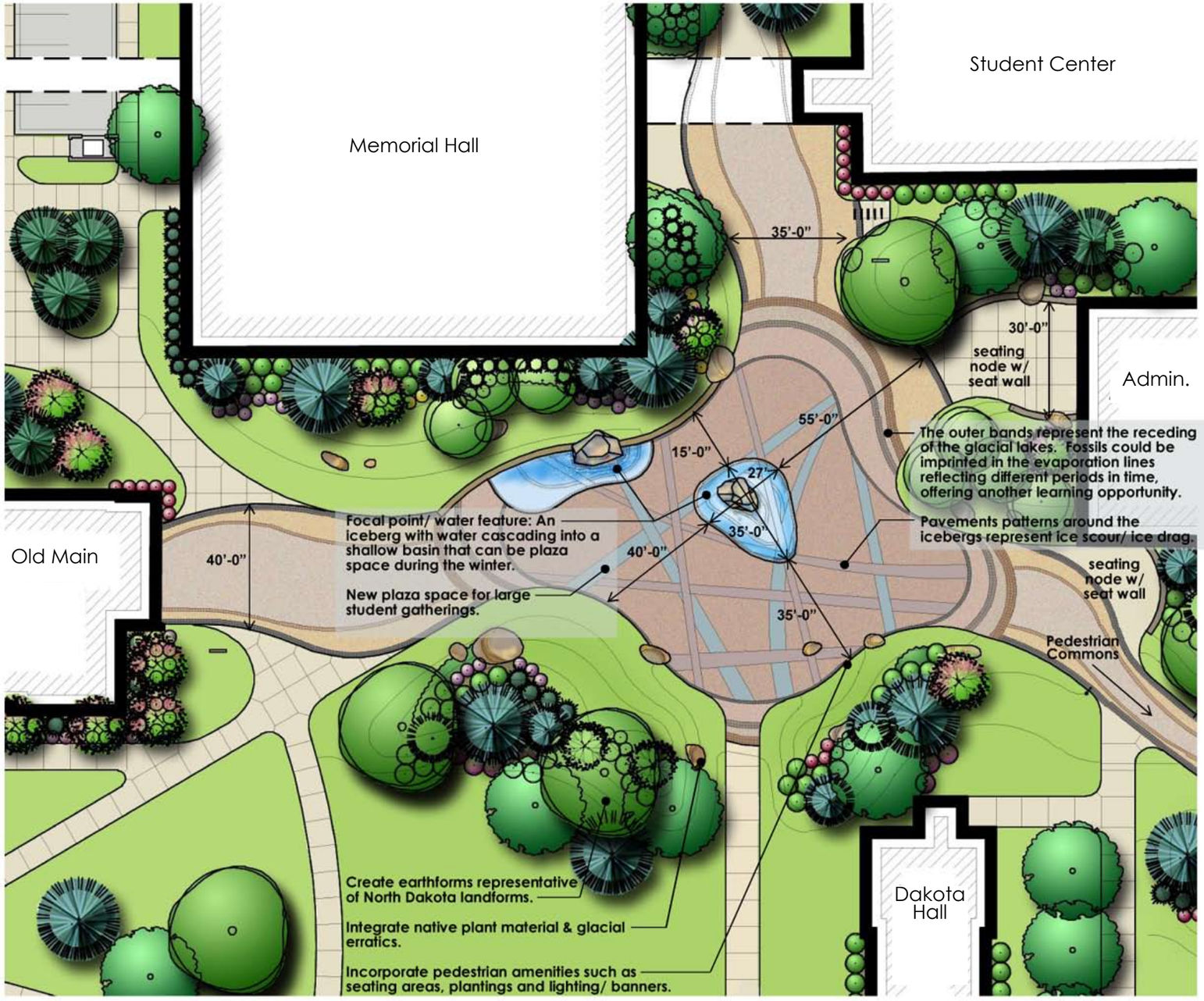
Deciduous Shrubs:
Potentilla fruticosa 'Red Ace' – Red Ace Potentilla
Rhus aromatica 'Gro-low' - Gro-low Sumac

Evergreen Shrubs:
Arctostaphylos uva-ursi - Bearberry
Juniperus communis depressa 'AmiDak' – Blueberry Delight Juniper
Juniperus scopulorum 'Table Top' - Table Top Juniper

Grasses:
*Agropyron spicatum - Bluebunch Wheatgrass
Bouteloua gracilis - Blue Grama
Koeleria macrantha - Junegrass

Perennials:
Achillea millefolium 'Paprika' - Paprika Yarrow
Gaillardia aristata - Blanket Flower
Liatris punctata - Blazing Star
Lupinus argenteus - Silvery Lupine
Phlox divaricata 'Charles Ricardo' - Charles Ricardo Phlox

ZONE 'E' PLANTING PLAN



LANDSCAPE TYPE: Red River Valley
Typical Native Plant Community:
Aspen Parkland Forests & Woodlands: Bur Oak - Aspen Woodland
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the groupings of trees and shrubs surrounding the plaza and the immediate connecting walkways

Deciduous Trees:
Betula papyrifera 'Renci' – Renaissance Paper Birch
Fraxinus pennsylvanica 'Rugby' – Prairie Spire Green Ash
(Use minimally due to Emerald Ash Borer)
*Populus tremuloides 'Pikes Bay' – Pike's Bay Aspen
*Quercus macrocarpa - Bur Oak
Quercus rubra - Red Oak
Ulmus americana 'Valley Forge' – Valley Forge American Elm
(Use minimally due to Dutch Elm Disease & Cold Hardiness)

Evergreen Trees:
Picea glauca var. densata - Black Hills Spruce
Pinus strobus - Eastern White Pine

Ornamental Trees:
Amelanchier 'Autumn Brilliance' - Autumn Brilliance Serviceberry
Cornus racemosa 'Jade' - Snow Mantle Dogwood

Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
Aronia melanocarpa 'Elata' - Glossy Black Chokeberry
Cornus canadensis - Bunchberry
Cornus sericea 'Alleman's Compact' - Alleman's Compact Dogwood
*Corylus americana - American Hazelnut
*Corylus cornuta - Beaked Hazelnut
Rosa rugosa 'Jacrulav' - Wildberry Breeze Rose
Symphoricarpos 'Kolcharm' - Charming Fantasy Snowberry
Viburnum trilobum 'Wentworth' - Wentworth Viburnum

Evergreen Shrubs:
Juniperus horizontalis - Creeping Juniper

Grasses:
Carex pensylvanica - Pennsylvanica Sedge

Perennials:
Allium stellatum - Wild Pink Onion
Campanula rotundifolia - Harebell

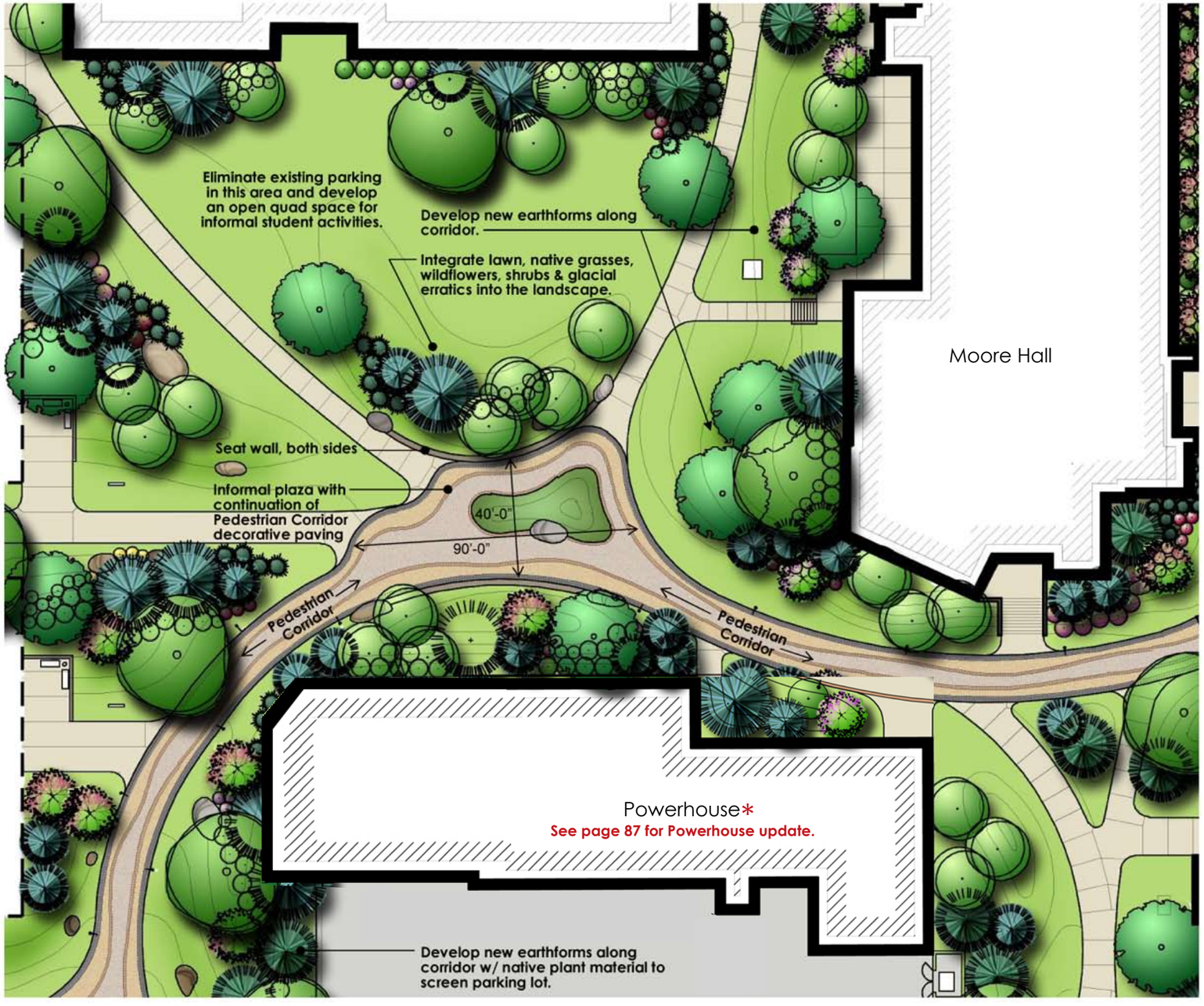
LANDSCAPE TYPE: RED RIVER VALLEY
Typical Native Plant Community:
Midwestern Sand & Gravel Tallgrass Prairies: Little Bluestem – Grama Species - Porcupine Grass
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the herbaceous planting beds surrounding the plaza and the immediate walkways.

Grasses:
Andropogon gerardii - Big Bluestem
*Bouteloua curtipendula - Sideoats Grama
*Bouteloua gracilis - Blue Grama
*Schizachyrium scoparium - Little Bluestem
Sporobolus heterolepis - Prairie Dropseed

Perennials:
Echinacea angustifolia - Purple Coneflower
Liatris punctata - Blazing Star
Penstemon - Penstemon
Yarrow millefolium - Yarrow

ZONE 'F-1' PLANTING PLAN



LANDSCAPE TYPE: DEVIL'S LAKE REGION
Typical Native Plant Community:
Aspen Parkland Forests and Woodlands: Quaking Aspen – Balsam Poplar - Blue Joint
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the Quad area north of the Powerhouse, including the portion of the Pedestrian Corridor locate in this area.

Deciduous Trees:
Acer x freemanii 'Autumn Blaze' – Autumn Blaze Maple
Fraxinus pennsylvanica 'Patmore' – 'Patmore' Ash
(Use minimally due to Emerald Ash Borer)
*Populus balsamifera - Balsam Poplar
*Populus tremuloides 'Pike's Bay) – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak
Tilia americana 'Sentry' - American Sentry Linden

Evergreen Trees:
Abies balsamea - Balsam Fir
Picea glauca 'Densta' – Black Hills Spruce
Pinus strobus - Eastern White Pine

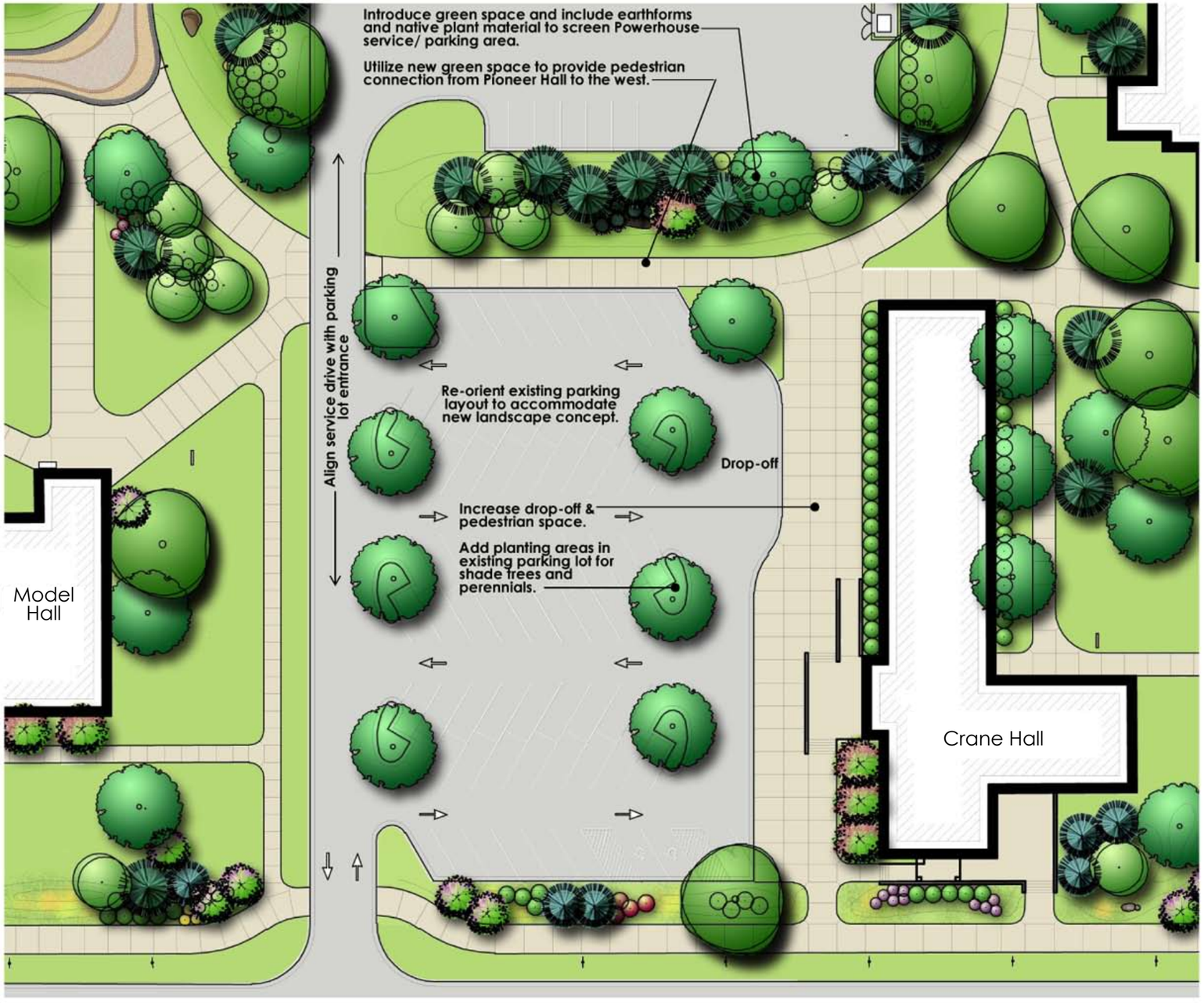
Ornamental Trees:
Viburnum lentago - Nannyberry Viburnum

Deciduous Shrubs:
Alnus incana - Speckled Alder
Cornus canadensis - Bunchberry
Cornus sericea 'Alleman's Compact' - Alleman's Compact Dogwood
Corylus americana - American Hazelnut
Rosa 'Purple Pavement' - Purple Pavement Rose
Rosa rugosa 'Jacrulav' - Wildberry Breeze Rose

Grasses:
Calamogrostis canadensis - Blue Joint Reed Grass
Calamgrostis x acutiflora 'Karl Foerster' - Karl Foerster Reed Grass
Carex bebbii - Bebb's Sedge
Carex grayi - Gray's Sedge

Perennials:
Monarda fistulosa 'Gardenview Scarlet'- 'Gardenview Scarlet Beebalm
Narcissus spp. - Daffodils

ZONE 'F-2' PLANTING PLAN



LANDSCAPE TYPE: DEVIL'S LAKE REGION
Typical Native Plant Community:
Aspen Parkland Forests and Woodlands: Quaking Aspen – Balsam Poplar - Blue Joint
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the area surrounding the parking lot south of the Powerhouse between Crane Hall and Model Hall.

Deciduous Trees:
Acer x freemanii 'Autumn Blaze' – Autumn Blaze Maple
Fraxinus pennsylvanica 'Patmore' – 'Patmore' Ash
(Use minimally due to Emerald Ash Borer)
*Populus balsamifera - Balsam Poplar
*Populus tremuloides 'Pike's Bay) – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak
Tilia americana 'Sentry' - American Sentry Linden

Evergreen Trees:
Abies balsamea - Balsam Fir
Picea glauca 'Densta' – Black Hills Spruce
Pinus strobus - Eastern White Pine

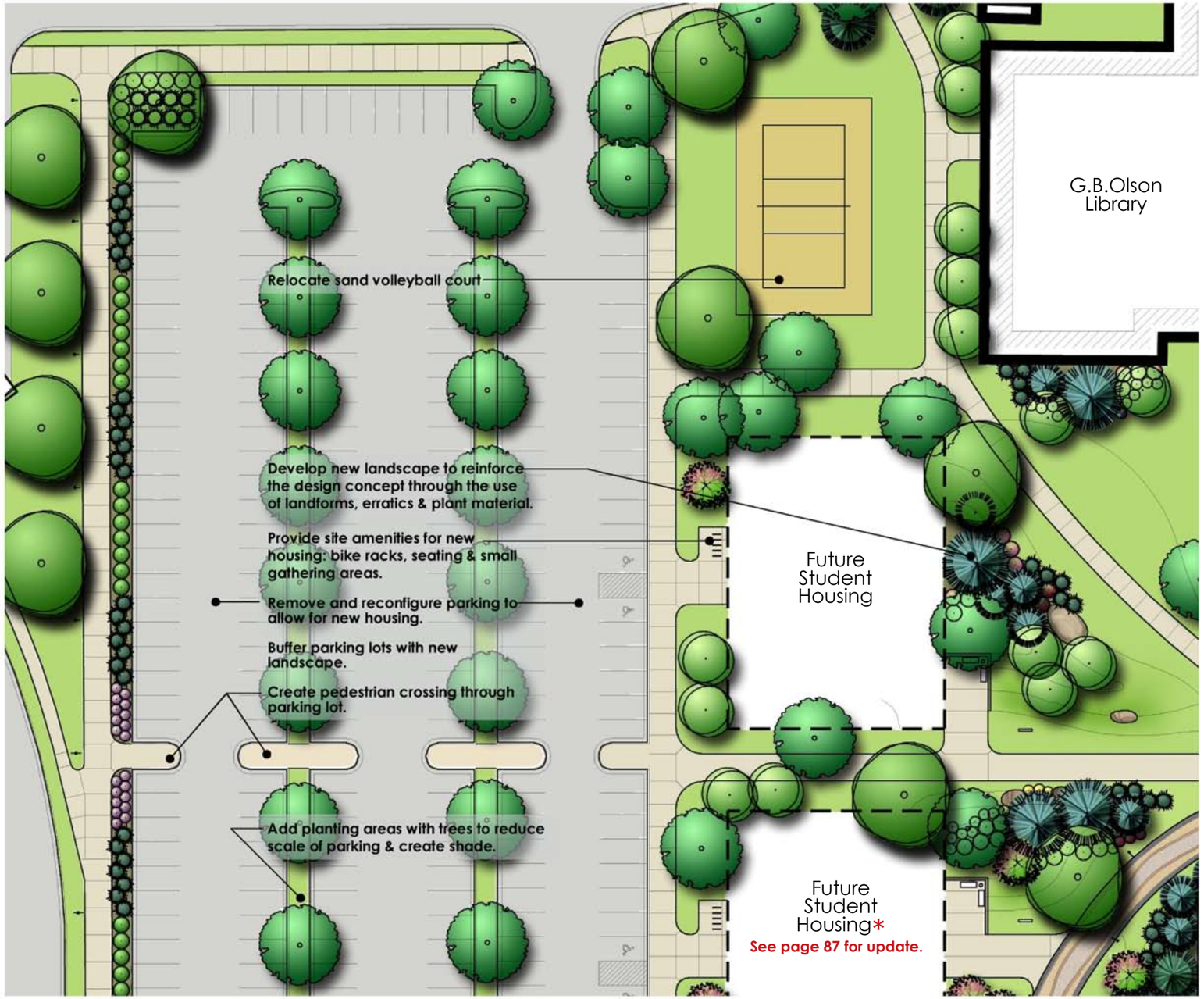
Ornamental Trees:
Viburnum lentago - Nannyberry Viburnum

Deciduous Shrubs:
Alnus incana - Speckled Alder
Cornus canadensis - Bunchberry
Cornus sericea 'Alleman's Compact' - Alleman's Compact Dogwood
Corylus americana - American Hazelnut
Rosa 'Purple Pavement' - Purple Pavement Rose
Rosa rugosa 'Jacrulav' - Wildberry Breeze Rose

Grasses:
Calamogrostis canadensis - Blue Joint Reed Grass
Calamgrostis x acutiflora 'Karl Foerster' - Karl Foerster Reed Grass
Carex bebbii - Bebb's Sedge
Carex grayi - Gray's Sedge

Perennials:
Monarda fistulosa 'Gardenview Scarlet'- 'Gardenview Scarlet Beebalm
Narcissus spp. - Daffodils

ZONE 'G-1' PLANTING PLAN



LANDSCAPE TYPE: MISSOURI PLATEAU
Typical Native Plant Community:
Northern Great Plains Aspen - Birch Woodlands: Paper Birch - Hazel
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the New Housing area and the west parking lot.

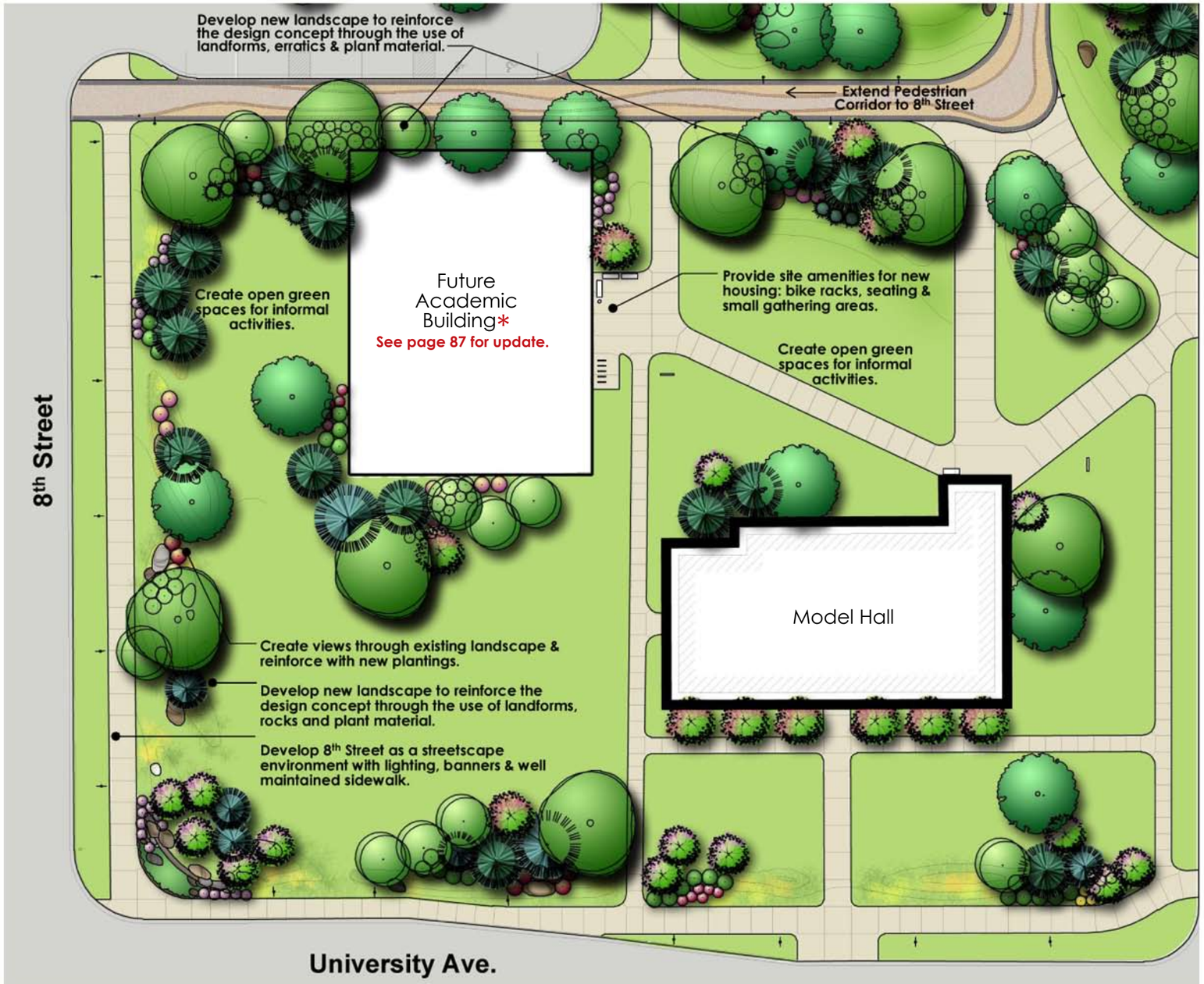
Deciduous Trees:
*Betula paprifera - Paper Birch
Fraxinus pennsylvanica 'Patmore' – Patmore Ash
Populus tremuloides 'Pike's Bay' – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak
Quercus ellipsoidalis - Northern Pin Oak

Evergreen Trees:
Pinus banksiana - Jack Pine
Pinus ponderosa - Ponderosa Pine
Pinus resinosa - Red Pine

Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
*Corylus cornuta - Beaked Hazelnut
Shepherdia argentea - Silver Buffaloberry
Spiraea betulifolia 'Tor' – Tor Birch Leafed Spirea
Symphoricarpos 'Bokabright' – Bright Fantasy Snowberry

Evergreen Shrubs:
Juniperus horizontalis - Creeping Juniper

ZONE 'G-2' PLANTING PLAN



LANDSCAPE TYPE: MISSOURI PLATEAU
Typical Native Plant Community:
Northern Great Plains Aspen - Birch Woodlands: Paper Birch - Hazel
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the New Housing area, the portion of the Pedestrian Cooridor located in the area and the Streetscape along 8th Street.

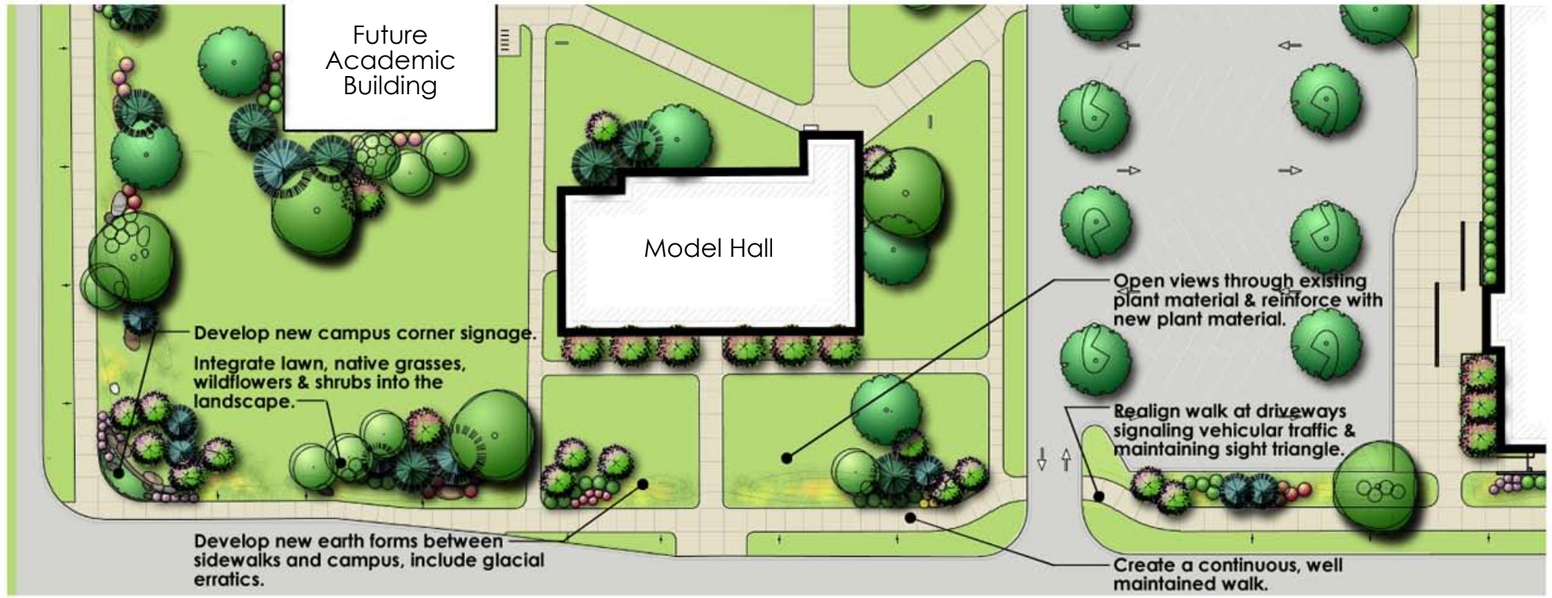
Deciduous Trees:
*Betula paprifera - Paper Birch
Fraxinus pennsylvanica 'Patmore' – Patmore Ash
Populus tremuloides 'Pike's Bay' – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak
Quercus ellipsoidalis - Northern Pin Oak

Evergreen Trees:
Pinus banksiana - Jack Pine
Pinus ponderosa - Ponderosa Pine
Pinus resinosa - Red Pine

Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
*Corylus cornuta - Beaked Hazelnut
Shepherdia argentea - Silver Buffaloberry
Spiraea betulifolia 'Tor' – Tor Birch Leafed Spirea
Symphoricarpos 'Bokabright' – Bright Fantasy Snowberry

Evergreen Shrubs:
Juniperus horizontalis - Creeping Juniper

ZONE 'G-3' PLANTING PLAN



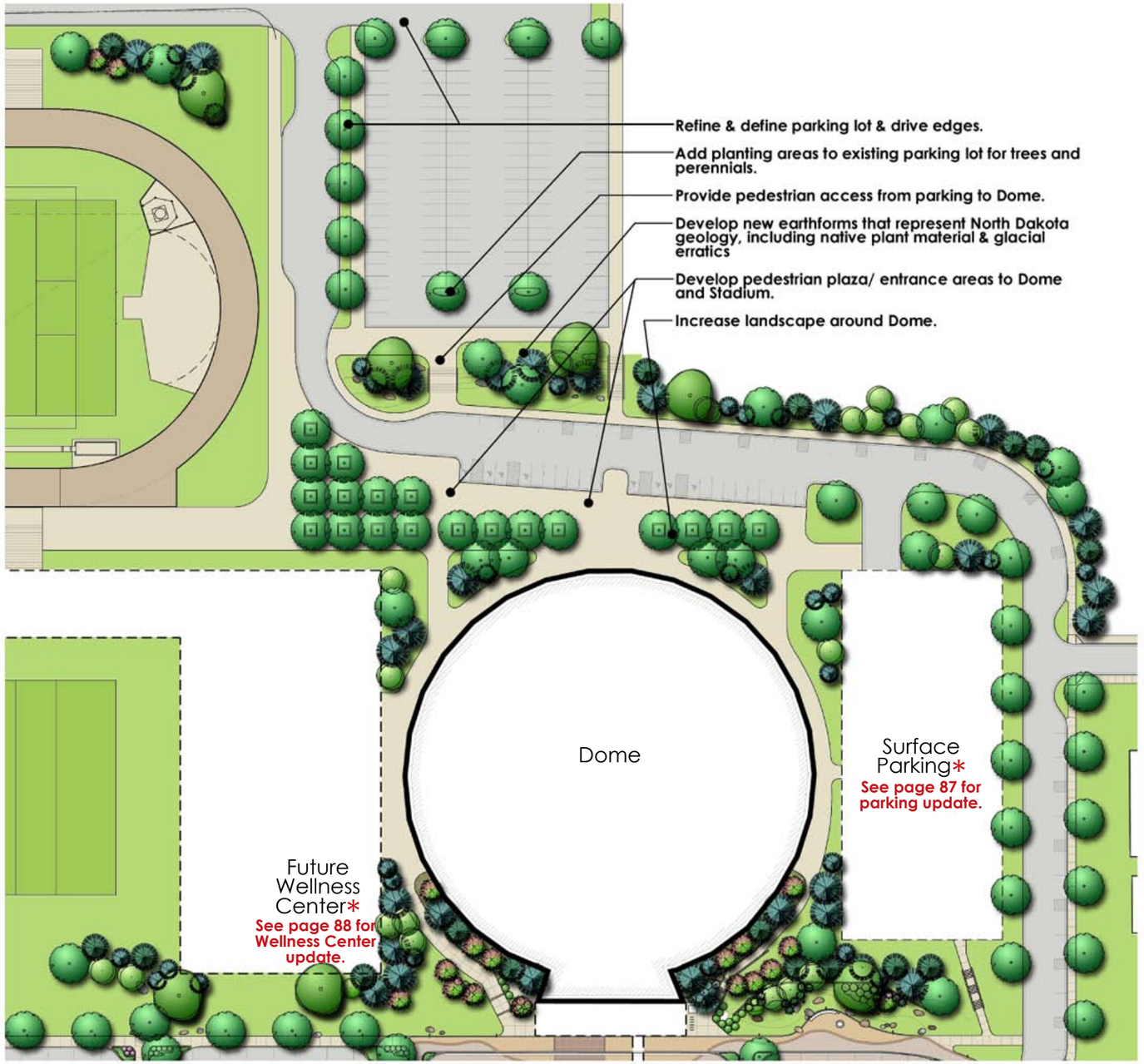
LANDSCAPE TYPE: GLACIATED PLAINS
Typical Native Plant Community:
Great Plains Mixedgrass Prairies: Little Bluestem – Grama Species - Porcupine Grass
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the berms along University Ave.

Grasses:
Andropogon gerardii - Big Bluestem
*Bouteloua curtipendula - Sideoats Grama
*Bouteloua gracilis - Blue Grama
*Schizachyrium scoparium - Little Bluestem
Sporobolus heterolepsis - Prairie Dropseed
Stipa viridula - Needlegrass

Perennials:
Allium stellatum - Wild Pink Onion
Aster novae-angliae - New England Aster
Campanula rotundifolia - Harebell
Echinacea angustifolia - Purple Coneflower
Gaillardia aristat - Blanket Flower
Liatris punctata - Blazing Star
Penstemon grandiflorus - Large Flowered Penstemon
Ratibida columnifera - Prairie Coneflower
Yarrow millefolium – Yarrow

ZONE 'H' PLANTING PLAN



LANDSCAPE TYPE: PEMBINA GORGE
Typical Native Plant Community:
Northern Great Plains Bur Oak Woodlands:Bur Oak - Serviceberry - Rough Leaf Dogwood- Wild Sarsaparilla
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the area surrounding the Dome on the North, East and West sides including the drive and the parking lot to the north.

Deciduous Trees:
Celtis occidentalis - Hackberry
Fraxinus pennsylvanica 'Rugby'- Prairie Spire Ash
(Use minimally due to Emerald Ash Borer)
Ostrya virginiana - Ironwood
Populus tremuloides 'Pike's Bay' – Pikes Bay Aspen
*Quercus macrocarpa - Bur Oak
Quercus rubra - Red Oak
Tilia americana 'Sentry' - American Sentry Linden
Ulmus americana 'New Harmony' – New Harmony American Elm
(Use minimally due to Dutch Elm Disease & Cold Hardiness)

Evergreen Trees:
Picea glauca - White Spruce
Pinus strobus - Eastern White Pine

Ornamental Trees:
Acer pennsilvanica - Striped Maple
Cornus racemosa 'Jade' - Snow Mantle Dogwood
Viburnum lentago - Nanneyberry Viburnum

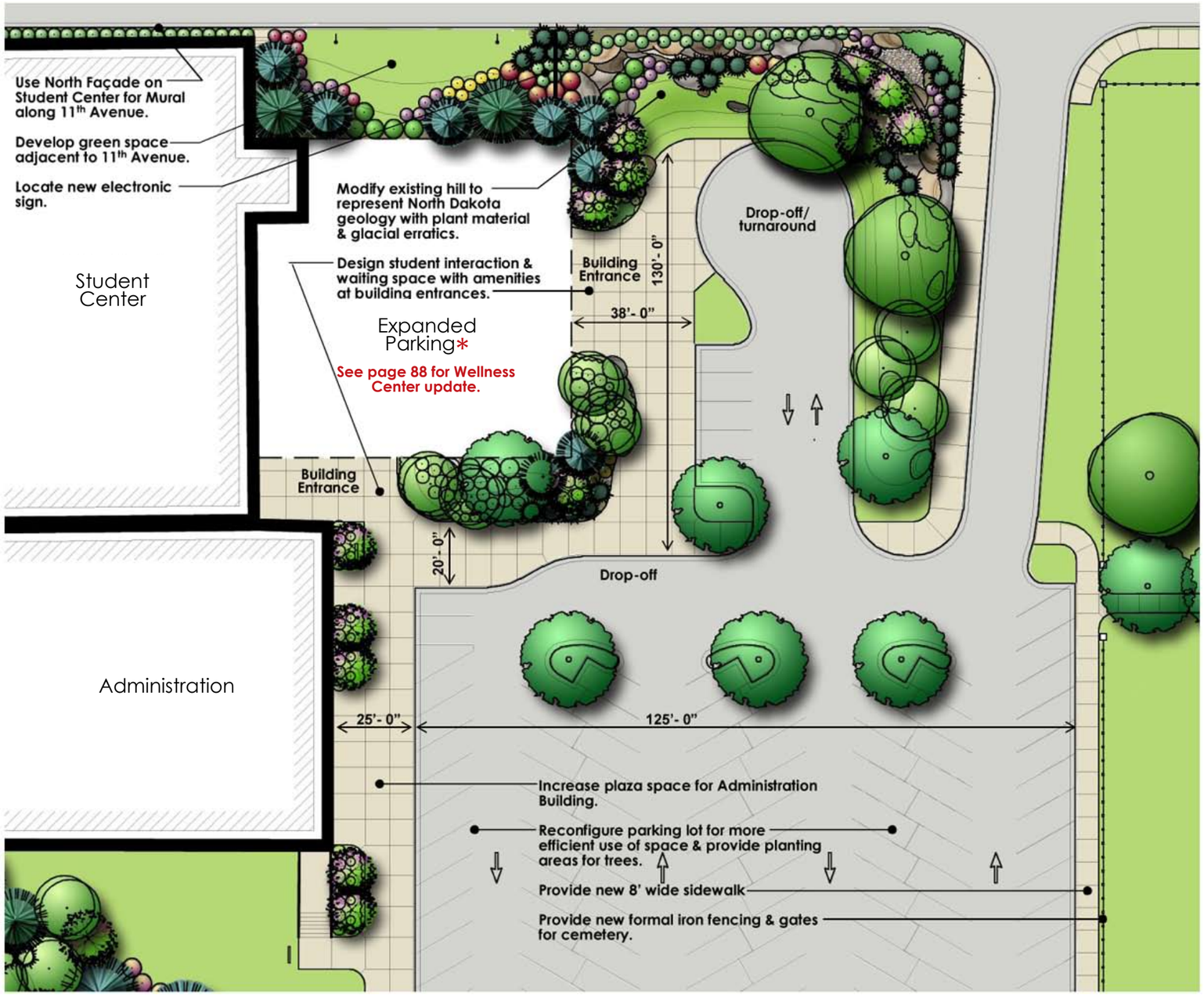
Deciduous Shrubs:
*Amelanchier alnifolia 'Regent' - Regent Serviceberry
Cornus drummondii - Roughleaf Dogwood
Cornus racemosa 'Muszam' - Muskingum Dogwood
Symphoricarpos 'Kolcharm' – Charming Fantasy Snowberry

Evergreen Shrubs:
Juniperus horizontalis 'Blue Chip' – Blue Chip Juniper

Grasses:
Carex grayi. – Gray Sedge
Carex plaintaginea – Plaintain Sedge

Perennials:
Allium stellatum - Wild Pink Onion
Hosta spp. - Hosta
Maianthemum stellatum - False Solomon's Seal
Monarda 'Petite Delight' – Petite Delight Beebalm
Narcissus spp. - Daffodils
Polygonatum biflorum - Solomon's Seal

ZONE 'I' PLANTING PLAN



LANDSCAPE TYPE: COTEAU SLOPE
Typical Native Plant Communities:
Rocky Mountain Aspen Forests: Quaking Aspen - Beaked Hazelnut
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the area east of the Student Center and Administration Building including the parking lot and the hill south of 11th Ave.

Deciduous Trees:
Betula papyrifera 'Varen' – Prairie Dream Paper Birch
Fraxinus pennsylvanica 'Wahpeton' – Dakota Centennial Ash
(Use minimally due to Emerald Ash Borer)
*Populus tremuloides 'Pike's Bay' – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak
Quercus ellipsoidalis - Northern Pin Oak

Evergreen Trees:
Picea glauca - White Spruce
Pinus ponderosa - Ponderosa Pine
Pinus resinosa - Red Pine

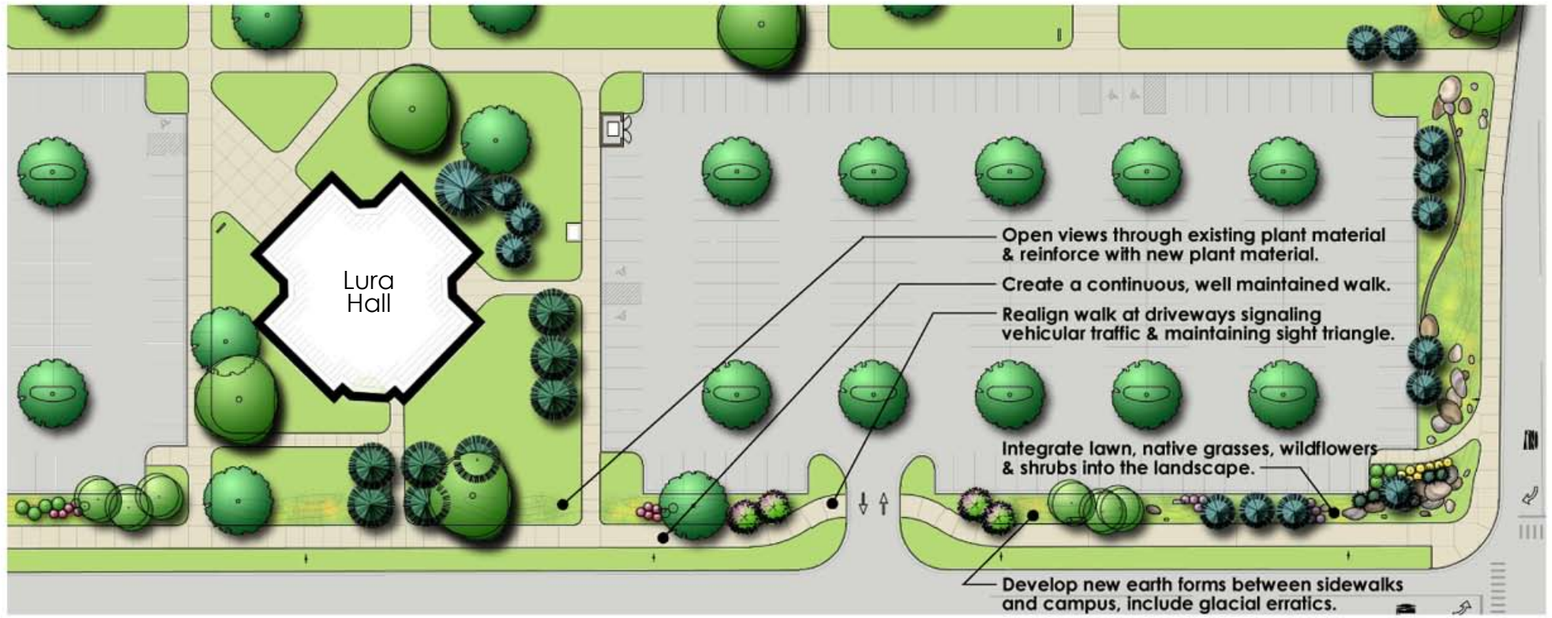
Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
*Corylus cornuta - Beaked Hazelnut
Spiraea betulifolia 'Tor' – 'Tor' Birch Leafed Spirea
Symphoricarpos 'Kolcharm' – Charming Fantasy Snowberry

Evergreen Shrubs:
Juniperus horizontalis 'Plumosa Compacta' – Compact Plumosa Juniper

Grasses:
Bouteloua curtipendula - Sideoats Grama
Bouteloua gracilis - Blue Grama
Carex pensylvanica - Pennsylvania Sedge
Sporobolus heterolepsis - Prairie Dropseed

Perennials:
Allium stellatum - Wild Pink Onion
Dalea purpurea - Purple Prairie Clover
Lupinus argenteus - Silvery Lupine
Maianthemum canadense - False Solomon's Seal
Polygonatum biflorum - Solomon's Seal
Pulsatilla patens - Pasque Flower

ZONE 'J-1' PLANTING PLAN



LANDSCAPE TYPE: GLACIATED PLAINS
Typical Plant Community:
Northern Great Plains Oak Savanna: Bur Oak - Mixedgrass
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the groupings of trees and shrubs on the berms along University Ave.

Deciduous Trees:
Fraxinus pennsylvanica 'Patmore' – Patmore Green Ash
(Use minimally due to Emerald Ash Borer)
Populus tremuloides - Quaking Aspen
*Quercus macrocarpa - Bur Oak
Quercus rubra - Red Oak

Evergreen Trees:
Picea gluauca 'Densata' – Black Hills Spruce
Picea pungens var. glauca – Colorado Blue Spruce

Ornamental Trees:
Amelanchier 'Autumn Brilliance' - Autumn Brilliance Serviceberry
Malus spp. - Crabapple

Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
Rhus aromatica 'Gro-low' – Gro-low Sumac
Rosa 'Jacrulav – Wildberry Breeze Rose
Amorpha canescens - Lead Plant
Symphoricarpos 'Kolcharm' – Charming Fantasy Snowberry

Evergreen Shrubs:
Juniperus horizontalis 'Youngstown' – Youngstown Andorra Juniper

Grasses:
Andropogon gerardii - Big Bluestem
Bouteloua curtipendula – Sideoats Grama
Bouteloua gracilis – Blue Grama
Schizachyrium scoparium - Little Bluestem

Perennials:
Anemone multifida 'Major' – Major Anemone
Dalea purpurea - Purple Prairie Clover
Heuchera sanguinea 'Firefly' – Firefly Coralbell
Liatris punctata - Blazing Star

ZONE 'J-2' PLANTING PLAN

LANDSCAPE TYPE: MISSOURI RIVER BOTTOM LANDS
Typical Native Plant Community:
Northern & Central Great Plains Wooded Riparian Vegetation: Green Ash – American Elm – Western Snowberry Forest
*denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the southeast corner of campus including the student housing area and the portion of the Pedestrian Corridor located in this area. This does not apply to the signage or berming along Broadway Blvd and University Ave.

Deciduous Trees:
Acer rubrum 'Autumn Flame' – Autumn Flame Maple
Celtis occidentalis 'Prairie Pride' – Prairie Pride Hackberry
*Fraxinus pennsylvanica 'Rugby' – Prairie Spire Ash
(Use minimally due to Emerald Ash Borer)
Populus tremuloides 'Pike's Bay' – Pike's Bay Aspen
Quercus macrocarpa - Bur Oak
* Ulmus japonica 'Discovery' – Discovery Elm
(Use minimally due to Dutch Elm Disease & cold hardiness)

Evergreen Trees:
Juniperus scopulorum 'Cologreen' – Cologreen Juniper
Picea glauca 'Densata' – Black Hills Spruce
Picea pungens var. glauca – Colorado Blue Spruce

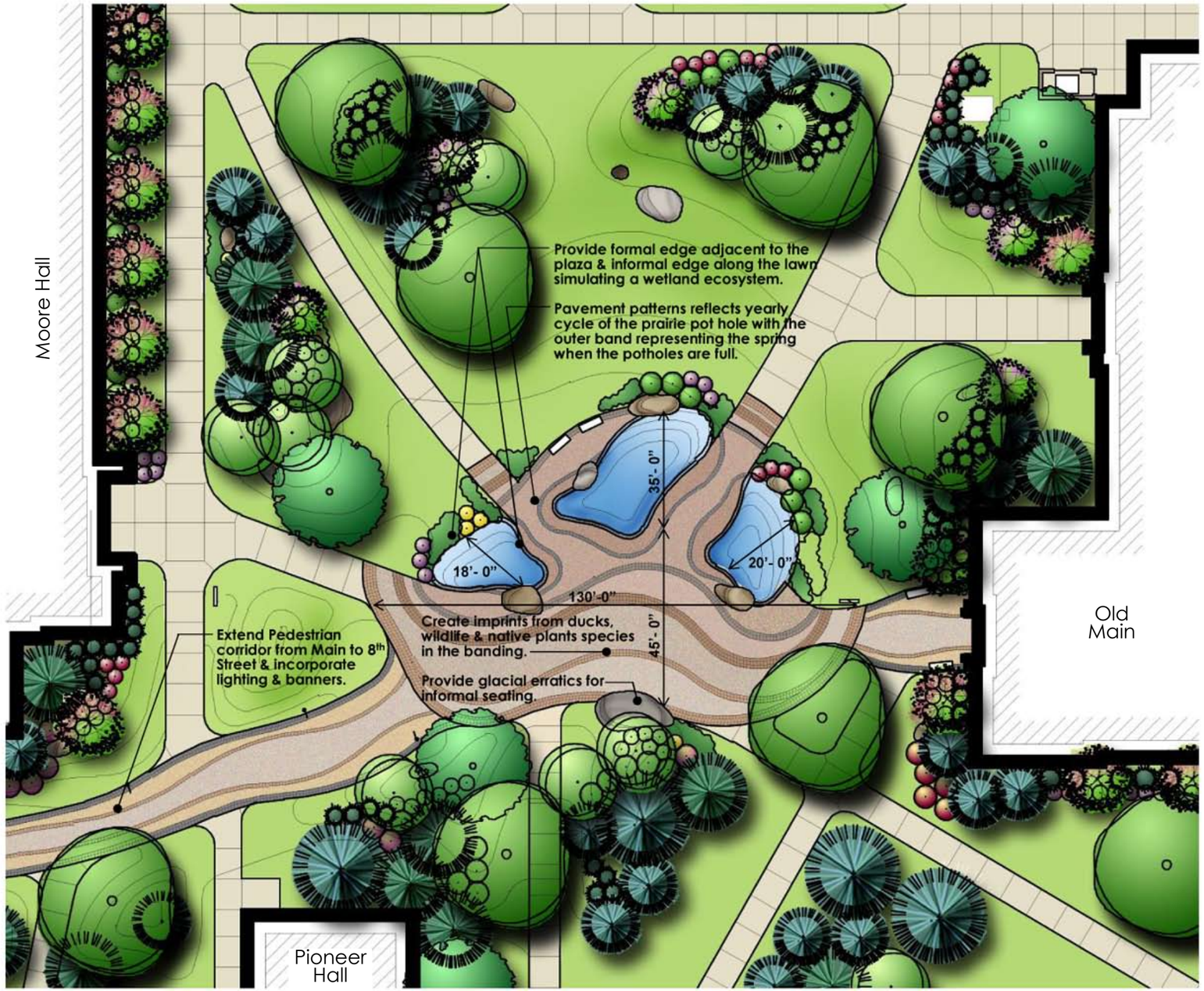
Ornamental Trees:
Crataegus crusgalli var. inermis – Thornless Hawthorn
Malus spp. - Crabapples

Deciduous Shrubs:
Cornus sericea 'Alleman's Compact' – Alleman's Compact Dogwood
Rhus aromatica 'Gro-low' – Gro-low Sumac
Rosa 'Hope for Humanity' – Hope for Humanity Rose
* Symphoricarpos 'Scarlet Pearl' – Scarlet Pearl Snowberry

Evergreen Shrubs:
Juniperus scopulorum 'Table Top' – Table Top Juniper

Grasses:
Elymus canadensis – Canada Wild-Rye

ZONE 'K-1' PLANTING PLAN



LANDSCAPE TYPE: PRAIRIE POTHOLES
Typical Native Plant Community:
Midwestern Wet Prairies and Meadows: Prairie Cordgrass – Western Bluejoint - Sedge Species
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the planting bed surrounding the Water Feature north of the plaza.

Deciduous Shrubs:
Symphoricarpos 'Kolcharm' - Charming Fantasy Snowberry
Symphoricarpos 'Scarlet Pearl' - Scarlet Pearl Snowberry
Salix purpurea 'Nana' - Dwarf Arctic Blue Leaf Willow

Grasses:
Calamgrostis canadensis - Blue Joint Reed Grass
Calamgrostis x 'Karl Foerster' - Karl Foerster Reed Grass
Carex stricta - Tussock Sedge
Juncas balticus - Baltic Reed
*Spartina pectinata - Prairie Cordgrass
Typha anagustifolia - Narrow-leaved Cattail

Perennials:
Eleocharis palustris - Common Spike-rush
Iris spp. - Iris
Liatris pycnostachya - Prairie Blazing Star
Narcissus spp. - Daffodils
Pycnathemum virginianum - Mountain Mint
Stachys palustris - Marsh woundwart

ZONE 'K-2' PLANTING PLAN

LANDSCAPE TYPE: MISSOURI COTEAU
Typical Native Plant Community:
Northern Great Plains Bur Oak Woodlands: Bur Oak - Hazelnut
* denotes Dominant Species

Acceptable Species for Consideration
Note: Species apply to the groupings of trees, shrubs and perennials throughout the Quad south of Swain Hall, west of Main.

Deciduous Trees:
Populus tremuloides - Quaking Aspen
Fraxinus pennsylvanica 'Patmore' - Patmore Ash
(Use minimally due to Emerald Ash Borer)
*Quercus macrocarpa - Bur Oak

Evergreen Trees:
Abies balsamea - Balsam Fir
Picea glauca - White Spruce
Pinus strobus - Eastern White Pine

Ornamental Trees:
Amelanchier 'Autumn Brilliance' - Autumn Brilliance Serviceberry

Deciduous Shrubs:
Alnus incana - Speckled Alder
Amelanchier alnifolia 'Regent' - Regent Serviceberry
*Corylus americana - American Hazelnut
*Corylus cornuta - Beaked Hazelnut
Symphoricarpos 'Kolcharm' - Charming Fantasy Snowberry

Evergreen Shrubs:
Arctostaphylos uva-ursi - Bearberry
Juniperus communis - Common Juniper

LANDSCAPE TYPE: MISSOURI COTEAU
Typical Native Plant Community:
Northern Great Plains Oak Savannas: Bur Oak – Mixedgrass
* denotes Dominate Species

Acceptable Species for Consideration
Note: Species apply to the groupings of trees, shrubs and perennials throughout the Quad south of Swain Hall, west of Main.

Deciduous Trees:
*Quercus macrocarpa - Bur Oak

Deciduous Shrubs:
Amelanchier alnifolia 'Regent' - Regent Serviceberry
Rosa x 'Winnipeg Parks' - Winnipeg Parks Rose
Rosa 'Hope for Humanity' - Hope for Humanity Rose
Symphoricarpos 'Kolcharm' - Charming Fantasy Snowberry

Grasses:
Andropogon gerardii - Big Bluestem
Elymus canadensis - Nodding Wild-Rye
Schizachyrium scoparium - Little Bluestem
Stipa viridula - Needlegrass

Perennials:
Anemone multifida 'Major' - Annabelle White Anemone
Heuchera sanguinea 'Firefly' - Firefly Coral Bells
Hosta spp. - Hosta
Monarda fistulosa - Beebalm

Species Lists

Numerous plant species can be identified from the various landscape types described above that can be utilized on the MSU campus to help transform the existing ornamental landscape to a native and naturalized landscape in harmony with the genius loci of place. The following tables indicate native and naturalized plant species that are shown on the landscape plans accompanying this report.

- Evergreen Trees
- Overstory Trees
- Small Trees
- Shrubs
- Grasses
- Perennials

Evergreen Trees

Native Species		Native/ Naturalized Species for Consideration		Species Characteristics		
Scientific Name	Common Name	Common Name	Scientific Name	Zone	Size	Leaf Color
Abies balsamea	Balsam Fir ***Use as specimen tree**			3	h50' x w20'	Dark Green
Juniperus scopulorum	Rocky Mountain Juniper			3b	h20' x w12'	Varies
		Cologreen Juniper	Juniperus scopulorum 'Cologreen'	3	h15' x 5'	Dark Green
		Specie	Juniperus scopulorum 'Grizzly Bear'	3	h15' x 5'	Bluish Green
Juniperus virginiana	Eastern Red Cedar			3b	h40' x w15'	Medium Green
		Greenspire Juniper	Juniperus virginiana 'Greenspire'	3	h40' x w15'	Dark Green
		Taylor Juniper	Juniperus virginiana 'Taylor'	3	h8' x w3'	Blue-Green
Picea glauca	White Spruce			2	h50' x w15'	Gray Green
		Black Hills Spruce	Picea glacua 'Densata'	2	h30' x w25'	Dark Green
		Engelmann Spruce	Picea engelmannii	3	h40' x w15'	Blue-Green
		Colorado Green Spruce	Picea pungens	3	h40'x w20'	Gray Green
		Colorado Blue Spruce	Picea pungens 'Glauca'	3	h40' x w20'	Blue-Green
Pinus banksiana	Jack Pine * consider native species for use			2	h40' x w20'	Dark Green
Pinus flexilis	Limber Pine			3	h45' x w20'	Dark Blue-Green
		Vanderwolf's Pyramid Pine	Pinus flexilus 'Vanderwolf's Pyramid'	2	h25' x w 15'	Blue-Green
Pinus ponderosa	Ponderosa Pine * consider native species for use			3	h70' x w25'	Dark Green
Pinus resinosa	Red Pine * consider native species for use			2	h60' x w25'	Dark Green
Pinus strobus	Eastern White Pine * consider native species for use			3	h50' x w20'	Bluish Green

Deciduous Trees

Native Species		Native/ Naturalized Species for Consideration		Species Characteristics				
Scientific Name	**Common Name**	**Common Name**	**Scientific Name**	**Zone**	**Size**	**Flower**	**Fruit**	**Fall Color**
Acer negundo	Boxelder	See species below		2	h40' x w40'	non ornamental	samaras	Yellow
Acer saccharinum	Silver Maple			3b	h50' x w40'	non ornamental	samaras	Red
		Autumn Flame Maple	Acer rubrum 'Autumn Flame'	3b	h35' x w35'	non ornamental	samaras	Red
		Autum Spire Maple	Acer rubrum 'Autumn Spire'	3	h40' x w25'	non ornamental	samaras	Red
		Autumn Blaze Maple	Acer x freemanii 'Jeffersred'	3	h50' x w40'	non ornamental	samaras	Orange
		Marmo Maple	Acer x freemanii 'Marmo'	3	h55' x w45'	non ornamental	samaras	Orange
		Sienna Glen Maple	Acer x freemanii 'Sienna'	3	h50' x w35'	non ornamental	samaras	Rusty
		Deborah Maple	Acer platanoides 'Deborah'	3b	h45' x w40'	non ornamental	samaras	Bronze
		Emerald Lustre Maple	Species List	3	h45' x w40'	non ornamental	samaras	Yellow
Betula papyrifera	Paper Birch			2	h50' x w35'	non ornamental	catkins	Yellow
		Prairie Dream® Paper Birch	Betula papyrifera 'Varen'	2b-3	h40' x w30'	non ornamental	catkins	Yellow
		Renaissance Reflection® Birch	Betula papyrifera 'Renci'	3	h50' x w30'	non ornamental	catkins	Yellow
		Renaissance Oasis® Birch	Betula papyrifera 'Oenci'	3	h50' x w30'	non ornamental	catkins	Yellow
Celtis occidentalis	Common Hackberry			3	h45' x w35'	non ornamental	non ornamental	Yellow/Green
		Prairie Pride Hackberry	Celtis occidentalis 'Prairie Pride'	3	h45' x w35'	non ornamental	non ornamental	Yellow/Green
Fraxinus pennsylvanica	Green Ash *** Emeral Ash Borer - use with caution**			3	h50' x w30'	non ornamental	non ornamental	Yellow
		Patmore Ash	Fraxinus pennsylvanica 'Patmore'	2	h50' x w35'	Male	seedless	Yellow
		Dakota Centennial Ash	Fraxinus pennsylvanica 'Wahpeton'	3	h45' x w35'	Male	seedless	Yellow
		Prairie Spire Ash	Fraxinus pennsylvanica 'Rugby'	2	h45' x w20'	Male	seedless	Golden
		Summit Ash	Fraxinus pennsylvanica 'Summit'	3	h45' x w25'	possibly Male	seedless	Golden
Ostrya virginiana	American Hophronbeam * consider native species for use			3b	h35' x w25'	catkins	nutlet	Yellow
Populus balsamifera	Balsam Poplar * consider native species for use			2	h70' x w35'	non ornamental	non ornamental	Yellow
Populus grandidentata	Bigtooth Aspen * consider native species for use			3	h50' x w20'			Yellow
Populus tremuloides	Quaking Aspen * consider native species for use			1	h40' x w20'	non ornamental	non ornamental	Yellow
		Pike's Bay Aspen	Populus tremuloides 'Pike's Bay'	2	h70' x w30'	non ornamental	non ornamental	Golden
Quercus ellipsoidalis	Northern Pin Oak * consider native species for use			4	h50' x w45'	non ornamental	acorn	scarlet
Quercus macrocarpa	Bur Oak * consider native species for use			3	h60' x 60'w	non ornamental	acorn	Yellow
Quercus rubra	Red Oak * consider native species for use			3b	h60' x w60'	non ornamental	acorn	Red
Tilia americana	American Linden			3b	h60' x w40'	fragrant	non ornamental	Yellow/Green
		American Sentry Linden	Tilia americana 'Sentry'	3	h45' x w30'	fragrant	non ornamental	Yellow/Green
		Boulevard Linden	Tilia americana 'Boulevard'	3	h50' x w25'	fragrant	non ornamental	Yellow/Green
		Redmond Linden	Tilia americana x euchlora 'Redmond'	3	h'35' x w25'	fragrant	non ornamental	Yellow/Green
Ulmus americana	American Elm *** Cold Hardiness & DED - use with caution**			3	h60' x w40'	non ornamental	non ornamental	Yellow
		Valley Forge Elm * DED resistant	Ulmus americana 'Valley Forge'	4	h70' x w60'	non ornamental	non ornamental	Yellow
		New Harmony Elm * DED resistant	Ulmus americana 'New Harmony'	4	h70' x w60'	non ornamental	non ornamental	Yellow
		Discovery Elm	Ulmus japonica 'Discovery'	3	h45' x w40'	non ornamental	non ornamental	Yellow
		Accolade Elm	Ulmus japonica x wilsoniana 'Morton'	3-4	h70' x w60'	non ornamental	non ornamental	Yellow
		Vanguard Elm	Ulmus 'Morton Plainsman'	4	h45' x w45'	non ornamental	non ornamental	Yellow

* Also reference Celtis occidentalis,

Ornamental Trees

Native Species		Native/ Naturalized Species for Consideration		Species Characteristics				
Scientific Name	**Common Name**	**Common Name**	**Scientific Name**	**Zone**	**Size**	**Flower**	**Fruit**	**Fall Color**
Acer ginnala	Amur Maple			3	h20' x w15'	non-ornamental	samaras	Red
		Amur Embers Maple	Acer ginnala 'Embers'	3	h20' x w15'	non-ornamental	samaras	Scarlet
Acer pennsilvanica	Striped Maple ***Use as specimen tree**			3	h20' x w15'	Yellow Green	insignificant	Vibrant Yellow
Amelanchier spp.	Serviceberry							
		Autumn Brilliance Serviceberry	Amelanchier 'Autumn Brilliance'	3b	h20' x w15'	White	Purplish	Brilliant Red
Cornus racemosa	Gray Dogwood			3b	h15' x w10'	White	White	Purple-Red
		Snow Mantle® Dogwood	Cornus racemosa 'Jade'	3	h15' x w10'	White	White/ Pink Pedicels	Purple-Red
Crataegus crusgalli var. inermis	Thornless Hawthorn * consider native species for use			3	h20' x w20'	White	Red	Bronze-Red
Malus spp.	Crabapple							
		Dolgo Crabapple	Malus 'Dolgo'	3	h30 x w25'	White	Red	non-ornamental
		Golden Raindrops Crabapple	Malus 'Golden Raindrops'	3	h20' x w15'	White	Golden Yellow	Yellow
		Harvet Gold Crabapple	Malus 'Hargozam'	3	h20' x w15'	White	Golden Yellow	non-ornamental
		Prairiefire Crabapple	Malus 'Prairiefire'	3	h15' x w20'	Red	Maroon	Red-Green
		Prairie Rose Crabapple	Malus 'Prairie Rose'	3	h20' x w20'	Pink	Fruitless	non-ornamental
		Sugar Tyme Crabapple	Malus 'Sutyzam'	3	h18' x w15'	White	Red	non-ornamental
		Spring Snow Crabapple	Malus 'Spring Snow'	3	h25' x w15'	White	Fruitless	Yellow
Prunus virginiana	Chokecherry * consider native species for use			2	h20' x w20'	White	Red	Red
Viburnum lentago	Nannyberry Viburnum * consider native species for use			2	h15' x w10'	White	Bluish Black	Purple-Red

Deciduous Shrubs

Native Species		Native/ Naturalized Species for Consideration		Species Characteristics				
Scientific Name	**Common Name**	**Species for Consideration**	**Scientific Name**	**Zone**	**Size**	**Flower**	**Fruit**	**Fall Color**
Alnus rugosa	Speckled Alder * consider native species for use			2	h10' x w10'	Catkin	Catkin	Yellow
Amelanchier alnifolia	Saskatoon Serviceberry			3	h8' x w8'	White	Bluish Purple	Red-purple
		Regent Serviceberry	Amelanchier alnifolia 'Regent'	2	h5' x w5'	White	Bluish Purple	Red-purple
Amorpha canescens	Leadplant Amorpha			2	h3' x w4'	Blue-Violet	Non-ornamental	Non-ornamental
Aronia melanocarpa	Black Chokeberry			3	h5' x w5'	White	Purplish Black	Deep Red
		Glossy Black Chokeberry	Aronia melanocarpa 'Elata'	3	h3'x w5'	White	Purplish Black	Deep Red
Cornus canadensis	Bunchberry * consider native species for use			2	h9" x w6'	White	Scarlet	Red
Cornus sericea	Red Twigged Dogwood			2	h8' x w10'	White	White	Red-Purple
		Alleman's Compact Dogwood	Cornus sericea 'Alleman's Compact'	3	h5' x w5'	White	White	Red-Purple
		Cardinal Dogwood	Cornus sericea 'Cardinal'	3	h8' x w8'	White	White	Red-Purple
		Isanti Dogwood	Cornus sericea 'Isanti'	2	h5' x w8'	White	White	Red-Purple
Cornus racemosa	Gray Dogwood ***shrub form**							
		Muskingum Dogwood	Cornus racemosa 'Muszam'	3b	h2' x w4'	White	White	Brick Red
Corylus cornuta	Beaked Hazelnut * consider native species for use			4	h8' x w6'	catkins	Nut	Non-ornamental
Corylus americana	American Hazelnut * consider native species for use			4	h8' x w6'	catkins	Nut	Non-ornamental
Mahonia repens	Creeping Mahonia ***Cold hardiness - use with Caution**			4	h18"	Deep Yellow	Blue-Black	Rich Purple
Prunus americana	American Plum * consider native species for use			3	h10' x w10'	White	Yellow - Red	Yellow-Red
Prunus virginiana	Common Chokecherry ***See Ornamental Trees**							
Potentilla fruticosa	Shrubby cinquefoil							
		Frosty® Potentilla	Potentilla fruticosa 'Monsidh'	3	h1' x w3'	White	Non-ornamental	Deep Green
		Gold Star Potentilla	Potentilla fruticosa 'Gold Star'	3	h2' x w3'	Yellow	Non-ornamental	Green
		Red Ace Potentilla	Potentilla fruticosa 'Red Ace'	3	h2' x w3'	Orange Red	Non-ornamental	Green
Rhus trilobata	Skunkbush Sumac			4	h4' x w4'	Non-ornamental	Non-ornamental	Non-ornamental
		Fragrant Sumac	Rhus aromatica	4	h5'xw6'	Yellow	Red	Scarlet
		Gro Low Sumac	Rhus aromatica 'Gro Low'	3	h2' x w6'	Yellow	Red	Scarlet
Rhus glabra	Smooth Sumac * consider native species for use			2	h10'xw10'	Yellow White	Scarlet	Red-Orange
		Staghorn Sumac	Rhus typhina	3	h10'xw12'	Green	Scarlet	Orange-Red
		Cutleaf Sumac	Cutleaf Staghorn Sumac	3	h12'xw12'	Green	Scarlet	Orange-Red

Ribes odoratum	Buffalo Currant			4	h6' x w6'	Fragrant Yellow	Black	Yellow
		Green Mound Currant	Ribes alpinum 'Green Mound'	2	h2'xw3'	Male	None	Yellow
Rosa blanda	Meadow Rose	See species below		2	h4' x w4'	Pink	Bright Red	
Rosa woodsii	Western Wild Rose			2	h4' x w4'	Pink	Bright Red	Non-ornamental
		Charles Albanel Rose	Rosa x 'Charles Albanel'	3	h2' x w4'	Medium Red	Non-ornamental	Non-ornamental
		David Thompson Rose	Rosa x 'David Thompson'	3	h5' x w5'	Medium Red	Non-ornamental	Non-ornamental
		Frontenac Rose	Rosa x 'Frontenac'	3	h3' x w3'	Medium Pink	Non-ornamental	Non-ornamental
		Hope for Humanity Rose	Rosa x 'Hope for Humanity'	3	h3' x w3'	Deep Red	Non-ornamental	Non-ornamental
		Morden Fireglow Shrub Rose	Rosa x 'Morden Fireglow'	3	h3' x w3'	Red	Non-ornamental	Non-ornamental
		Purple Pavement Rose	Rosa x 'Purple Pavement'	3	h3' x w4'	Purple Red	Non-ornamental	Non-ornamental
		Wildberry Breeze Shrub Rose	Rosa rugosa 'Jacrulav'	3	h4' x w4'	Lavender Pink	Red	Non-ornamental
		Winnipeg Parks Rose	Rosa x 'Winnipeg Parks'	3	h2' x w3'	Cherry Red	Orange	Non-ornamental
Salix spp.	Willow							
		Arctic Blue Leaf Willow	Salix purpurea 'Nana'	4	h4'xw4'	Non-ornamental	Non-ornamental	Blue Green
		Flame Willow	Salix 'Flame'	3	h20'xw15'	Non-ornamental	Non-ornamental	Green
Shepherdia argentea	Silver Buffaloberry			2	h10' x w15'	Yellow	Red	Non-ornamental
Spiraea betulifolia	Birchleaf Spirea			3	h3' x w3'	White	Insignificant	Gold
		Tor Spirea	Spiraea betulifolia 'Tor'	3	h3' x w3'	White	Non-ornamental	Red
Symphoricarpos albus	Snowberry	See species below		3	h4' x w4'	Pink	White	Non-ornamental
Symphoricarpos occidentails	Western Snowberry			3	h4' x w4'	Light Pink	Purple	Non-ornamental
		Bright Fantasy Snowberry	Symphoricarpos 'Bokabright'	3	h4'xw4'	Pink	White	Non-ornamental
		Charming Fantasy Snowberry	Symphoricarpos 'Kolcharm'	3	h4'xw4'	White/ Pink	White/ Pink	Non-ornamental
		Scarlet Pearl Snowberry	Symphoricarpos 'Scarlet Pearl'	3	h4'xw4'	White/ Pink	Red/ Purple	Non-ornamental
Syringa vulgaris	Common Lilac * Non-native							
		Dwarf Korean Lilac	Syringa meyeri 'Palabin'	3	h5' x w5'	Green	Purple	Non-ornamental
		Pocahontas Canadian Lilac	Syringa x hyacynthiflora 'Pocahontas'	1	h8' x w8'	Green	Purple	Non-ornamental
		Tinkerbelle Lilack	Syringa x 'Bailbelle'	3	h5' x w5'	Green	Pink	Non-ornamental
Viburnum dentatum	Arrowwood Viburnum			3	h6' x w6'	Cream	Blue	Red
		Blue Muffin Viburnum	Viburnum dentatum 'Christom'	3	h4' x w5'	Cream	Blue	Red
		Cardinal Viburnum	Viburnum dentatum 'Cardinal'	3	h6' x w6'	Cream	Blue	Brilliant Red
		Chicago Lustre® Viburnum	Viburnum dentatum 'Synnestvedt'	3	h8' x w8'	Cream	Blue	Reddish Purple
Viburnum lentago	Nannyberry Viburnum ***See Ornamental Trees**			2	h20' x w10'	White	Bluish Black	Purple-Red
		Witherod viburnum	Viburnum cassinoides	3	h6' x w6'	White	Bluish Black	Orange-Red
Viburnum trilobum	American Cranberrybush			2	h8' x w8'	White	Bright Red	Red-Purple
		Compact American Cranberrybush	Viburnum trilobum 'Bailey Compact'	2	h5' x w5'	White	Bright Red	Deep Red
		Wentworth Cranberry Bush	Viburnum trilobum 'Wentworth'	2	h8' x w8'	White	Bright Red	Red

Evergreen Shrubs

Native Species		Native/ Naturalized Species for Consideration		Species Characteristics		
Scientific Name	**Common Name**	**Species for Consideration**	**Scientific Name**	**Zone**	**Size**	**Leaf Color**
Arctostaphylos uva-ursi	Bearberry			2	h1' x w4'	Green w/ Red berries
		Massachusetts Kinnikinick	Arctostaphylos uva-ursi 'Massachusetts'	2	h1' x w10'	Green w/ Red berries
		Wood's Compact Kinnikinick	Arctostaphylos uva-ursi 'Wood's Compact'	2	h3" x w3'	Green w/ Red berries
Juniperus communis	Common Juniper			2	h8' x w10'	Gray Green
		Blueberry Delight Juniper	Juniperus communis depressa 'AmiDak'	3	h1' x w4'	Dark Green
		Armstrong Juniper	Juniperus chinensis 'Armstrongii'	3	h4' x w5'	Green
		Calgary Carpet Juniper	Juniperus sabina 'Monna'	3	h9" x w8'	Green
		Sea Green Juniper	Juniperus chinensis 'Sea Green'	3	h4' x w5'	Blue Green
Juniperus horizontalis	Creeping Juniper			3	h1' x w4'	Green
		Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	3	h1' x w6'	Blue Green
		Compact Plumosa Juniper	Juniperus horizontalis 'Plumosa Compacta'	3	h1' x w6'	Gray Green
		Youngstown Andorra	Juniperus horizontalis 'Youngstown'	3	h1' x w6'	Green
Juniperus scopulorum	Rocky Mountain Juniper	***See Evergeen Trees**				
		Blue Creeper Juniper	Juniperus scopulorum 'Monam'	3	h2' x w6'	Blue Grey
		Table Top Blue Juniper	Juniperus scopulorum 'Table Top Blue'	3	h4' x w6'	Blue Green
Juniperus virginiana	Eastern Red Cedar	***See Evergeen Trees**				
		Grey Owl Juniper	Juniperus virginiana 'Grey Owl'	2	h2' x w4'	Silver Grey
		Silver Spreader Juniper	Juniperus virginiana 'Silver Spreader'	3	h2' x w4'	Silver Grey

Grasses

Native Species		Native/ Naturalized Species for Consideration		Species Characteristics			
Scientific Name	**Common Name**	**Species for Consideration**	**Scientific Name**	**Zone**	**Size**	**Leaf Color**	**Flower/Seed**
Andropogon gerardii	Big Bluestem			3	4'-6' h.	Blue Grey	Purple
		Pawnee Big Bluestem	Andropogon gerardii 'Pawnee'	4	5'-6' h.	Blue w/ Purple Fall	Purple
Bouteloua curtipendula	Sideoats Grama * consider native species for use			3	12"-18" h.	Green	Yellow/ Brown
		Trailway Sideoats Grama	Bouteloua curtipendula 'Trailway'	3	12"-18" h.	Green	Yellow/ Brown
Bouteloua gracilis	Blue Grama * consider native species for use			3b	6" h.	Grey Green	Yellow/Brown
Bouteloua hirsute	Hairy Grama * consider native species for use			3b	6" h.	Green	Yellow/Brown
Calamagrostis canadensis	Bluejoint Reed Grass * consider native species for use			3b	4'-5' h.	Green	Green/Yellow
		Avalanche Reed Grass	Calamagrostis x acutiflora 'Avalanche'	4	4' h.	Green/White	Green/Golden
		Karl Foerster Reed Grass	Calamagrostis x acutiflora 'Karl Foerster'	4	5'-6' h.	Green	Red/Golden
Calamovilfa longifolia	Prairie Sandreed * consider native species for use			3b	4' h.	Green	Yellow/Brown
Carex bebbii	Bebbi's Sedge * consider native species for use			3	24" h.	Green	Green/ Brown
Carex pensylvanica	Pennsylvania Sedge * consider native species for use			3	15" h.	Bright Green	Green
Carex stricta	Tussock Sedge * consider native species for use			3b	18" h.	Green	Green
		Gray's Sedge	Carex grayi	2	2' h.	Green	Green
		Plaintain Sedge	Carex plaintaginea	3	2'h.	Green	Green
Eleocharis palustris	Common Spikerush * consider native species for use			3b	18" h.	Dark Green	Brown
Elymus canadensis	Canada Wild-Rye * consider native species for use			3	3' h.	Green	Yellow/Brown
Juncus balticus	Baltic Reed * consider native species for use			3	3' h.	Green	Pink/Brown
Koeleria macrantha	Junegrass * consider native species for use			3b	20" h.	Green	Yellow/Brown
Panicum virgatum	Switchgrass * consider native species for use			3	4'-5' h.	Green	Yellow/Brown
		Prairie Sky Switchgrass	Panicum virgatum 'Prairie Sky'	4	3'-5' h.	Bluish Green	Sandy/Brown
		Indian Grass	Sorghastrum nutans	3	4'-5' h.	Green	Yellow/Golden
Schizachyrium scoparium	Little Bluestem * consider native species for use			3b	3' h.	Red Fall	Silver
		Blaze Little Bluestem	Schizachyrium scoparium 'Blaze'	4	1'-2' h.	Red Fall	Silver
Spartina pectinata	Prairie Cordgrass * consider native species for use			3b	6'-8' h.	Green	Yellow/Brown
Sporobolus heterolepsis	Prairie Dropseed * consider native species for use			3b	2' h.	Green	Yellow/Brown
Stipa comata	Needle & Thread grass See species below			3b	3' h.	Green	White/White
Stipa spartea	Porcupine Grass * consider native species for use			3	1'-4' h.	Green	White/White
		Needlegrass	Stipa viridula	3	18"-24" h.	Green	White/White
Typha anagustifolia	Narrow-leaved Cattail * consider native species for use			3	3'-6' h.	Green	Brown

Perennials

Native Species		Native/ Naturalized Species for Consideration		Species Characteristics				
Scientific Name	**Common Name**	**Species for Consideration**	**Scientific Name**	**Zone**	**Size**	**Bloom Time**	**Flower**	**Foliage Color**
Achillea	Yarrow			3	2' h.	Summer-Fall	Light lilac pink white	Gray Green
		Paprika Yarrow	Achillea millefolium 'Paprika'	3	2' h.	Summer-Fall	Red w/ Gold	Gray Green
		White Beauty Yarrow	Achillea millefolium 'White Beauty'	3	2' h.	Summer-Fall	White	Gray Green
		Moonshine Yallow	Achillea 'Moonshine'	3	2' h.	Summer-Fall	Light Yellow	Gray Green
Allium stellatum	Wild Pink Onion			3	8"-15" h.	Fall	Pink	Green
		Nodding Onion	Allium cernuum	3	12"-18" h.	Fall	Pink	Green
Anemone spp.	Anemone							
		Major Anemone	Anemone multifida 'Major'	2	6"-12" h.	Spring-Early Summer	White	Green
		Snowdrops Anemone	Anemone sylvestris	3	18" h.	Spring	White	Green
Aquilegia canadensis	American Columbine			3	1'-2' h.	Spring	Yellow & Red	Green
		Corbett Columbine	Aquilegia canadensis 'Corbett'	3	18" h.	Spring	Yellow	Green
Aster novae-angliae	New England Aster			3	3'-4' h.	Fall	Violet-Pink	Green
		Purple Dome Aster	Aster novae-angliae 'Purple Dome'	3	18" h.	Fall	Purple	Green
		Red Star Aster	Aster novae-angliae 'Roter Stern'	3	15" h.	Fall	Red	Green
Campanula rotundifolia	Harebell			3	12" h.	Spring-Late Summer	Blue	Green
		White Gem Bellflower	Campanula rotundifolia 'White Gem'	3	12" h.	Spring-Late Summer	White	Green
		Superba Bellflower	Campanula glomerata 'Superba'	3	20"h.	Spring-Late Summer	Violet	Green
Dalea purpurea	Purple Prairie Clover * consider native species for use			3	1'-3'	Spring-Late Summer	Rosey Purple	Green
Echinacea angustifolia	Coneflower			3	2'-3' h.	Summer	Pink	Green
		Purple Coneflower	Echinacea purpurea	3	2'-3' h.	Summer	Purple	Green
		Bright Star Coneflower	Echinacea purpurea 'Leuchtstern'	3	2'-3' h.	Summer	Rosey Red	Green
		Magnus Coneflower	Echinacea purpurea 'Magnus'	3	3' h.	Summer	Deep Purple	Green
Gaillardia aristata	Blanket Flower * consider native species for use			3b	18"-24" h.	Spring-Late Summer	Red-Yellow	Green
		Arizona Sun Blanket Flower	Gaillardia aristata 'Arizona Sun'	3	8"-10" h.	Spring-Late Summer	Deep Red-Yellow	Green
Heuchera spp.	Coralbells							
		Torch Coralbell	Heuchera sanguinea 'Fackel'	3	18"-14" h.	Summer	Scarlet	Green
		Firefly Coralbell	Heuchera sanguinea 'Firefly'	3	18"-24" h.	Summer	Fragrant Red	Green
		Splendens Coralbell	Heuchera sanguinea 'Splendens'	3	2' h.	Summer	Scarlet-Red	Green
Hosta	Plantain Lily							
		Blue Umbrellas Hosta	Hosta 'Blue Umbrellas'	3	h36" x w48"	Summer	Lavender	Blue-Green
		Halcyon Hosta	Hosta 'Halcyon'	3	h20" x w22"	Summer	White	Blue
		Royal Standard	Hosta 'Royal Standard'	3	h18" x w38"	Late Summer	Fragrant White	Green
Iris versicolor	Blue Flag Iris * consider native species for use			3	2'-3' h.	Summer	Blue	Green

Iris sibirica	Siberian Iris			3	2'-3' h.	Summer	Blue	Blue-Green
		Butter and Sugar Iris	Iris sibirica 'Butter and Sugar	3	2' h.	Summer	White/Yellow	Blue-Green
		Caesar's Brother Iris	Iris sibirica 'Caesar's Brother'	3	3' h.	Summer	Violet	Blue-Green
Liatris punctata	Blazing Star * consider native species for use, see species below			3	1'-3' h.	late Summer	Pink	Green
Liatris pycnostachya	Prairie Blazing Star * consider native species for use			3	3'-4' h.	Late Summer	Rosey-Purple	Green
		Eureka Liatris	Liatris pycnostachya	3	4' h.	Late Summer	Reddish-Purple	Green
		Kobold Gayfeather	Liatris spicata 'Kobold'	3	2' h.	Late Summer	Deep Purple	Green
Lupinus argenteus	Silvery Lupine * consider native species for use			3	12"-30" h.	Late Spring	Blue	Green
Maiathemum stellatum	False Solomon's Seal	*See Polygonatum biflorum		3	1'-3' h.	Spring	White	Green
Monarda fistulosa	Bee Balm			3	2'-3' h.	Late Summer	Pink-Lavender	Green
		Gardenview Scarlet Bee Balm	Monarda 'Gardenview Scarlet'	3	2'-3' h.	Summer	Rich Red	Green
		Petite Delight Bee Balm	Monarda 'Petite Delight'	3	2' h.	Summer	Lavender	Green
Narcissus spp.	Daffodils							
		Audubon Daffodil	Narcissus 'Audubon'	3	16"-18" h.	Spring	White w/ Yellow Orange Cup	Green
		Brackenhust Daffodil	Narcissus 'Brackenhust'	3	12"-16" h.	Spring	Yellow w/ Orange Red Cup	Green
		Zapallo Daffodil	Narcissus 'Zapallo'	3	14"-16" h.	Spring	White w/ Yellow Cup	Green
		4U2 Daffodil	Narcissus '4U2'	3	12"-16" h.	Spring	Yellow w/ Orange Cup	Green
Penstemon grandiflorus	Large Flowered Penstemon			4	2'-3' h.	Late Summer	Light Pink/Purple	Green
		Torrey Penstemon	Penstemon barbatus subsp. Torreyi	3	4' h.	Late Summer	Deep Rose	Green
Polygonatum biflorum	Solomon's Seal * consider native species for use			3	2'-3' h.	Late Spring	White w/ Black Fruit	Green
		Variegated Solomon's Seal	Polygonatum multiflorum 'Variegatum'	3	2' h.	Late Spring	White w/ Black Fruit	Green & White
Pulsatilla patens	Pasque Flower * consider native species for use			3	6"-18" h.	Spring	Blue-Violet	Green
Pycnanthemum virginianum	Mountain Mint			3	2' h.	Late Summer	White Lavender	Green
		Short-tooth Mountain Mint	Pycnanthemum muticum	3	30"	Late Summer	Purple-Lavender	Green
Ratibida	Upright Prairie Coneflower			3	4' h.	Summer-Fall	Yellow	Green
		Mexican Hat	Ratibida columnifera 'Red'	3	4' h.	Summer-Fall	Red	Green
Rudbeckia laciniata	Cutleaf Coneflower			3b	6' h.	Late Summer	Yellow	Gray Green
		Goldsturm Rudbeckia	Rudbeckia fulgida 'Goldsturm'	3	2' h.	Late Summer	Deep Yellow	Green
Stachys paustris	Marsh Woundwart * consider native species for use			3b	2' h.	Spring	Purple	Dark Green
Veronica fasciculate	Ironweed			3	2'-4' h.	Fall	Reddish Purple	Green
		Blue Nana Veronica	Veronica spicata 'Blue Nana'	3	15"-18"	Fall	Blue	Green
		Red Fox Veronica	Veronica spicata 'Red Fox'	3	12"-15"	Fall	Reddish Purple	Green
Viola pubescens	Smooth Yellow Violet			3b	6"-12" h.	Spring	Yellow	Dark Green
		Labrador Violet	Viola labradorica	3	4"-8" h.	Spring	Purple	Purplish Green

V. IMPLEMENTATION

Project Budget

The tables on the following pages summarize the project costs for a "full build-out" of the Minot State University campus landscape development. Please note that the costs include all improvements associated with future site development at MSU, including all parking and sidewalk pavements, plazas, signage, lighting, grading and earthwork, pedestrian amenities including furniture, plaza features and public art, irrigation, etc. It would, of course, be possible to complete scaled back improvements in each Zone for much less than indicated.

All estimates are based on May 2008 dollars, and include provision for Contractor overhead and expense.

Minot State University Landscape Master Plan
Design Development Budget

Areas/Zones	Description	Quantity	Unit	Unit Cost	Total
ZONE A	**Adjacent to Broadway, including the Broadway/University Avenue Intersection**				
1.01	Area A: Earthwork for new earthforms	620	CY	$12.00	$7,440.00
1.02	Area A: Construct new 5" thick concrete sidewalk	280	SF	$4.00	$1,120.00
1.03	Area A: Construct new stone pavement	1	LS	$7,500.00	$7,500.00
1.04	Area A: Construct new campus monument sign wall (masonry, stone, footings, etc.)	1	LS	$75,000.00	$75,000.00
1.05	Area A: Construct new campus monument sign façade	1	LS	$25,000.00	$25,000.00
1.06	Area A: Glacial erratics/ Boulders	25	EA	$500.00	$12,500.00
1.07	Area A: Landscape - Trees	6	EA	$300.00	$1,800.00
1.08	Area A: Landscape- Shrubs	34	EA	$75.00	$2,550.00
1.09	Area A: Landscape - Native Grasses & Wildflowers	1,400	SF	$1.00	$1,400.00
1.10	Area A: Landscape - Sod/ Seed, including fine grading	8,500	SF	$0.35	$2,975.00
1.11	Area A: Construct new irrigation system for landscaped areas	1	LS	$10,000.00	$10,000.00
1.12	Area A: Construct new lighting w/ banners and electrical	1	LS	$25,000.00	$25,000.00
	Zone A Budget Subtotal				**$172,285.00**
ZONE B	**Adjacent to University Avenue, including the Main Entrance Drive**				
1.13	Area C: Demolition of 5" thick concrete sidewalks	40,000	SF	$1.00	$40,000.00
1.14	Area C: Demolition of 6" thick parking lot/ drive pavement	11,140	SF	$1.50	$16,710.00
1.15	Area C: Demolition of 6" concrete curb & gutter	1,660	LF	$1.50	$2,490.00
1.16	Area C: Demolition of existing plant material	1	LS	$10,000.00	$10,000.00
1.17	Area C: Earthwork for new earthforms	1,470	CY	$12.00	$17,640.00
1.18	Area C: Construct new 6" concrete curb & gutter	2,060	LF	$15.00	$30,900.00
1.19	Area C: Construct new 5" thick concrete sidewalk	57,300	SF	$4.00	$229,200.00
1.20	Area C: Construct new concrete paver Plaza	6,350	SF	$10.00	$63,500.00
1.21	Area C: Construct new 6" thick parking lot pavement	17,000	SF	$5.00	$85,000.00
1.22	Area C: Construct campus entrance signage	3	LS	$25,000.00	$75,000.00
1.23	Area C: Install bollards	16	EA	$500.00	$8,000.00
1.24	Area C: Glacial erratics/ Boulders	30	LS	$500.00	$15,000.00
1.25	Area C: Landscape area - Trees	85	EA	$300.00	$25,500.00
1.26	Area C: Landscape area - Shrubs	154	EA	$75.00	$11,550.00
1.27	Area C: Landscape area - Perennials	1,250	EA	$15.00	$18,750.00
1.28	Area C: Landscape area - Native Grasses & Wildflowers	20,000	SF	$1.00	$20,000.00
1.29	Area C: Landscape area - Sod/ Seed, including fine grading	69,400	SF	$0.35	$24,290.00
1.30	Area C: Construct new irrigation system for landscaped areas	1	LS	$10,000.00	$10,000.00
1.31	Area C: Construct new lighting and electrical	1	LS	$20,000.00	$20,000.00
	Zone B Budget Subtotal				**$703,530.00**

Areas/Zones	Description	Quantity	Unit	Unit Cost	Total
ZONE C	**11th Avenue NW Corridor**				
1.32	Area C: Demolition of 5" thick concrete sidewalks	22,369	SF	$1.00	$22,369.00
1.33	Area C: Demolition of 6" thick parking lot pavement	44,120	SF	$1.50	$66,180.00
1.34	Area C: Demolition of 6" concrete curb & gutter	2,000	LF	$1.50	$3,000.00
1.35	Area C: Demolition of concrete wall	215	LF	$25.00	$5,375.00
1.36	Area C: Demolition of existing plant material	1	LS	$2,500.00	$2,500.00
1.37	Area C: Earthwork for new earthforms	460	CY	$12.00	$5,520.00
1.38	Area C: Construct new 6" concrete curb & gutter	2,850	LF	$15.00	$42,750.00
1.39	Area C: Construct new 6" thick parking lot pavement	2,500	SF	$5.00	$12,500.00
1.40	Area C: Construct new 5" thick concrete sidewalk	13,350	SF	$4.00	$53,400.00
1.41	Area C: Construct new concrete paver plaza	18,100	SF	$10.00	$181,000.00
1.42	Area C: Construct new concrete paver street	17,575	SF	$12.00	$210,900.00
1.43	Area C: Construct new concrete stairs	2	EA	$5,000.00	$10,000.00
1.44	Area C: Construct entrance gate	1	LS	$50,000.00	$50,000.00
1.45	Area C: Construct campus entrance signage	1	LS	$25,000.00	$25,000.00
1.46	Area C: Install public art	2	LS	$50,000.00	$100,000.00
1.47	Area C: Pedestrian Amenities (benches, trash receptacles, bike racks…)	1	LS	$20,000.00	$20,000.00
1.48	Area C: Glacial erratics/ Boulders	1	LS	$13,500.00	$13,500.00
1.49	Area C: Landscape area - Trees	145	EA	$300.00	$43,500.00
1.50	Area C: Landscape area - Shrubs	310	EA	$75.00	$23,250.00
1.51	Area C: Landscape area - Perennials	1,140	EA	$15.00	$17,100.00
1.52	Area C: Landscape area - Sod/ Seed, including fine grading	17,700	EA	$0.35	$6,195.00
1.53	Area C: Construct new irrigation system for landscaped areas	1	LS	$7,000.00	$7,000.00
1.54	Area C: Construct new wayfinding signage	1	LS	$20,000.00	$20,000.00
1.55	Area C: Construct new lighting and electrical	1	LS	$60,000.00	$60,000.00
	Zone C Budget Subtotal				**$1,001,039.00**
ZONE D	**West of Swain Hall to the Library, and South of Swain Hall**				
1.56	Area D: Demolition of 5" thick concrete sidewalks	4,573	SF	$1.00	$4,573.00
1.57	Area D: Demolition of concrete wall	85	LF	$25.00	$2,125.00
1.58	Area D: Demolition of existing plant material	1	LS	$5,000.00	$5,000.00
1.59	Area D: Earthwork for new earthforms	15	CY	$12.00	$180.00
1.60	Area D: Construct new 5" thick concrete sidewalk	4,861	SF	$4.00	$19,444.00
1.61	Area D: Install public art	1	LS	$50,000.00	$50,000.00
1.62	Area D: Construct stone wall	150	LF	$150.00	$22,500.00
1.63	Area D: Construct Badland stone sculpture	1	LS	$50,000.00	$50,000.00
1.64	Area D: Glacial erratics/ Boulders	15	EA	$500.00	$7,500.00
1.65	Area D: Landscape area - Trees	33	EA	$300.00	$9,900.00
1.66	Area D: Landscape area - Shrubs	216	EA	$75.00	$16,200.00
1.67	Area D: Landscape area - Perennials	485	EA	$15.00	$7,275.00
1.68	Area D: Landscape area - Sod/ Seed, including fine grading	5,000	SF	$0.35	$1,750.00
1.69	Area D: Construct new irrigation system for landscaped areas	1	LS	$5,000.00	$5,000.00
1.70	Area D: Construct new lighting and electrical	1	LS	$20,000.00	$20,000.00
	Zone D Budget Subtotal				**$221,447.00**

Areas/Zones	Description	Quantity	Unit	Unit Cost	Total
ZONE E	**Existing Outdoor Plaza Area Located between Main and the Administration Building**				
1.71	Area E: Demolition of 5" thick concrete sidewalks	21,400	SF	$1.00	$21,400.00
1.72	Area D: Demolition of 6" thick parking lot pavement	8,255	SF	$1.50	$12,382.50
1.73	Area D: Demolition of 6" concrete curb & gutter	600	LF	$1.50	$900.00
1.74	Area D: Demolition of concrete wall	129	LF	$25.00	$3,225.00
1.75	Area E: Demolition of existing plant material	1	LS	$2,500.00	$2,500.00
1.76	Area E: Earthwork for new earthforms	1,225	CY	$12.00	$14,700.00
1.77	Area E: Construct new 5" thick concrete sidewalk	15,640	SF	$4.00	$62,560.00
1.78	Area C: Construct new 6" thick parking lot pavement	1,415	SF	$5.00	$7,075.00
1.79	Area C: Construct new 6" concrete curb & gutter	160	LF	$15.00	$2,400.00
1.80	Area E: Construct new concrete paver pedestrian corridor (to first seat node)	9,660	SF	$10.00	$96,600.00
1.81	Area E: Construct new concrete paver Plaza	11,500	SF	$10.00	$115,000.00
1.82	Area E: Construct water feature w/ two basins	1	LS	$50,000.00	$50,000.00
1.83	Area E: Construct water feature sculpture	1	LS	$100,000.00	$100,000.00
1.84	Area E: Construct screen wall - trash receptacle	30	LF	$150.00	$4,500.00
1.85	Area E: Construct seat wall	185	LF	$50.00	$9,250.00
1.86	Area E: Pedestrian Amenities (benches, trash receptacles, bike racks…)	1	LS	$6,500.00	$6,500.00
1.87	Area E: Glacial erratics/ Boulders	20	EA	$500.00	$10,000.00
1.88	Area E: Landscape area Trees	46	EA	$300.00	$13,800.00
1.89	Area E: Landscape area Shrubs	202	EA	$75.00	$15,150.00
1.90	Area E: Landscape area Perennials	200	EA	$15.00	$3,000.00
1.91	Area E: Landscape area Sod/ Seed, including fine grading	18,700	LS	$0.35	$6,545.00
1.92	Area E: Construct new irrigation system for landscaped areas	1	LS	$5,000.00	$5,000.00
1.93	Area E: Construct new lighting w/ banners and electrical	1	LS	$30,000.00	$30,000.00
	Zone E Budget Subtotal				**$592,487.50**
ZONE F	**Parking Lot Located to the South of the Powerhouse Building**				
1.94	Area F: Demolition of 5" thick concrete sidewalks	13,300	SF	$1.00	$13,300.00
1.95	Area F: Demolition of 6" thick parking lot pavement	65,300	SF	$1.50	$97,950.00
1.96	Area F: Demolition of 6" concrete curb & gutter	1,450	LF	$1.50	$2,175.00
1.97	Area F: Demolition of existing plant material	1	LS	$2,500.00	$2,500.00
1.98	Area F: Earthwork for new earthforms	1,465	LS	$12.00	$17,580.00
1.99	Area F: Construct new 6" concrete curb & gutter	1,415	LF	$15.00	$21,225.00
2.00	Area F: Construct new 6" thick parking lot pavement	4,775	SF	$5.00	$23,875.00
2.01	Area F: Construct new 5" thick concrete sidewalk	22,050	SF	$4.00	$88,200.00
2.02	Area F: Construct new concrete paver pedestrian corridor	11,150	SF	$10.00	$111,500.00
2.03	Area F: Construct screen wall - trash receptacle	40	LF	$150.00	$6,000.00
2.04	Area F: Construct seat wall	140	LF	$50.00	$7,000.00
2.05	Area F: Pedestrian Amenities (benches, trash receptacles, bike racks…)	1	LS	$4,500.00	$4,500.00
2.06	Area F: Glacial erratics/ Boulders	15	EA	$500.00	$7,500.00
2.07	Area F: Landscape area - Trees	112	EA	$300.00	$33,600.00
2.08	Area F: Landscape area - Shrubs	205	LS	$75.00	$15,375.00
2.09	Area F: Landscape area - Perennials	150	LS	$15.00	$2,250.00
2.10	Area F: Landscape area - Native Grasses & Wildflowers	650	LF	$1.00	$650.00
2.11	Area F: Landscape area - Sod/ Seed, including fine grading	42,750	LF	$0.35	$14,962.50
2.12	Area F: Construct new irrigation system for landscaped areas	1	LS	$7,000.00	$7,000.00
2.13	Area F: Construct new lighting w/ banners and electrical	1	LS	$20,000.00	$20,000.00
	Zone F Budget Subtotal				**$497,142.50**

Areas/Zones	Description	Quantity	Unit	Unit Cost	Total
ZONE G	**Southwest Campus Quadrant Adjacent to the University Ave./8th Ave. Intersection**				
2.14	Area G: Demolition of 5" thick concrete sidewalks	7,220	SF	$1.00	$7,220.00
2.15	Area G: Demolition of 6" thick parking lot pavement	165,450	SF	$1.50	$248,175.00
2.16	Area G: Demolition of 6" concrete curb & gutter	4,115	LF	$1.50	$6,172.50
2.17	Area G: Demolition of planter wall	245	LF	$1.50	$367.50
2.18	Area G: Demolition of existing plant material	1	LS	$1,500.00	$1,500.00
2.19	Area G: Earthwork for new earthforms	1,225	CY	$12.00	$14,700.00
2.20	Area G: Construct new 6" concrete curb & gutter	3,060	LF	$15.00	$45,900.00
2.21	Area G: Construct new 6" thick parking lot pavement	63,200	SF	$5.00	$316,000.00
2.22	Area G: Construct new 5" thick concrete sidewalk	24,960	SF	$4.00	$99,840.00
2.23	Area G: Construct new concrete paver pedestrian corridor	4,575	SF	$10.00	$45,750.00
2.24	Area G: Construct seat wall	70	LF	$50.00	$3,500.00
2.25	Area G: Pedestrian Amenities (benches, trash receptacles, bike racks…)	1	LS	$36,000.00	$36,000.00
2.26	Area G: Relocate sand volleyball	1	LS	$1,000.00	$1,000.00
2.27	Area G: Glacial erratics/ Boulders	20	EA	$500.00	$10,000.00
2.28	Area G: Landscape area - Trees	110	EA	$300.00	$33,000.00
2.29	Area G: Landscape area - Shrubs	285	EA	$75.00	$21,375.00
2.30	Area G: Landscape area - Perennials	200	EA	$15.00	$3,000.00
2.31	Area G: Landscape area - Native Grasses & Wildflowers	1,000	LF	$1.00	$1,000.00
2.32	Area G: Landscape area - Sod/ Seed, including fine grading	79,000	LF	$0.35	$27,650.00
2.33	Area G: Construct new irrigation system for landscaped areas	1	LS	$7,000.00	$7,000.00
2.34	Area G: Construct new lighting w/ banners and electrical	1	LS	$20,000.00	$20,000.00
	Zone G Budget Subtotal				**$949,150.00**
ZONE H	**Campus Athletics Zone Located North of 11th Avenue NW**				
2.35	Area H: Demolition of 5" thick concrete sidewalks	13,475	SF	$1.00	$13,475.00
2.36	Area H: Demolition of 6" thick parking lot pavement	146,700	SF	$1.50	$220,050.00
2.37	Area H: Demolition of 6" concrete curb & gutter	6,000	LF	$1.50	$9,000.00
2.38	Area H: Demolition of existing wall	260	LF	$1.50	$390.00
2.39	Area H: Demolition of existing concrete stair	2	LS	$300.00	$600.00
2.40	Area H: Demolition of existing plant material	1	LS	$2,500.00	$2,500.00
2.41	Area H: Earthwork for new earthforms	500	EA	$12.00	$6,000.00
2.42	Area H: Relocate Practice Field & Stadium (Cost not included in budget estimate)	1	LS	$0.00	$0.00
2.43	Area H: Construct new 6" concrete curb & gutter	7,800	LF	$15.00	$117,000.00
2.44	Area H: Construct new 6" thick parking lot pavement	10,000	SF	$5.00	$50,000.00
2.45	Area H: Construct new 5" thick concrete sidewalk	85,165	SF	$4.00	$340,660.00
2.46	Area H: Construct concrete seat wall	760	LF	$50.00	$38,000.00
2.47	Area H: Construct new concrete stair	2	LS	$5,000.00	$10,000.00
2.48	Area H: Glacial erratics/ Boulders	15	EA	$500.00	$7,500.00
2.49	Area H: Landscape area - Trees	195	EA	$300.00	$58,500.00
2.50	Area H: Landscape area - Shrubs	200	EA	$75.00	$15,000.00
2.51	Area H: Landscape area - Perennials	200	EA	$15.00	$3,000.00
2.52	Area H: Landscape area - Sod/ Seed, including fine grading	82,000	SF	$0.35	$28,700.00
2.53	Area H: Construct new irrigation system for landscaped areas	1	LS	$7,000.00	$7,000.00
2.54	Area H: Construct new lighting and electrical	1	LS	$50,000.00	$50,000.00
	Zone H Budget Subtotal				**$977,375.00**

Areas/Zones	Description	Quantity	Unit	Unit Cost	Total
ZONE I	**Student Center Zone**				
2.55	Area I: Demolition of 5" thick concrete sidewalks	6,275	SF	$1.00	$6,275.00
2.56	Area I: Demolition of 6" thick parking lot pavement	35,375	SF	$1.50	$53,062.50
2.57	Area I: Demolition of 6" concrete curb & gutter	1,365	LF	$1.50	$2,047.50
2.58	Area I: Demolition of existing plant material	1	LS	$3,000.00	$3,000.00
2.59	Area I: Demolition of existing concrete stair	2	LS	$300.00	$600.00
2.60	Area I: Earthwork for new earthforms	300	CY	$12.00	$3,600.00
2.61	Area I: Construct new electronic sign	1	LS	$50,000.00	$50,000.00
2.62	Area I: Construct new 6" concrete curb & gutter	1,575	LF	$15.00	$23,625.00
2.63	Area I: Construct new 5" thick concrete sidewalk	14,625	SF	$4.00	$58,500.00
2.64	Area I: Construct new 6" thick parking lot pavement	14,270	SF	$5.00	$71,350.00
2.65	Area I: Construct new stone retaining wall	160	LF	$50.00	$8,000.00
2.66	Area I: Construct new wrought iron fence around cemetery	1,160	LF	$50.00	$58,000.00
2.67	Area I: Pedestrian Amenities (benches, trash receptacles, bike racks…)	1	LS	$12,000.00	$12,000.00
2.68	Area I: Construct campus corner sign	1	LS	$25,000.00	$25,000.00
2.69	Area I: Glacial erratics/ Boulders	14	EA	$500.00	$7,000.00
2.70	Area I: Landscape area - Trees	42	EA	$300.00	$12,600.00
2.71	Area I: Landscape area - Shrubs	256	EA	$75.00	$19,200.00
2.72	Area I: Landscape area - Perennials	300	EA	$15.00	$4,500.00
2.73	Area I: Landscape area - Sod/ Seed, including fine grading	13,600	SF	$0.35	$4,760.00
2.74	Area I: Construct new irrigation system for landscaped areas	1	LS	$5,000.00	$5,000.00
2.75	Area I: Construct new lighting and electrical	1	LS	$30,000.00	$30,000.00
	Zone I Budget Subtotal				**$458,120.00**
ZONE J	**Southeast Campus Quadrant Adjacent to University Ave./Broadway Intersection**				
2.76	Area J: Demolition of 5" thick concrete sidewalks	26,750	SF	$1.00	$26,750.00
2.77	Area J: Demolition of 6" thick parking lot pavement	29,400	SF	$1.50	$44,100.00
2.78	Area J: Demolition of 6" concrete curb & gutter	1,465	LF	$1.50	$2,197.50
2.79	Area J: Demolition of existing concrete stair	2	LS	$300.00	$600.00
2.80	Area J: Demolition of existing wall	220	LF	$1.50	$330.00
2.81	Area J: Demolition of existing plant material	1	LS	$2,500.00	$2,500.00
2.82	Area J: Earthwork for new earthforms	950	CY	$12.00	$11,400.00
2.83	Area J: Construct new 6" concrete curb & gutter	5,400	LF	$15.00	$81,000.00
2.84	Area J: Construct new 6" thick parking lot pavement	8,400	SF	$5.00	$42,000.00
2.85	Area J: Construct new 5" thick concrete sidewalk	28,035	SF	$4.00	$112,140.00
2.86	Area J: Construct new concrete paver pedestrian corridor	9,700	SF	$10.00	$97,000.00
2.87	Area J: Construct screen wall - trash receptacle	40	LF	$50.00	$2,000.00
2.88	Area J: Pedestrian Amenities (benches, trash receptacles, bike racks…)	1	LS	$21,000.00	$21,000.00
2.89	Area J: Glacial erratics/ Boulders	15	EA	$500.00	$7,500.00
2.90	Area J: Landscape area - Trees	85	EA	$300.00	$25,500.00
2.91	Area J: Landscape area - Shrubs	115	EA	$75.00	$8,625.00
2.92	Area J: Landscape area - Perennials	100	EA	$15.00	$1,500.00
2.93	Area J: Landscape area - Native Grasses & Wildflowers	1,200	SF	$1.00	$1,200.00
2.94	Area J: Landscape area - Sod/ Seed, including fine grading	62,300	SF	$0.35	$21,805.00
2.95	Area J: Construct new irrigation system for landscaped areas	1	LS	$9,000.00	$9,000.00
2.96	Area J: Construct new lighting w/ banners and electrical	1	LS	$50,000.00	$50,000.00
	Zone J Budget Subtotal				**$568,147.50**

Areas/Zones	Description	Quantity	Unit	Unit Cost	Total
ZONE K	**Moore Hall/Main/Pioneer Hall Quadrangle**				
2.97	Area K: Demolition of 5" thick concrete sidewalks	24,875	SF	$1.00	$24,875.00
2.98	Area K: Demolition of 6" thick parking lot pavement	4,325	SF	$1.50	$6,487.50
2.99	Area K: Demolition of 6" concrete curb & gutter	440	LF	$1.50	$660.00
3.00	Area K: Demolition of existing plant material	1	LS	$5,000.00	$5,000.00
3.01	Area K: Construct 5" thick concrete sidewalk	15,545	SF	$4.00	$62,180.00
3.02	Area K: Construct new concrete paver pedestrian corridor	580	SF	$10.00	$5,800.00
3.03	Area K: Construct concrete paver plaza	5,800	SF	$8.00	$46,400.00
3.04	Area K: Construct wetland water feature w/ three basins	1	LS	$50,000.00	$50,000.00
3.05	Area J: Construct screen wall - trash receptacle	40	LF	$50.00	$2,000.00
3.06	Area J: Pedestrian Amenities (benches, trash receptacles, bike racks…)	1	LS	$12,000.00	$12,000.00
3.07	Area K: Earthwork for new earthforms	1,620	CY	$12.00	$19,440.00
3.08	Area K: Glacial erratics/ Boulders	25	EA	$500.00	$12,500.00
3.09	Area K: Landscape area - Trees	90	EA	$300.00	$27,000.00
3.10	Area K: Landscape area - Shrubs	355	EA	$75.00	$26,625.00
3.11	Area K: Landscape area - Perennials	300	EA	$15.00	$4,500.00
3.12	Area K: Landscape area - Sod/ Seed, including fine grading	35,400	SF	$0.35	$12,390.00
3.13	Area K: Construct new irrigation system for landscaped areas	1	LS	$5,000.00	$5,000.00
3.14	Area A: Construct new lighting w/ banners and electrical	1	LS	$20,000.00	$20,000.00
	Zone K Budget Subtotal				**$342,857.50**

BUDGET TOTAL	**$6,483,581.00**

Project Delivery and Schedule Considerations

Each campus zone has been designed for a "full" build-out, meaning that the landscape plans included in this document show a future, final design for each area. However, for a number of reasons, very few of the existing zones could withstand an immediate, full build-out. So the following list of actions should be considered prior to fully developing a zone according to the future design plans.

Strategic Initiatives & Campus Master Plan Updates. MSU should periodically evaluate campus master plan recommendations to ensure that current MSU strategic planning goals are aligned with them. Update campus master plan recommendations as necessary to support strategic plan goals and objectives.

City of Minot Coordination. Coordinate with City of Minot regarding any joint City/University design or construction issues (i.e. signage, 11th Avenue Street alignment, Broadway streetscape, Community Bowl/athletic fields, etc.). ZONES A, B, C, G and H.

First Lutheran Church Coordination. Coordinate with First Lutheran Church representatives regarding maintenance issues at the perimeter of the cemetery. ZONES A, C, I, and J.

Removal of non-conforming plant materials. Continue phased removal of existing overstory trees and other ornamental plants that do not comply with the native/naturalized emphasis on desired future species.

Historic and Cultural Elements. Engage various experts such as local or regional historians, cultural interpretive professionals, artists and the like to develop concepts regarding the implementation of public art, pavement imprints, markers, and other graphic amenities at locations indicated in the landscape master plan. ZONES C, D, E, and K.

Construction Documents. Develop construction plans for campus hardscape improvements including street and parking modifications, pedestrian sidewalks and plazas. Develop construction plans for new earthforms and grading modifications, including irrigation and other utilities in conjunction with the hardscape plans. Develop construction plans for architectural/public art features in conjunction with the hardscape plans. Develop construction plans for new lighting improvements, new landscape plantings, pedestrian furnishings and hardscape improvements, prior to any other new construction in each zone.

Construction Sequencing. Construct new lighting improvements prior to landscape plantings in each zone. Install landscape plantings prior to pedestrian furnishings in each zone.

Outline Specification

The purpose of this "Outline Specification" is to summarize all of the potential specification sections that might be involved in these projects. The content of each section is discussed in brief and lists the type of work and products proposed for the project. Detail relating to testing procedures, methods for installation, etc. is not discussed or included in this "Outline Specification". A complete Project Specification should be developed at a later date that will completely discuss all work and products required for the project listing General Requirements, Products and Execution methods for each Section.

Section 02070 - Selective Demolition. This section specifies the selective removal and subsequent offsite disposal of portions of existing pavements, retaining walls and other site components as required in order to accommodate new construction. This shall include all work necessary to complete new construction whether demolition noted on the drawings or not.

Section 02110 - Site Clearing. This section specifies clearing, grubbing and removal of above-grade and below-grade improvements. Protect existing trees and vegetation to remain against unnecessary cutting, breaking or skinning of roots and bark, smothering, or excessive traffic. Do not stockpile material or park vehicles within drip lines of trees to remain. Provide temporary guards or fencing as required.

Section 02200 - Earthwork. Perform earthwork operations, including sub-grade preparation for structures, slabs, walks and paving. Complete excavating and backfilling operations for footings and foundations. Redistribute topsoil.

Section 02250 - Erosion and Sediment Control Systems. This section specifies the installation of erosion and sediment control systems including gravel / stone site access pads, erosion control blankets, straw bales, storm drain inlet filters, curb inlet filters and silt fences. Includes standards to which work must comply and defines proper installation, maintenance and removal methods. Available manufacturers include: TC Mirafi, North American Green.

Section 02400 - Site Drainage Systems. This section specifies the installation of permissible types of drainage structures, pipe and grating including reinforced concrete pipe (RCP), polyvinyl chloride (PVC) sewer pipe and perforated plastic drainage pipe. Includes references and standards to which work must comply and defines proper preparation, installation, disposal and cleaning methods. Available Manufacturers include; AGRI Drain, Deeter Foundry, NDS, Tyler Pipe/Wade Division and Advanced Drainage Systems.

Section 02410 - Subdrainage Systems. This section specifies the installation of subdrainage systems as required or specified (i.e. Segmental Retaining Walls). Install permissible types of matching pipe, fittings and accessories to ensure continuity of the subdrainage system. Provide soil separation blankets and drainage fills over drain piping after satisfactory testing and acceptance. Available manufacturers include; NDS, Advanced Drainage Systems.

Section 02511 - Hot Asphalt Paving. This section specifies the installation of hot-mix asphalt pavement for parking lots and driveways. Engage a firm experienced in hot-mix asphalt with a record or successful in-service performance. Includes references and standards to which work must comply. Includes surface preparation, joints, compaction, installation tolerances and quality control.

Section 02515 - Unit Pavers. This section specifies the installation of concrete pavers set in an aggregate setting bed. Provide edge restraints for unit pavers. Engage an experienced Installer who has completed unit paver installations similar in material, design, and extent, and with a record of successful in-service performance. Obtain each color, type, and variety of unit pavers, joint materials, and setting materials from a single source with resources to provide products and materials of consistent quality in appearance and physical properties. Available manufacturers include: Pavestone.

Section 02520 - Portland Cement Concrete Paving. This section specifies the installation of exterior concrete pavement for driveways and roadways, parking lots, curbs and gutters and walkways. Includes pavement reinforcement, joints, joint sealants and color admixtures as required. Describes surface preparation and jointing.

Section 02800 – Site Accessories. This section specifies the furnishing and installation of metal benches, trash receptacles, bicycle racks, and ash urns. Provide proper installation, adjusting, and cleaning measurements as required by the manufacturer. Available manufacturers include: Landscape Forms and Forms and Surfaces.

Section 02810 - Underground Irrigation. This section specifies the installation of the complete underground irrigation system. Engage an experienced installer who has completed irrigation installations similar in material, design, and extent, and with a record of successful in-service performance. Complete the underground irrigation system from the point of connection, including piping, fittings, valves, drains, sprinkler fittings, sprinkler heads, automatic controller(s) and any other necessary appurtenances. Available manufacturers include: Hunter, Rainbird and Toro.

Section 02831 – Chain Link Fences and Gates (Temporary Fencing). This section specifies the installation of temporary chain link fences and gates for security and protection. Engage an experienced installer who has successfully completed chain link fence projects. Include galvanized-steel chain link fabric and galvanized-steel framework, fittings, gates and accessories as required.

Section 02832 – Segmental Retaining Wall Systems. This section specifies the installing modular block retaining wall units. Engage an experienced Installer who has completed segmental retaining wall installations similar in material, design, and extent, and with a record of successful in-service performance. Obtain each color, type, and variety of modular block from a single source with resources to provide products and materials of consistent quality in appearance and physical properties. Available manufacturers include; Pavestone, Keystone and Versa-Lok.

Section 02900- Furnishing and Installing Plant Materials. This section specifies providing and installing plant materials, including trees, shrubs and perennials. All plant material shall conform to the American Standard for Nursery Stock (ANSI Z60.1-1996, or most current edition). Subcontract landscape work to a single firm specializing in the growing and planting of plant material. Provide healthy, vigorous stock, grown in recognized nursery in accordance with good horticultural practice.

Section 02901 – Fine Grading at Planting Areas. This section specifies fine grading and soil preparation at all planting beds. Complete fine grading work only after other work affecting ground surface has been completed. Include preparation and protection.

Section 02930 - Seeding. This section specifies soil preparation, seeding, planting lawns, planting native wildflower areas and maintenance. Engage in a single firm specializing in seeding and growing of turf grass. Firm shall have satisfactory record of performance on completed projects of comparable size and quality. Includes type of product, fertilizer and watering requirements.

Section 02931 - Sodding. This section specifies soil preparation, sodding, planting lawns, and maintenance. Engage in a single firm specializing in sodding and growing of turf grass. Firm shall have satisfactory record of performance on completed projects of comparable size and quality. Includes type of product, fertilizer and watering requirements.

Section 03300 – Cast-In-Place Concrete. This section specifies the installation of cast-in-place concrete for poured walls, foundations and footings or any other structure that requires form work. Engage an experienced Installer who has completed concrete form work installations similar in material, design, and extent, and with a record of successful in-service performance. Includes form materials, concrete reinforcement, design of mix, joints, admixtures, placement, finishes, curing and protection.

Section 03410 – Structural Precast Concrete – Plant Cast. This section specifies the fabrication, design and installing of precast concrete units. Engage an experienced fabricator who is experienced in fabrication of precast concrete units and a member of the Prestressed Concrete Institute (PCI) and/or participate in its Plant Certification Program.

Section 04200 – Unit Masonry. This section specifies permissible types of concrete masonry units and clay unit masonry units. Engage an experienced Installer who has completed masonry wall installations similar in material, design, and extent, and with a record of successful in-service performance. Provide field-constructed mock-ups to assure quality assurance. Includes standards to which work must comply and defines proper installation, jointing, reinforcement, flashing, repair and cleaning.

Section 04720 – Cast Stone. This section specifies permissible types of cast stone. Engage an experienced producer who has experience in cast stone and is a member of the Cast Stone Institute. Includes materials, color, finish, reinforcing, jointing, setting, cleaning and repair of cast stone.

Section 05120 – Structural Steel. This section specifies the fabrication and erection of structural steel work. Includes references and standards to which work must comply. Includes product materials, grout, fabrication, and quality control measures.

Section 05500 – Metal Fabrications. This section specifies the furnishing and installation of rough hardware, steel pipe railings and guardrails. Includes references and standards to which work must comply. Includes fabrication procedures, framing supports, and installation measures.

Section 07175 – Water Repellents. This section specifies the installation of water repellents for exterior architectural precast concrete and cast stone. Engage an experienced firm with not less than three years of successful experience in application of water repellents of types required. Includes product type, preparation and installation. Available manufacturers include; Custom Masonry Sealer, ProSoCo.

Section 07600 – Flashing and Sheet Metal. This section specifies the installation of metal counter flashing, base flashing and exposed metal trim or copings. Includes product types, fabrication and installation requirements.

Section 07900 – Joint Sealants. This section specifies the installation of elastomeric joint sealants. Engage an Installer who has successfully completed joint sealer application similar in type and size. Available manufacturers include; Pecora Corp., Sonneborn Building Products Div., Tremco, or Dow Corning Corp. Includes examination, preparation and installation of sealants.

Section 09310 – Cast-in-Place Tactile / Detectable Warning Surface Tile. This section specifies furnishing and installation of cast-in-place tactile tile modules. Engage an experienced Installer certified by tactile manufacturers as qualified for installation who has successfully completed tile installations similar in material and design. Available manufacturers included; Armor-Tile manufactured by Engineered Plastics, Inc.

Section 09900 – Painting. This section specifies surface preparation, painting and powder coating of steel surfaces. Provide primers and undercoat paint produced by the same manufacturer as the finish coats.

Section 10420 – Exterior Signage. This section specifies panel signs, dimensional characters (letters and numbers), illuminated characters, and cast-metal plaques that are attached to architectural structures or retaining walls. Manufacturer shall have minimum of five years experience in providing products specified in this section. Available manufacturers include; ASI Sign Systems, Metal Décor, Inc.

Section 15260 – Piping Insulation. This section specifies pipe insulation, jackets and accessories for cold water pipe. Includes a list of product materials, installation and tolerances.

Section 15410 – Plumbing Piping. This section specifies pipe, pipe fittings and valves for sanitary sewer piping systems and domestic water piping systems. Installers must have at least two years of successful installation experience with mechanical installation work. Manufacturer of equipment and materials must be regularly engaged in the manufacture of the specified equipment and material with similar construction and capacities and whose products have been in satisfactory use in similar service for not less then five (5) years.

Section 15440 – Plumbing Fixtures. This section specifies installation requirements of plumbing fixtures (i.e. Drinking Fountains). Includes a list of product fixtures, preparation, installation, adjusting and cleaning requirements.

Section 16000 – Electrical Work. The work included under this Section consists of providing all work, supervision, and construction procedures necessary for the installation of the complete electrical systems. Install and connect all appliances and equipment as specified and indicated, in accordance with the manufacturer instructions and recommendations. Furnish and install complete electric connections and devices as recommended by the manufacturer or required for proper operation. The electrical work shall be in accordance with all applicable state and local codes, building ordinances and the N.E.C. The electrical work shall merit the approval of the state and local enforcing authorities.

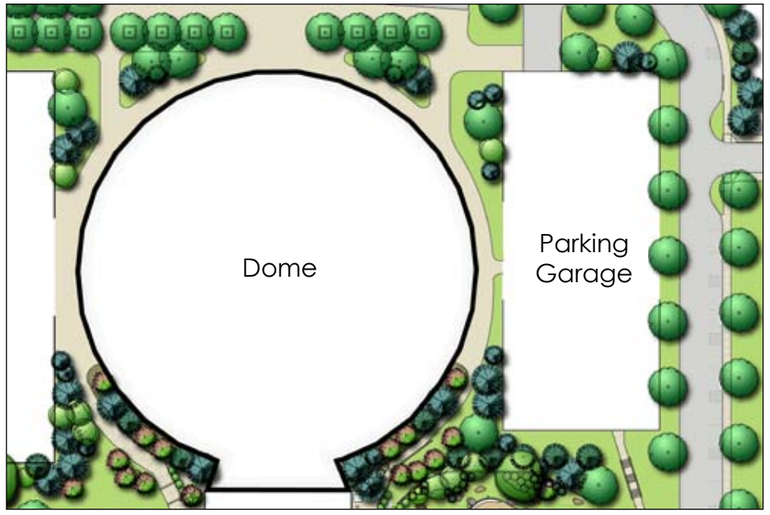
Landscape Master Plan Updates

Since the completion of the Campus Master Plan, MSU leaders have revisited some of the recommendations and revised their thinking. The graphics on the left illustrate the original concept documented in the Campus Master Plan (2007) and the graphics on the right illustrate the 2008 updated thinking.

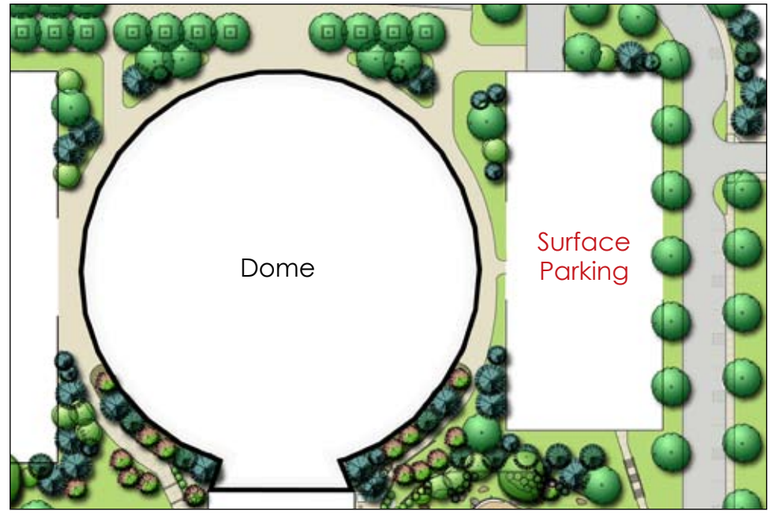
Dome Parking

Campus Master Plan: The Campus Master Plan shows a new parking structure east of the Dome.

2008 Update: This area will likely be developed as surface parking.



Campus Master Plan

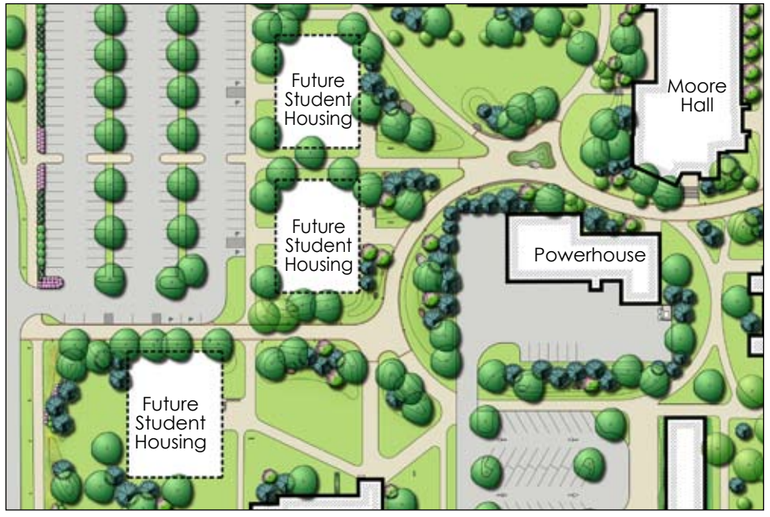


2008 Update

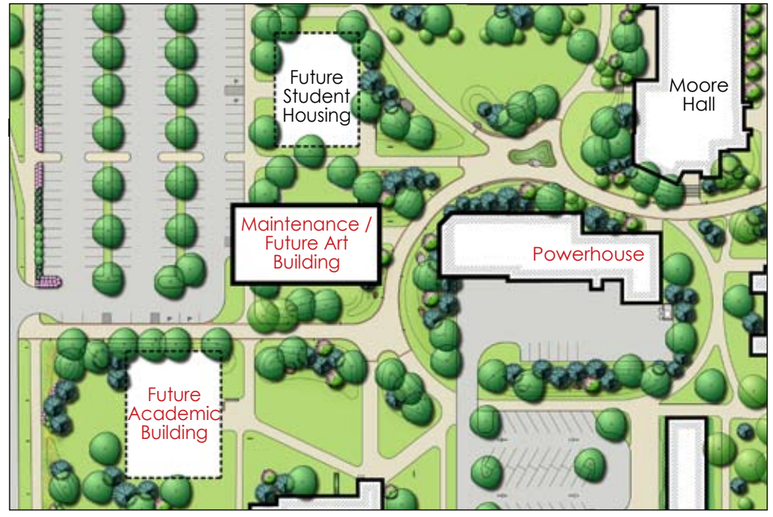
New Art and Academic Buildings

Campus Master Plan: The Campus Master Plan shows this configuration for the Powerhouse, with the west end removed and space for future suite style student housing facilities.

2008 Update: The existing footprint of the Powerhouse is to remain unchanged although the Physical Plant office will be relocated north of the Dome. The Maintenance building will also remain and be converted to an Art Building. A new future academic building site has been identified as shown.



Campus Master Plan



2008 Update

Athletic Fields

Campus Master Plan: The Campus Master Plan shows the existing athletic fields flipped.

2008 Update: The athletic fields will remain in their current position.

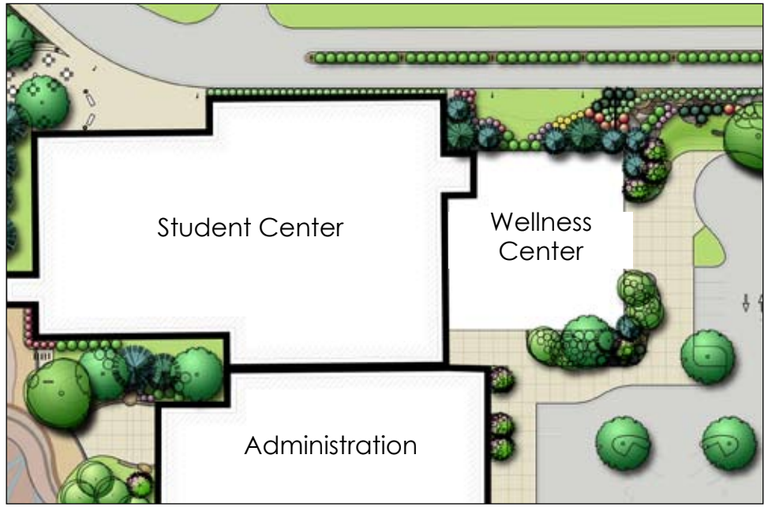
Campus Master Plan

2008 Update

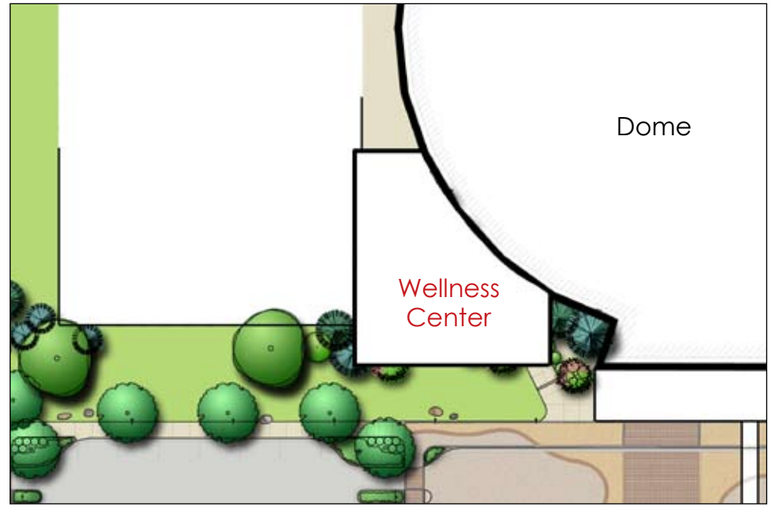
Wellness Center

Campus Master Plan: The Campus Master Plan shows the location of a future Wellness Center east of the Student Center.

2008 Update: The future location of the Wellness Center is now on the SW corner of the Dome.



Campus Master Plan



2008 Update

Minot State University

Broadway Sign

Minot, North Dakota

TCEP Project No.: 665-007-08

June 2008

INDEX OF DRAWINGS

ARCHITECT

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Title Sheet &
Index of Drawings

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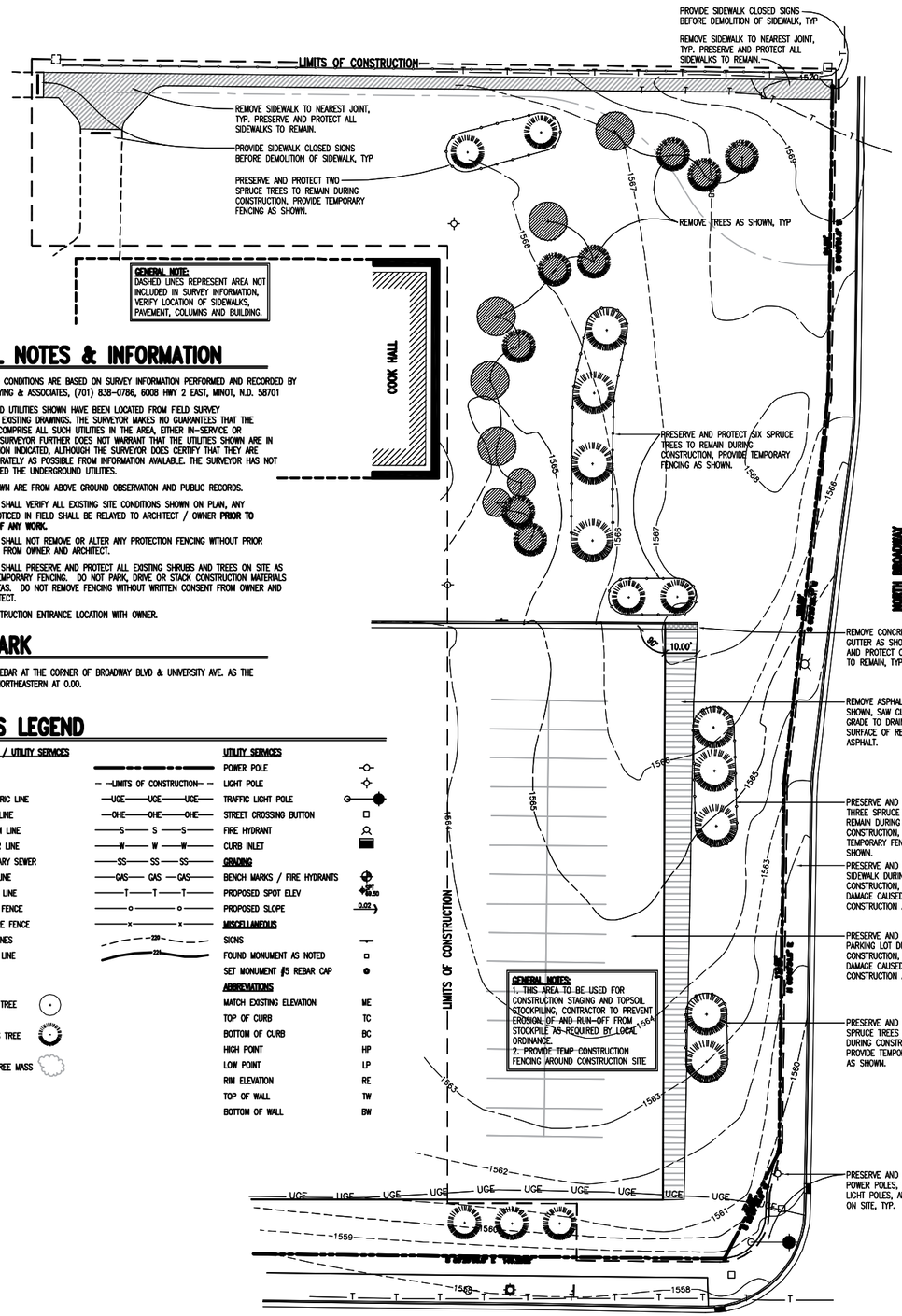


GENERAL NOTES & INFORMATION

1. ALL EXISTING SITE CONDITIONS ARE BASED ON SURVEY INFORMATION PERFORMED AND RECORDED BY ACKERMAN SURVEYING & ASSOCIATES, (701) 838-0786, 6008 HWY 2 EAST, MINOT, N.D. 58701
2. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
3. ALL UTILITIES SHOWN ARE FROM ABOVE GROUND OBSERVATION AND PUBLIC RECORDS.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS SHOWN ON PLAN, ANY DISCREPANCIES NOTICED IN FIELD SHALL BE RELAYED TO ARCHITECT / OWNER **PRIOR TO COMMENCEMENT OF ANY WORK.**
5. THE CONTRACTOR SHALL NOT REMOVE OR ALTER ANY PROTECTION FENCING WITHOUT PRIOR WRITTEN CONSENT FROM OWNER AND ARCHITECT.
6. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING SHRUBS AND TREES ON SITE AS INDICATED WITH TEMPORARY FENCING. DO NOT PARK, DRIVE OR STACK CONSTRUCTION MATERIALS UNDER THESE AREAS. DO NOT REMOVE FENCING WITHOUT WRITTEN CONSENT FROM OWNER AND LANDSCAPE ARCHITECT.
7. COORDINATE CONSTRUCTION ENTRANCE LOCATION WITH OWNER.

BENCHMARK

1. USE SET NO. 5 REBAR AT THE CORNER OF BROADWAY BLVD & UNIVERSITY AVE. AS THE BENCHMARK W/ NORTHEASTERN AT 0.00.

SYMBOLS LEGEND

GENERAL LINE TYPES / UTILITY SERVICES

- PROPERTY LINE
- PROJECT LIMITS — LIMITS OF CONSTRUCTION
- UNDERGROUND ELECTRIC LINE — UGE
- OVERHEAD ELECTRIC LINE — OHE
- UNDERGROUND STORM LINE — S
- UNDERGROUND WATER LINE — W
- UNDERGROUND SANITARY SEWER — SS
- UNDERGROUND GAS LINE — GAS
- TELECOMMUNICATIONS LINE — T
- EXISTING CHAIN LINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING CONTOUR LINES
- PROPOSED CONTOUR LINE

VEGETATION

- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- EXISTING SHRUB / TREE MASS

UTILITY SERVICES

- POWER POLE
- LIGHT POLE
- TRAFFIC LIGHT POLE
- STREET CROSSING BUTTON
- FIRE HYDRANT
- CURB INLET

GRADING

- BENCH MARKS / FIRE HYDRANTS — BM# EL=99.99
- PROPOSED SPOT ELEV
- PROPOSED SLOPE — 0.02

MISCELLANEOUS

- SIGNS
- FOUND MONUMENT AS NOTED
- SET MONUMENT #5 REBAR CAP

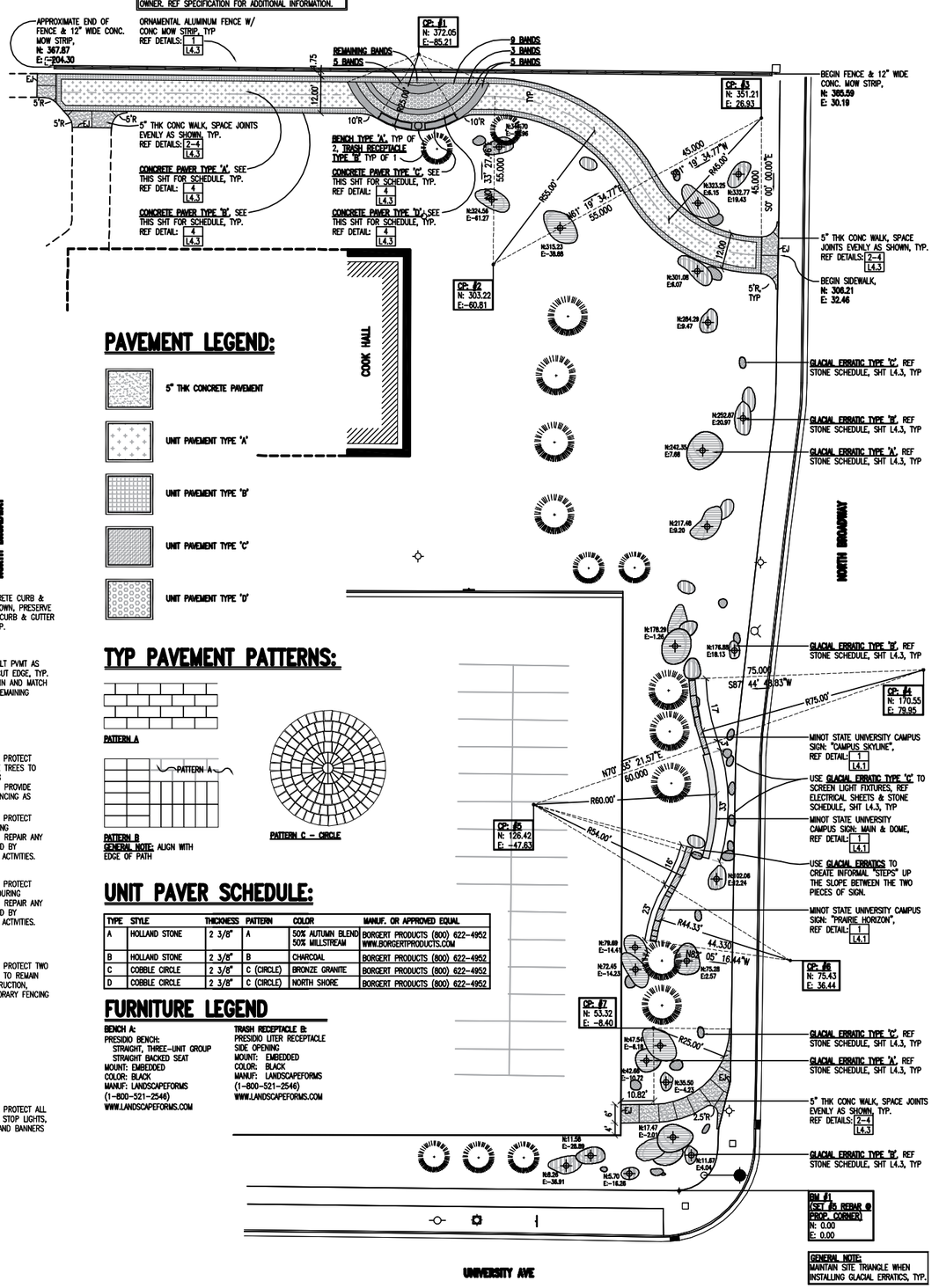
ABBREVIATIONS

MATCH EXISTING ELEVATION	ME
TOP OF CURB	TC
BOTTOM OF CURB	BC
HIGH POINT	HP
LOW POINT	LP
RIM ELEVATION	RE
TOP OF WALL	TW
BOTTOM OF WALL	BW

EXISTING CONDITIONS & SITE DEMOLITION PLAN

SCALE: 1"=20'-0"

GENERAL NOTE: ADDITIONAL ALUMINUM FENCING W/ A CONC. MOW STRIP ALONG THE WEST AND THE NORTH AND THE EAST SIDES OF THE CEMETERY WILL BE ALTERNATES TO THE BID. LOCATION OF THE FENCE WILL BE BETWEEN THE EXISTING CEMETERY COLUMNS, COORDINATE LOCATION W/ OWNER. REF SPECIFICATION FOR ADDITIONAL INFORMATION.



PAVEMENT LEGEND:

- 5" THK CONCRETE PAVEMENT
- UNIT PAVEMENT TYPE 'A'
- UNIT PAVEMENT TYPE 'B'
- UNIT PAVEMENT TYPE 'C'
- UNIT PAVEMENT TYPE 'D'

TYP PAVEMENT PATTERNS:

PATTERN A

PATTERN B
GENERAL NOTE: ALIGN WITH EDGE OF PATH

PATTERN C – CIRCLE

UNIT PAVER SCHEDULE:

TYPE	STYLE	THICKNESS	PATTERN	COLOR	MANUF. OR APPROVED EQUAL
A	HOLLAND STONE	2 3/8"	A	50% AUTUMN BLEND 50% MILLSTREAM	BORGERT PRODUCTS (800) 622-4952 WWW.BORGERTPRODUCTS.COM
B	HOLLAND STONE	2 3/8"	B	CHARCOAL	BORGERT PRODUCTS (800) 622-4952
C	COBBLE CIRCLE	2 3/8"	C (CIRCLE)	BRONZE GRANITE	BORGERT PRODUCTS (800) 622-4952
D	COBBLE CIRCLE	2 3/8"	C (CIRCLE)	NORTH SHORE	BORGERT PRODUCTS (800) 622-4952

FURNITURE LEGEND

BENCH A:
PRESIDIO BENCH:
STRAIGHT, THREE-UNIT GROUP
STRAIGHT BACKED SEAT
MOUNT: EMBEDDED
COLOR: BLACK
MANUF: LANDSCAPEFORMS
(1-800-521-2546)
WWW.LANDSCAPEFORMS.COM

TRASH RECEPTACLE B:
PRESIDIO LITER RECEPTACLE
SIDE OPENING
MOUNT: EMBEDDED
COLOR: BLACK
MANUF: LANDSCAPEFORMS
(1-800-521-2546)
WWW.LANDSCAPEFORMS.COM

SITE LAYOUT PLAN

SCALE: 1"=20'-0"

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Minot, North Dakota

TCEP No.: 665-007-08

June 2008

Existing Condtions & Site Demolition Plan
Site Layout Plan

L1.1

GENERAL INFORMATION

PROPERTY LOCATION
NORTHWEST CORNER OF MINOT STATE UNIVERSITY ALONG BROADWAY BLVD. AT THE INTERSECTION OF UNIVERSITY AVE.

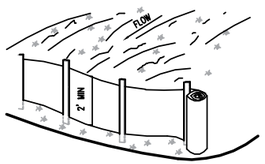
ZONING
A PARCEL ZONED PUBLIC

CONTACT

OWNER: MINOT STATE UNIVERSITY – MINOT
500 UNIVERSITY AVE. WEST
MINOT, ND 58707

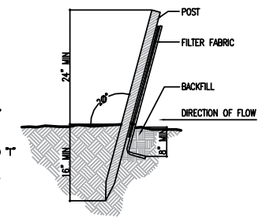
CONTACT: ROGER KLUCK
PHONE: (701) 858-3212

1. THE EXTENT OF THIS PROJECT WILL INCLUDE THE CONSTRUCTION OF A NEW CAMPUS MONUMENT SIGN, DESIGN GRADING, NEW SIDEWALKS INTO CAMPUS, PEDESTRIAN LIGHTING & LANDSCAPING.
2. TOTAL PROJECT AREA: LESS THAN 1.0 AC
   DEVELOPED/DISTRUBED AREA: 0.5 AC
3. ALL EXISTING SITE CONDITIONS ARE BASED ON SURVEY INFORMATION PERFORMED AND RECORDED BY ACKERMAN SURVEYING & ASSOCIATES, (701) 838-0786, 6008 HWY 2 EAST, MINOT, ND 58701.



1. DOUBLE ROWS FABRIC SILT FENCE, 5' APART STANDARD STUDDED "T" STEEL POSTS (6' OC POST SPACING) 3' WIDE WOVEN POLYPROPYLENE FABRIC, TRENCH INTO EARTH 6" AND BACKFILL. INSTALLED HEIGHT 2'-6" TYPICAL.
2. HIGH POROSITY SILT FENCE MFG BY MIRAFI 100X OR EQUAL.
3. LOW POROSITY SILT FENCE MFG BY MIRAFI 500X OR EQUAL.

1 SILT FENCE
NOT TO SCALE



2 SILT FENCE
NOT TO SCALE

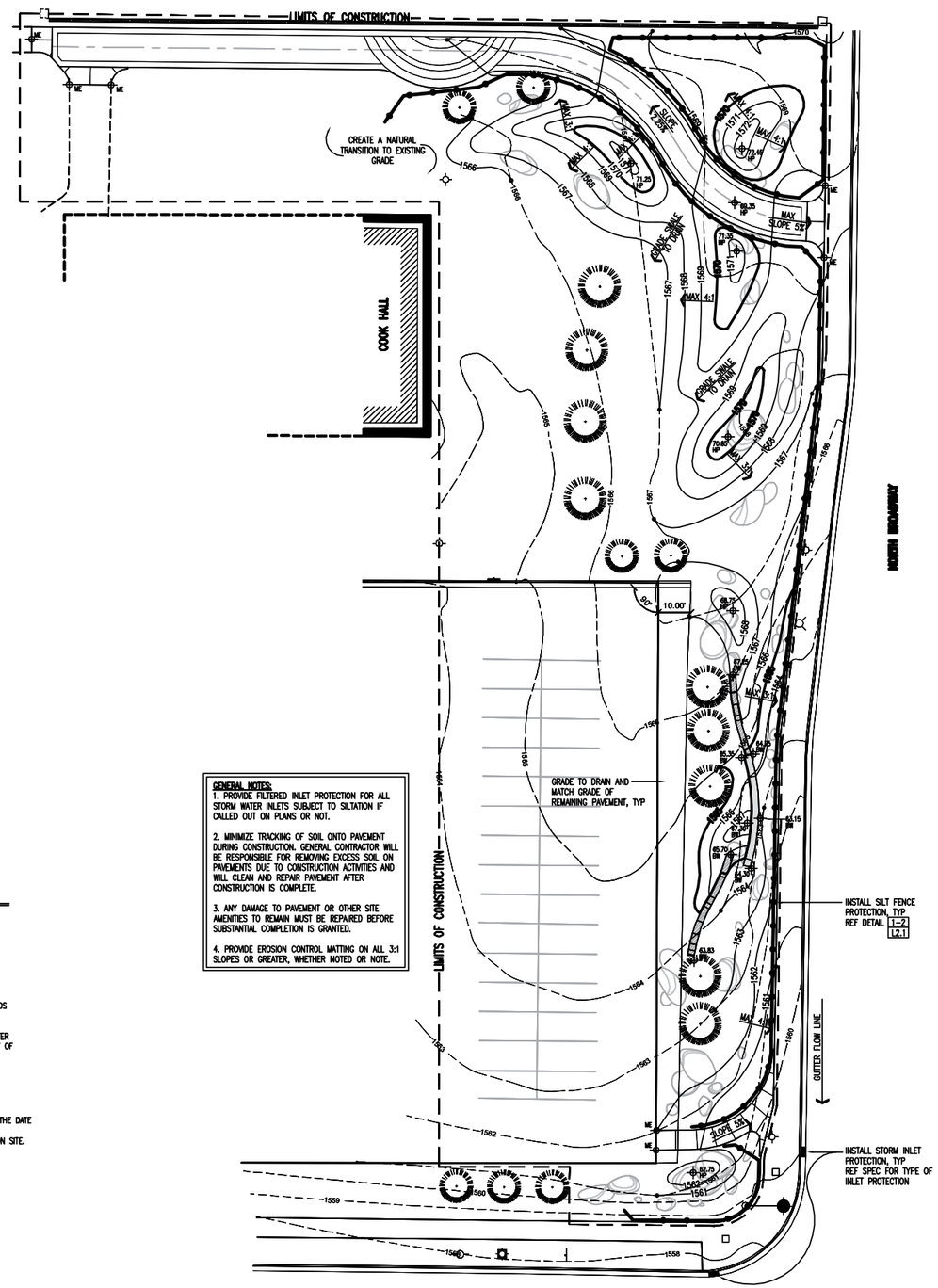
EROSION CONTROLS AND FINAL STABILIZATION

1. SEQUENCE OF EROSION CONTROL BMP'S (BEST MANAGEMENT PRACTICES)
   – PRIOR TO GRADING OPERATION, INSTALL ALL SILT FENCE AND CURB INLET FILTERS
   – INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE NOTE 5) BEFORE SOIL DISTURBANCE
   – FOLLOWING SOIL DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, TOPSOIL STOCKPILES, AND ANY OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE WHICH ARE NOT BEING USED FOR MATERIAL STORAGE, OR ON WHICH ACTUAL EARTH MOVING ACTIVITIES ARE NOT BEING PERFORMED.

   REFER TO SPECIFICATION SECTION 02250–EROSION AND SEDIMENT CONTROL SYSTEMS FOR MORE INFORMATION ON PRODUCTS TO BE USED FOR THESE BMP'S
2. THE CONTRACTOR SHALL HAVE A SPILL PREVENTION AND RESPONSE PLAN THAT ADDRESSES FUELING, MAINTENANCE AND STORAGE AREAS ON-SITE INCLUDING A DESCRIPTION OF SAID CONSTRUCTION MATERIALS (WITH UPDATES AS APPROPRIATE). THIS SPILL PREVENTION PLAN SHALL BE MAINTAINED ON THE PROJECT SITE.
3. ANY WASTES PRESENT OR GENERATED AT THE SITE SHALL BE DISPOSED OF IN COMPLIANCE WITH LOCAL REGULATIONS.
4. THE CONTRACTOR SHALL PROVIDE A STABILIZED SURFACE FOR EACH CONSTRUCTION ENTRANCE; COORDINATE WITH OWNER FOR LOCATION. IF ENTRANCE DOES NOT HAVE EXISTING PAVEMENT, THE STABILIZED SURFACE SHALL CONSIST OF A 6" THICK BASE OF CRUSHED ROCK OR RECYCLED CONCRETE OVER A WOVEN GEOTEXTILE FABRIC MANUFACTURED BY MIRAFI, PRODUCT #HP 370 OR EQUAL AS APPROVED BY ARCHITECT. IF TRAFFIC ON SITE EXCEEDS MORE THEN 25 VEHICLES PER DAY, A WASH DOWN STATION FOR TRUCKS SHALL BE INSTALLED AND STREET SWEEPING SHALL BE PERFORMED. ANY SOIL THAT MIGRATES ONTO THE ADJOINING SIDEWALK OR BROADWAY BLVD AND UNIVERSITY AVE SHALL BE CLEANED IMMEDIATELY.
5. DUST BLOWING CONTROL:
   THE CONTRACTOR SHALL USE EITHER OF THE FOLLOWING MEASURES OR A COMBINATION OF BOTH IF NECESSARY:
   A. TANK TRUCK OR OTHER SUCH EQUIPMENT TO SPREAD WATER ON THE SOIL SURFACE.
   B. INSTALL PICKET FENCE WIND BREAKS. FENCES SHALL BE PLACED AT THE RIGHT ANGLE TO THE PREVAILING WIND CURRENTS.
6. THE CONTRACTOR SHALL PERIODICALLY REMOVE ACCUMULATED SEDIMENT FROM BEHIND SILT FENCES DURING THE LIFE OF THIS CONTRACT. ACCUMULATION OF SEDIMENT MUST NOT BE ALLOWED TO REACH ABOVE HALF THE HEIGHT OF THE FENCE. ALL EROSION CONTROL FEATURES SHALL BE KEPT IN WORKING ORDER DURING THE LIFE OF THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER.
7. LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS MUST BE PREVENTED FROM ENTERING RECEIVING WATERS AND ADJACENT PROPERTY.

INSPECTIONS AND MODIFICATIONS TO THE PLAN

1. THE SITE SHALL BE INSPECTED TO IDENTIFY MAINTENANCE NEEDS AND/OR SWPPP DEFICIENCIES ONCE EVERY FOURTEEN (14) CALENDAR DAYS, AND WITHIN 24 HOURS AFTER A PRECIPITATION EVENT OF 0.5 INCHES OR GREATER. ANY DELAY IN THE REPLACEMENT OR MAINTENANCE OF NON-FUNCTIONAL BMP'S BEYOND SEVEN (7) CALENDAR DAYS SHALL BE DOCUMENTED IN THE SWPPP WITH SUFFICIENT DETAIL AS TO EXPLAIN THE REASON FOR THE DELAY.
2. INSPECTIONS FREQUENCY MAY BE REDUCED TO AT LEAST ONCE EVERY MONTH IF:
   A. THE ENTIRE SITE IS TEMPORARILY STABILIZED
   B. RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS (E.G. SITE IS COVERED WITH SNOW, ICE OR GROUND IS FROZEN)
   C. REDUCED INSPECTION FREQUENCY DOES NOT RELIEVE THE PERMITTEE OF THE MAINTENANCE RESPONSIBILITIES DURING INTERIM PERIODS
3. INSPECTIONS MUST BE CONDUCTED BY QUALIFIED PERSONNEL KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICE OF EROSION AND SEDIMENT CONTROLS WHO POSSESSES THE SKILLS TO ASSESS CONDITIONS AT THE CONSTRUCTION SITE THAT COULD IMPACT STORM WATER QUALITY AND TO ASSESS THE EFFECTIVENESS OF ANY EROSION AND SEDIMENT CONTROL MEASURES SELECTED TO CONTROL THE QUALITY OF STORM WATER DISCHARGE FROM THE CONSTRUCTION ACTIVITY.
4. QUALIFIED PERSONNEL SHALL INITIATE AND COMPLETE CORRECTIVE ACTIONS TO ADDRESS ANY MAINTENANCE NEEDS OR DEFICIENCIES AS SOON AS POSSIBLE. MAINTENANCE AND REPAIR OF SILT FENCES, CURB FILTERS OR ANY OTHER BMP SHALL BE COMPLETED WITH IN 7 DAYS AFTER DEFICIENCIES ARE DISCOVERED.
5. THE CONTRACTOR SHALL MAINTAIN RECORD LOGS OF SITE INSPECTION AND MAINTENANCE ACTIVITIES FOR AT LEAST THREE YEARS FROM THE DATE THAT PERMIT COVERAGE EXPIRES OR IS TERMINATED. THE PERMITTEE MUST PROVIDE NDEQ, THE ARCHITECT, AND THE OWNER/OWNER'S REPRESENTATIVE, WITH ACCESS AND COPIES OF THESE RECORDS UPON REQUEST. A COPY OF THESE RECORDS MUST BE MAINTAINED ON SITE. AT A MINIMUM THESE RECORDS MUST INCLUDE:
   A. THE INSPECTION TIME AND DATE
   B. NAMES, TITLES, AND QUALIFICATION OF WHO CONDUCTED THE INSPECTIONS
   C. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION
      –BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT
      –DURATION OF EACH STORM EVENT
      –APPROXIMATE AMOUNT OF RAINFALL (IN INCHES)
      –WHETHER ANY DISCHARGE OCCURRED
   D. WEATHER INFORMATION AND DESCRIPTION OF ANY DISCHARGE OCCURRING AT TIME OF THE INSPECTION
   E. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE
   F. LOCATION OF BMPs THAT NEED TO BE MAINTAINED
   G. LOCATIONS OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION
   H. MONITORING RESULTS IF REQUESTED
   I. RECORDS OF THE LAST GRADING ACTIVITY
   J. LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION
   K. CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWPPP NECESSARY AND IMPLEMENTATION DATES
6. THIS PLAN SHALL REMAIN DYNAMIC. IF DEFICIENCIES ARISE DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL IMPLEMENT EFFECTIVE CORRECTIVE ACTIONS. AN UPDATED COPY OF THE SWPPP SHALL BE ON SITE AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN AN UPDATED COPY AT ALL TIMES ANY WORK IS BEING PERFORMED ON SITE. THE PLAN SHALL BE UPDATED WHENEVER EROSION AND/OR SEDIMENT CONTROLS ARE MODIFIED AS SET FORTH IN THE PLAN. THIS DOES NOT CIRCUMVENT THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL FOR MODIFICATIONS THAT MAY CONCURRENTLY FALL UNDER THE JURISDICTION OF OTHER GOVERNMENTAL AUTHORITIES. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL MODIFICATIONS OF CONTROLS ON THE PLAN. THE RECORD SHALL INCLUDE DATE OF MODIFICATION AND REASON(S) FOR MODIFICATION.



GENERAL NOTES:
1. PROVIDE FILTERED INLET PROTECTION FOR ALL STORM WATER INLETS SUBJECT TO SILTATION IF CALLED OUT ON PLANS OR NOT.
2. MINIMIZE TRACKING OF SOIL ONTO PAVEMENT DURING CONSTRUCTION. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING EXCESS SOIL ON PAVEMENTS DUE TO CONSTRUCTION ACTIVITIES AND WILL CLEAN AND REPAIR PAVEMENT AFTER CONSTRUCTION IS COMPLETE.
3. ANY DAMAGE TO PAVEMENT OR OTHER SITE AMENITIES TO REMAIN MUST BE REPAIRED BEFORE SUBSTANTIAL COMPLETION IS GRANTED.
4. PROVIDE EROSION CONTROL MATTING ON ALL 3:1 SLOPES OR GREATER, WHETHER NOTED OR NOTE.

SITE GRADING, EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=20'-0"

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TCEP No.: 665-007-08

June 2008

Site Grading, Erosion & Sediment Control Plan

L2.1

IRRIGATION GENERAL NOTES:

1. IRRIGATION CENTRAL CONTROL SYSTEM LOCATION: COORDINATE WITH OWNER.
2. RAIN AND WIND SENSOR LOCATION: COORDINATE WITH OWNER.
3. CONTROL BOX LOCATIONS: GANG CONTROL BOX LOCATIONS WHERE POSSIBLE, REFERENCE PLANTING PLAN & COORDINATE WITH PLANT LOCATIONS TO MINIMIZE VISIBILITY WITHOUT DISTURBING PLANTING BED LAYOUTS.
4. TIE IRRIGATION SYSTEM INTO EXISTING CAMPUS IRRIGATION SYSTEM.
5. COORDINATE IRRIGATION LAYOUT WITH PLANT MATERIAL LAYOUT, REFERENCE THIS SHEET FOR PLANTING PLAN.

IRRIGATION SCHEDULE:

TYPE 'A'

TYPE 'A' ZONE: TURF & TREES
IRRIGATE TURF & TREE AREAS W/ SPRAY OR ROTOR TYPE SYSTEMS, DESIGN SHALL PROVIDE 100% HEAD TO HEAD COVERAGE, TYPICAL. LOCATE HEADS TO MINIMIZE OVERSPRAY ON SIDEWALKS, DRIVES AND BUILDINGS.

TYPE 'B'

TYPE 'B' ZONE: SHRUB/ PERENNIAL BEDS
IRRIGATE PERENNIAL BED AREAS W/ DRIP TYPE SPRINKLER SYSTEM, TYPICAL.

GENERAL NOTES: PLANTING

1. ACUTAL LOCATION OF SHRUBS, PERENNIALS AND NATIVE GRASSES WILL BE DETERMINED BY LOCATIONS AND SHAPES OF GLACIAL ERRATICS.
2. USE CULTIVATED EDGE FOR ALL LANDSCAPE EDGING, LOCATE WHERE PLANTING BEDS ADJOIN LAWN/ TURF AREAS, SIDEWALKS AND BACK OF CURBS AND WHERE NATIVE GRASSES ADJOIN TURF GRASSES.
3. LOOSEN AND REWORK SOIL IN AREAS COMPACTED BY CONSTRUCTION ACTIVITIES BEFORE SEEDING OR SODDING. REFERENCE EARTHWORK, SEEDING AND SODDING SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.
4. PREPARE PLANTING BED SOIL, REFERENCE FURNISHING AND PLANTING OF PLANT MATERIAL SPECIFICATION SECTION AND DETAIL 1, THIS SHEET FOR ADDITIONAL INFORMATION.
5. SEED OR SOD ALL AREA DISTURBED BY CONSTRUCTION AS INDICATED ON PLAN OR NOT.

SOD & SEED MIXTURES:

SOD MIXTURE 'A':
SOD MIXTURE 'A' SHALL BE EQUAL TO SUPER TURF II BY UNITED SEEDS, OMAHA, NE (402) 331-4800, OR APPROVED EQUAL.

SEED MIXTURE 'B':
SEED MIXTURE 'B' SHALL BE SUPER TURF II BY UNITED SEEDS, OMAHA, NE (402) 331-4800, OR APPROVED EQUAL.

SPECIES	PURITY	GERM
AVENGER TALL FESCUE	21.56%	90%
BLACKWATCH TALL FESCUE	21.56%	90%
DAVINCI TALL FESCUE	21.56%	90%
INFERNO TALL FESCUE	21.56%	90%
MONTEREY 3 PERENNIAL RYEGRASS	4.90%	90%
BLUECHIP KENTUCKY BLUEGRASS	3.43%	90%
EVEREST KENTUCKY BLUEGRASS	3.43%	90%

SEEDING RATE: 10 LBS. PER 1,000 S.F.

SEED MIXTURE 'C':
SEED MIXTURE 'C' SHALL BE LOW GROWING GRASS MIXTURE BY UNITED SEEDS, OMAHA, NE (402) 331-4800 OR APPROVED EQUAL.

SPECIES	PURITY	GERM
SR-3210 BLUE FESCUE	17.00%	86%
ECO-STAR HARD FESCUE	17.00%	86%
AZURE-SHEEPS FESCUE	13.52%	84%
BUTTE-SIDEOATS GRAMA	13.52	85%
BLUE GRAMA	9.73%	85%
BLAZE LITTLE BLUESTEM	9.23%	84%

SEEDING RATE (DRILLED): 8PLS LBS. PER ACRE

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE & METHOD OF HANDLING
TREES			
AAB	AMELANCHIER 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	1 1/2" CAL/ B&B/ 10' HT MIN
FPP	FRAXINUS PENNSYLVANICA 'PATMORE'	PATMORE ASH	2 1/2" CAL/ B&B/ 12' HT MIN
PTPB	POPULUS TREMULOIDES 'PIKES BAY'	PIKES BAY QUAKING ASPEN	2 1/2" CAL/ B&B/ 12' HT MIN
QM	QUERCUS MACROCARPA	BUR OAK	2 1/2" CAL/ B&B/ 12' HT MIN
PGD	PICEA GLAUCA 'DENSATA'	BLACK HILLS SPRUCE	B&B/ 7' HT MIN
SHRUBS			
AAR	AMELANCHIER ALNIFOLIA 'REGENT'	REGENT SERVICEBERRY	#5 CONT/ 30" HT MIN
JHY	JUNIPERUS HORIZONTALIS 'YOUNGSTOWN'	YOUNGSTOWN ANDORRA JUNIPER	#5 CONT/ 18" HT MIN
RAGL	RHUS AROMATICA 'GRO-LOW'	GRO-LOW SUMAC	#2 CONT/ 18" HT MIN
RJ	ROSA 'JACRULAV'	WILDBERRY BREEZE ROSE	#2 CONT/ 18" HT MIN
SK	SYMPHORICARPOS 'KOLCHARM'	CHARMING FANTASY SNOWBERRY	#2 CONT/ 18" HT MIN
PERENNIALS			
DPS	DALEA PURPUREUM 'STEPHANIE'	STEPHANIE PRAIRIE CLOVER	#1 CONTAINER
HSF	HEUCHERA SANGUINEA 'FIREFLY'	FIREFLY CORAL BELL	#1 CONTAINER
LP	LIATRIS PUNCATA	BLAZING STAR	#1 CONTAINER

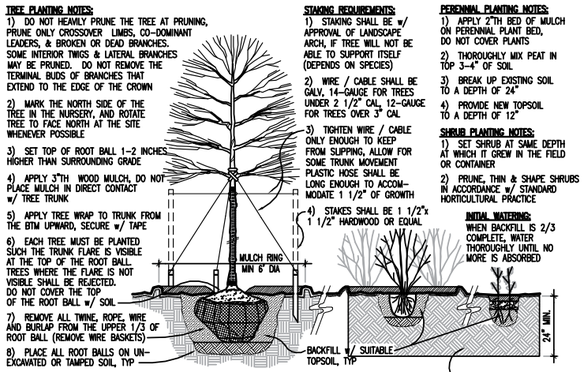
TREE PLANTING NOTES:
1) DO NOT HEAVILY PRUNE THE TREE AT PRUNING, PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, & BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS & LATERAL BRANCHES MAY BE PRUNED. DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN
2) MARK THE NORTH SIDE OF THE TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHENEVER POSSIBLE
3) SET TOP OF ROOT BALL 1-2 INCHES HIGHER THAN SURROUNDING GRADE
4) APPLY 3"TH WOOD MULCH, DO NOT PLACE MULCH IN DIRECT CONTACT W/ TREE TRUNK
5) APPLY TREE WRAP TO TRUNK FROM THE BTM UPWARD, SECURE W/ TAPE
6) EACH TREE MUST BE PLANTED SUCH THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL W/ SOIL
7) REMOVE ALL TWINE, ROPE, WIRE AND BURLAP FROM THE UPPER 1/3 OF ROOT BALL (REMOVE WIRE BASKETS)
8) PLACE ALL ROOT BALLS ON UN-EXCAVATED OR TAMPED SOIL, TYP

STAKING REQUIREMENTS:
1) STAKING SHALL BE W/ APPROVAL OF LANDSCAPE ARCH, IF TREE WILL NOT BE ABLE TO SUPPORT ITSELF (DEPENDS ON SPECIES)
2) WIRE / CABLE SHALL BE GALV, 14-GAUGE FOR TREES UNDER 2 1/2" CAL, 12-GAUGE FOR TREES OVER 3" CAL
3) TIGHTEN WIRE / CABLE ONLY ENOUGH TO KEEP FROM SLIPPING, ALLOW FOR SOME TRUNK MOVEMENT PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOM-MODATE 1 1/2" OF GROWTH
4) STAKES SHALL BE 1 1/2"x 1 1/2" HARDWOOD OR EQUAL

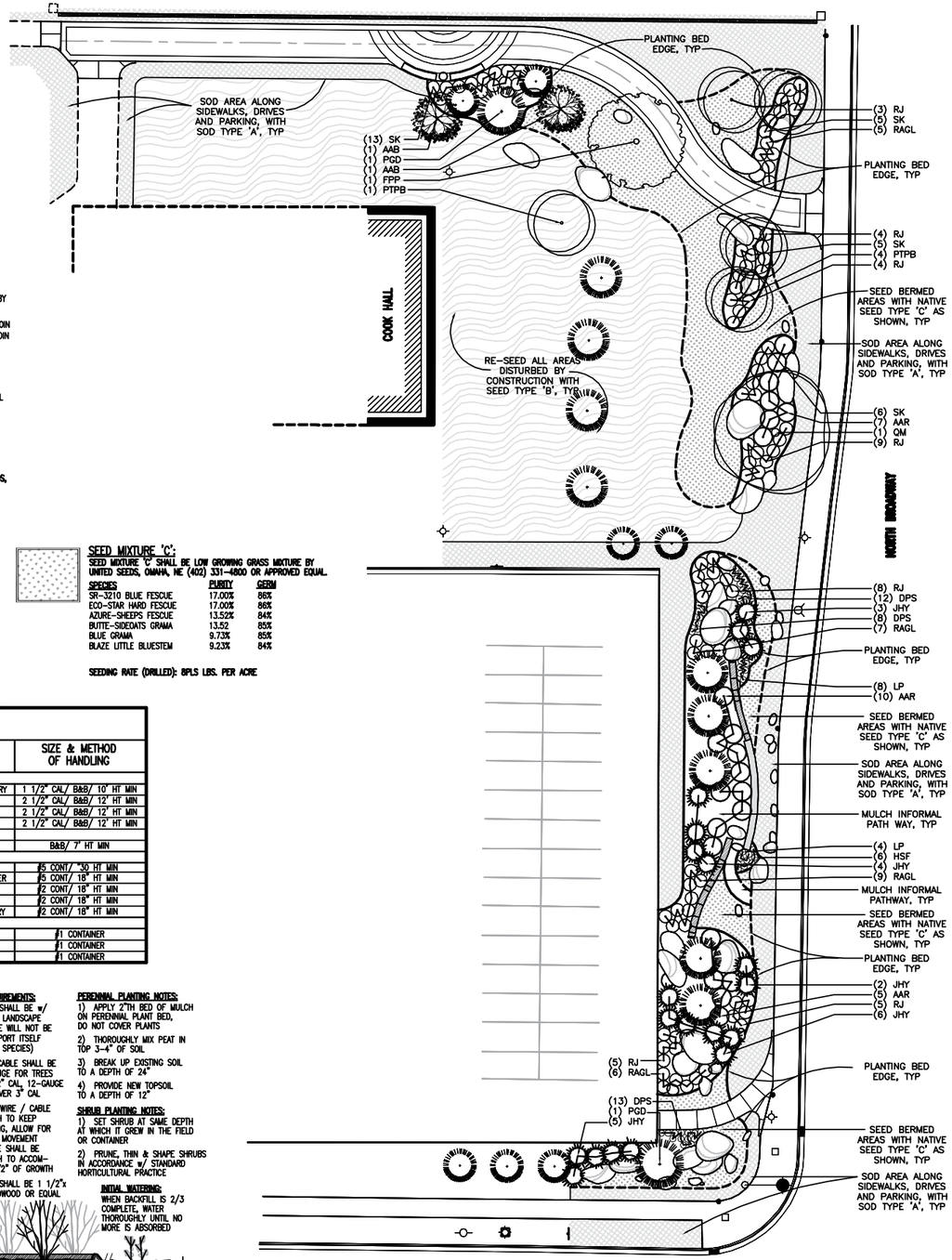
PERENNIAL PLANTING NOTES:
1) APPLY 2"TH BED OF MULCH ON PERENNIAL PLANT BED, DO NOT COVER PLANTS
2) THOROUGHLY MIX PEAT IN TOP 3-4" OF SOIL
3) BREAK UP EXISTING SOIL TO A DEPTH OF 24"
4) PROVIDE NEW TOPSOIL TO A DEPTH OF 12"

SHRUB PLANTING NOTES:
1) SET SHRUB AT SAME DEPTH AT WHICH IT GREW IN THE FIELD OR CONTAINER
2) PRUNE, THIN & SHAPE SHRUBS IN ACCORDANCE W/ STANDARD HORTICULTURAL PRACTICE

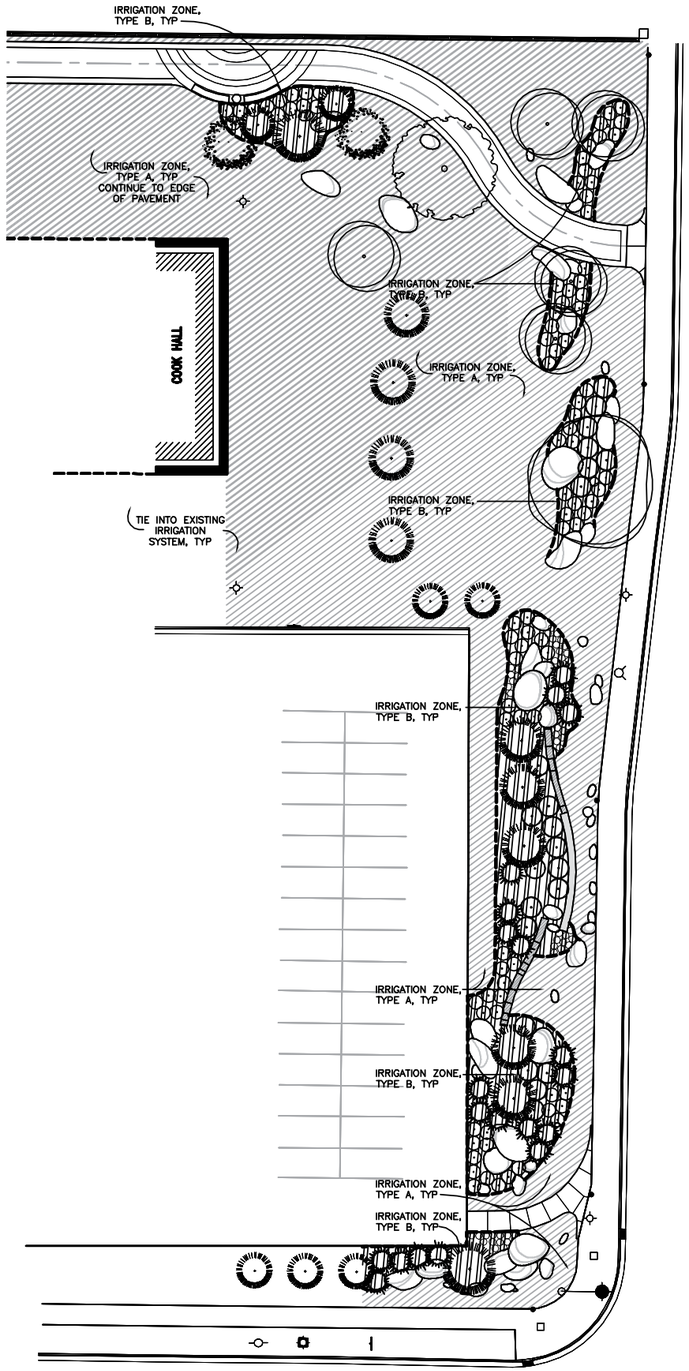
INITIAL WATERING:
WHEN BACKFILL IS 2/3 COMPLETE, WATER THOROUGHLY UNTIL NO MORE IS ABSORBED



1 PLANTING INSTALLATION DETAILS
SCALE: 1/2"=1'-0" (IN ALL SOIL TYPES)



SITE PLANTING PLAN
SCALE: 1"=20'-0"



SITE IRRIGATION PLAN
SCALE: 1"=20'-0"

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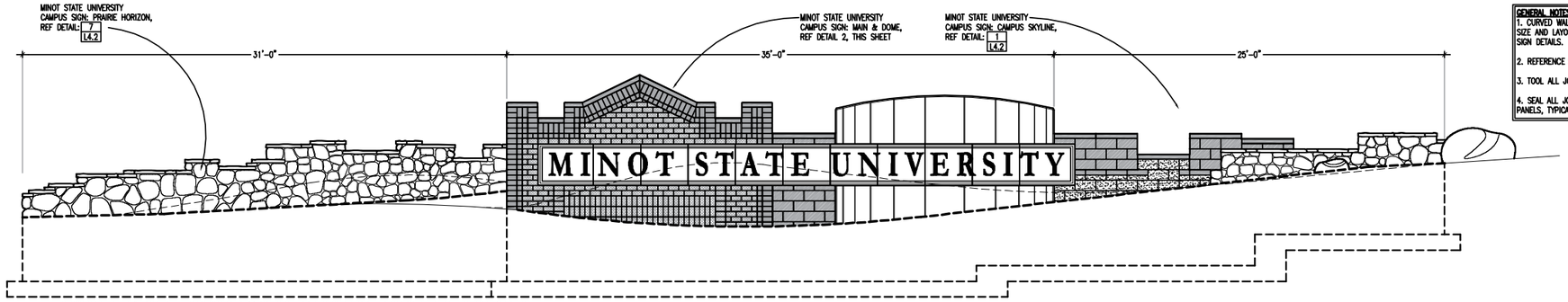
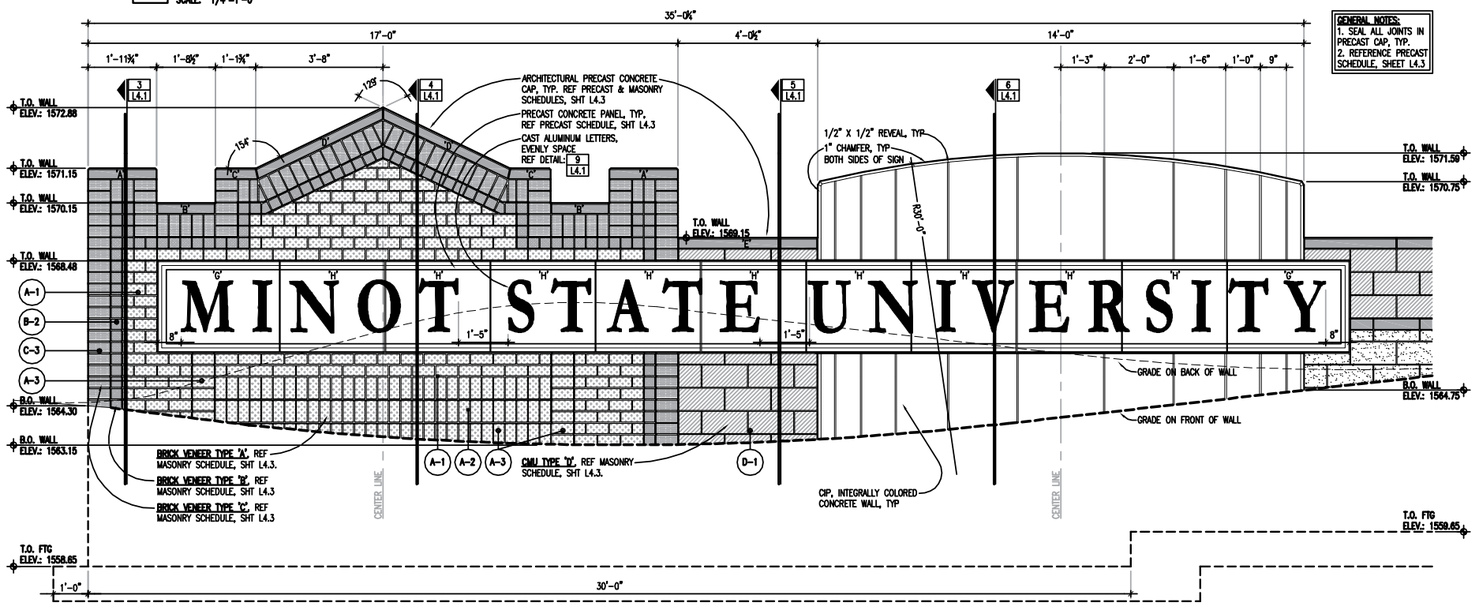
Site Planting Plan
Site Irrigation Plan

L3.1



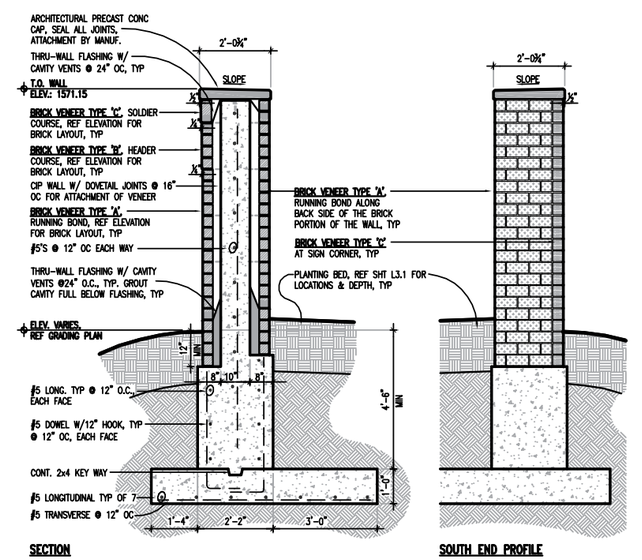
GENERAL NOTES:
1. CURVED WALL SHOWN FLAT TO SHOW TRUE SIZE AND LAYOUT, TYPICAL FOR ALL WALL/ SIGN DETAILS.
2. REFERENCE SHEET L2.1 FOR GRADING PLAN.
3. TOOL ALL JOINTS
4. SEAL ALL JOINTS IN PRECAST CAPS & PANELS, TYPICAL.

1 MINOT STATE UNIVERSITY CAMPUS SIGN ELEVATION
SCALE: 1/4"=1'-0"



GENERAL NOTES:
1. SEAL ALL JOINTS IN PRECAST CAP, TYP.
2. REFERENCE PRECAST SCHEDULE, SHEET L4.3

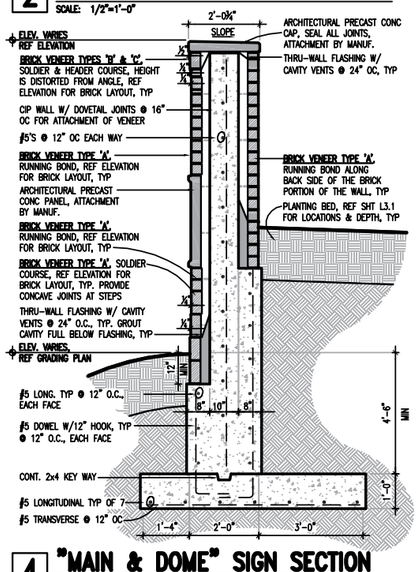
2 "MAIN & DOME" SIGN ELEVATION
SCALE: 1/2"=1'-0"



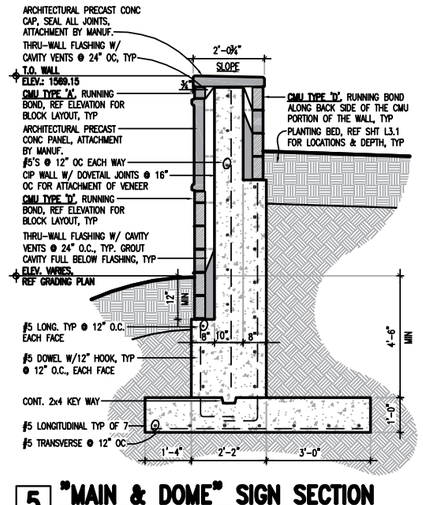
SECTION

SOUTH END PROFILE

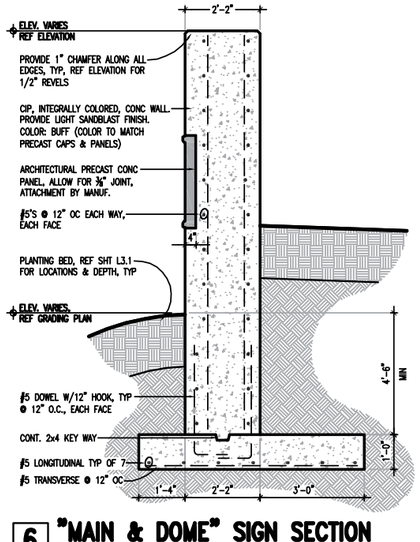
3 "MAIN & DOME" SIGN SECTION
SCALE: 1/2"=1'-0"



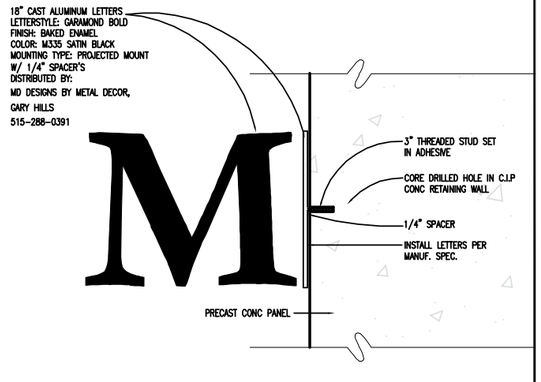
4 "MAIN & DOME" SIGN SECTION
SCALE: 1/2"=1'-0"



5 "MAIN & DOME" SIGN SECTION
SCALE: 1/2"=1'-0"



6 "MAIN & DOME" SIGN SECTION
SCALE: 1/2"=1'-0"



9 SIGN LETTERING DETAIL
SCALE: 1 1/2"=1'-0"

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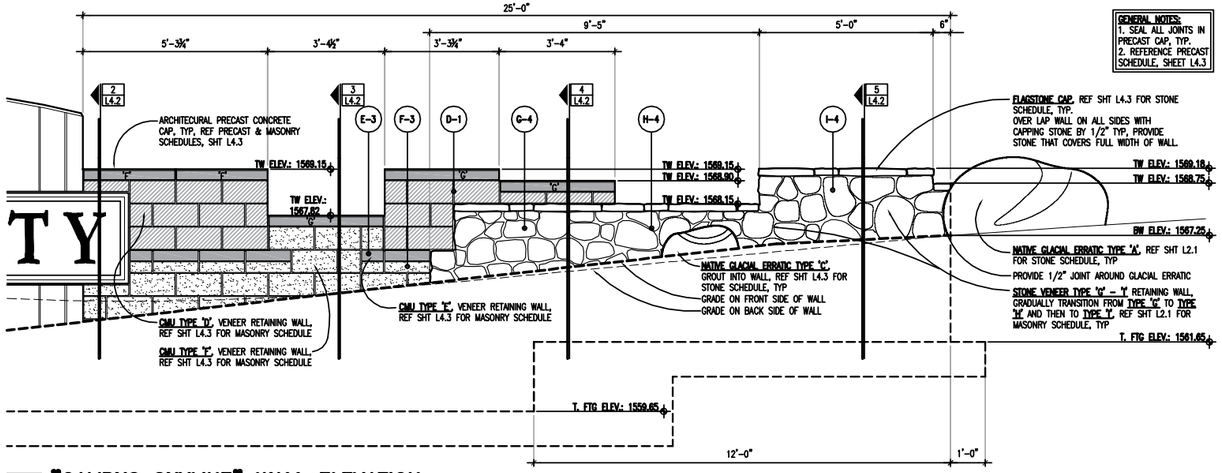
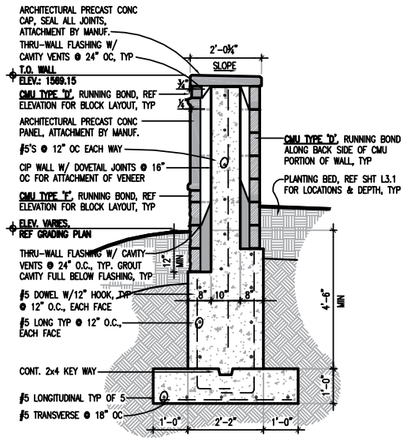
Sign Elevations & Details

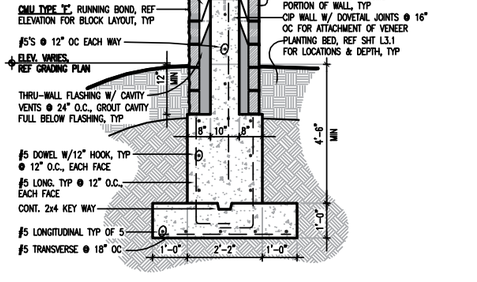
L4.1



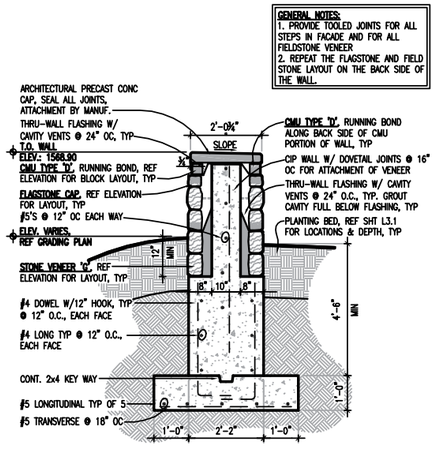
1 "CAMPUS SKYLINE" WALL ELEVATION
SCALE: 1/2"=1'-0"



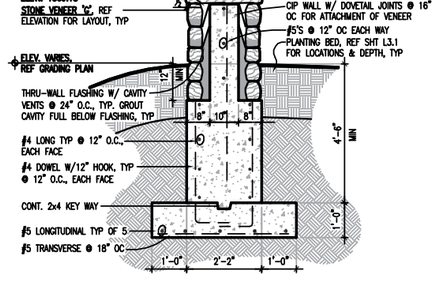
2 "CAMPUS SKYLINE" WALL SECTION
SCALE: 1/2"=1'-0"



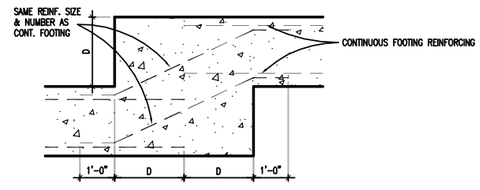
3 "CAMPUS SKYLINE" WALL SECTION
SCALE: 1/2"=1'-0"



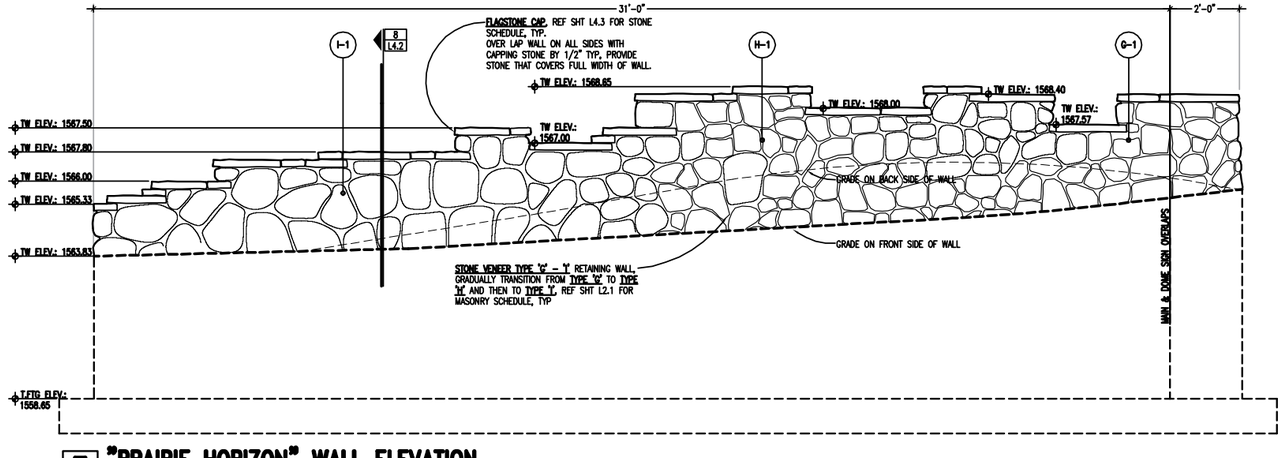
4 "CAMPUS SKYLINE" WALL SECTION
SCALE: 1/2"=1'-0"



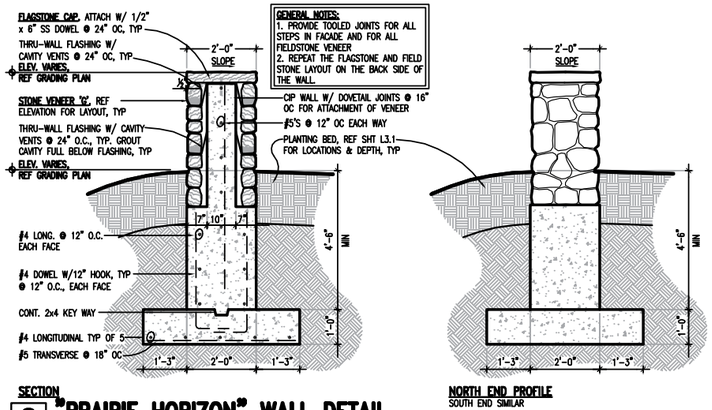
5 GLACIAL FIELDSTONE WALL SECTION
SCALE: 1/2"=1'-0"



6 TYP. FOOTING STEP DETAIL
NTS



7 "PRAIRIE HORIZON" WALL ELEVATION
SCALE: 1/2"=1'-0"



8 "PRAIRIE HORIZON" WALL DETAIL
SCALE: 1/2"=1'-0"

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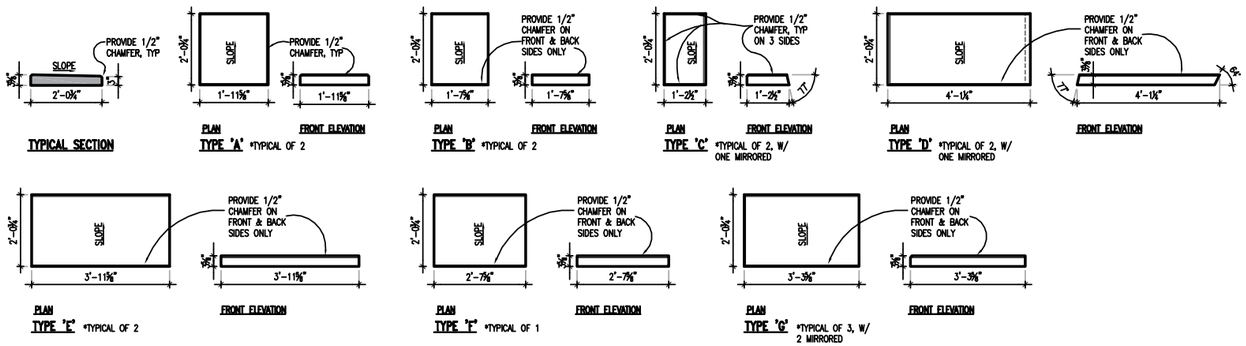
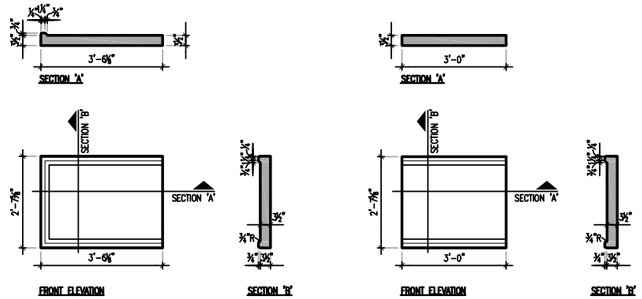
L4.2



WALL CAPS



WALL PANELS

PRECAST CONCRETE SCHEDULE

SCALE: 1/2"=1'-0"

MASONRY SCHEDULE

BRICK TYPE	BRICK SIZE (NOMINAL)	MANUF.	COLOR	TEXTURE	MORTAR COLOR
A	4" x 8"	HEBRON BRICKS	GARNET	VELOUR	MATCH BRICK
B	4" x 4"	GLEN-GERY CORPORATION	GLAZED EVERGREEN (G042)	SMOOTH	LIGHT BUFF
C	4" x 8"	GLEN-GERY CORPORATION	GLAZED MAROON (957)	SMOOTH	LIGHT BUFF
CMU TYPE					
D	8" x 16" *	GAGE BROTHERS	BLEND: 33.5% SANDSTONE, 33.5% DAKOTA & 33% SEASHELL	SMOOTH BURNISHED	LIGHT BUFF
E	4" x 16"	GAGE BROTHERS	ONYX	SMOOTH BURNISHED	LIGHT BUFF
F	8" x 16" *	GAGE BROTHERS	BLEND: 33.5% SANDSTONE, 33.5% DAKOTA & 33% CALICO	SPLIT FACED	LIGHT BUFF
STONE VENEER TYPE					
G	3"-10" DIA.	NATURAL STONE VENEERS	MULTI-COLOR GRANITES	SPLIT FIELDSTONE	LIGHT BUFF
H	7"-12" DIA.	KRUKOWSKI STONE COMPANY, INC.	MULTI-COLOR GRANITES	COBBLES	LIGHT BUFF
I	8"-18" DIA.	KRUKOWSKI STONE COMPANY, INC.	MULTI-COLOR GRANITES	SPLIT COBBLES ROUNDS OUT	LIGHT BUFF
ARCHITECUTRUAL PRECAST CONC. TYPE					
–	REF. SCHEDULE	CONTINENTAL CAST STONE	NATURAL STONE	–	MATCH ARCH. CONC.

* INCLUDING 4" X 8", 4" X 16", AND 8" X 8" – FOR COURSING, REF SIGN/ WALL ELEVATIONS SHEET L4.1 & L4.2

BRICK PROJECTION (FROM PLUMB)

PROJ. TYPE	PROJECT DISTANCE
1	0"
2	1/4"
3	1/2"
4	7/8"

GENERAL NOTES:
1. ALL PATTERNS ARE AS SHOWN.
2. ALL MORTAR JOINT TO BE 3/8", UNLESS OTHERWISE NOTED.
3. SCEDULE DENOTES COLOR & TEXTURE.
4. EQUALS TO BE APPROVED BY ARCHITECT DURING BIDDING PERIOD.
5. MASONRY GROUPED BY SAME SHADING ALL HAVE SAME TYPE OF MASONRY AS NOTED (SEE SCHEDULE)
6. TAGS NOTED ON ELEVATION DENOTE THE MASONRY TYPE & THE PROJECTION TYPE IN THE CORRESPONDING SCHEDULE (EX: A-1 = MASONRY TYPE "A" WITH PROJECTION TYPE "1")
7. ALL MASONRY UNITS ARE OF 3 5/8", 7 5/8" OR 15 5/8" LENGTHS, UNLESS OTHERWISE NOTED.

MASONRY SCHEDULE

GLACIAL ERRATIC TYPE 'A':

SIZE: APPROXIMATELY 6'-0" TO 9'-0", VARIABLE WIDTHS & LENGTHS EXPECTED

COLOR: BROWNS, BUFFS, WARM GRAYS AND PINKS. UTILIZE LOCAL NORTH DAKOTA GLACIAL ERRATICS. COORDINATE COLOR WITH THE WALL/ SIGN'S STONE VENEER, PROVIDE SAMPLES FOR APPROVAL.

GLACIAL ERRATIC TYPE 'B':

SIZE: APPROXIMATELY 3'-0" TO 6'-0", VARIABLE WIDTHS & LENGTHS EXPECTED

COLOR: BROWNS, BUFFS, WARM GRAYS AND PINKS. UTILIZE LOCAL NORTH DAKOTA GLACIAL ERRATICS. COORDINATE COLOR WITH THE WALL/ SIGN'S STONE VENEER, PROVIDE SAMPLES FOR APPROVAL.

GLACIAL ERRATIC TYPE 'C':

SIZE: APPROXIMATELY 1'-0" TO 3'-0", VARIABLE WIDTHS & LENGTHS EXPECTED

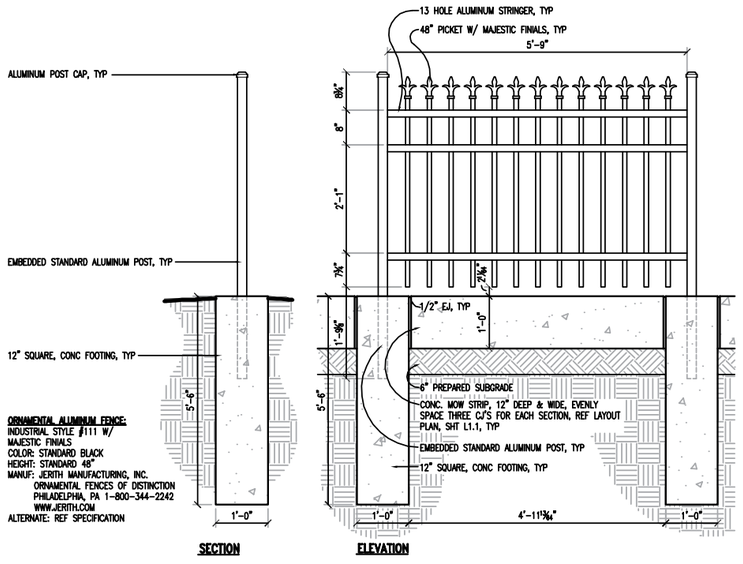
COLOR: BROWNS, BUFFS, WARM GRAYS AND PINKS. UTILIZE LOCAL NORTH DAKOTA GLACIAL ERRATICS. COORDINATE COLOR WITH THE WALL/ SIGN'S STONE VENEER, PROVIDE SAMPLES FOR APPROVAL.

GRANITE FLAGSTONE CAP:

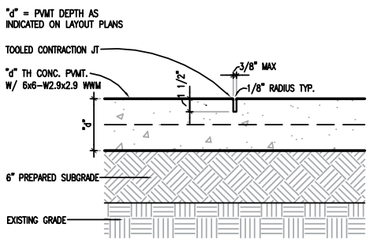
SIZE: APPROXIMATELY 2'-0" WIDE WITH VARIABLE LENGTHS EXPECTED

COLOR: BROWNS, BUFFS, WARM GRAYS AND PINKS. UTILIZE LOCAL STONE. COORDINATE COLOR WITH THE WALL/ SIGN'S STONE VENEER, PROVIDE SAMPLES FOR APPROVAL.

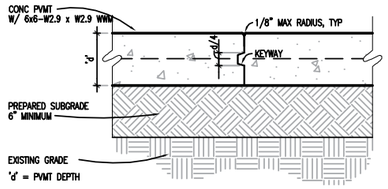
STONE SCHEDULE



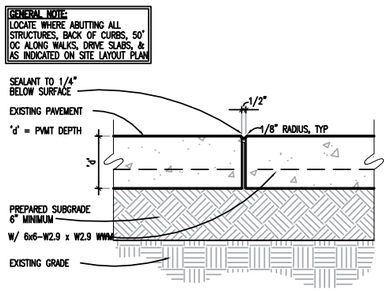
1 ORNAMENTAL ALUMINUM FENCE
SCALE: 3/4"=1'-0"



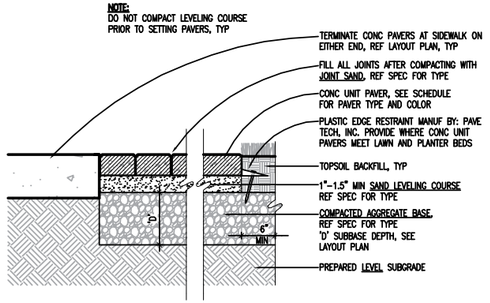
2 CONC. CONTRACTION JOINT
SCALE: 1 1/2"=1'-0"



3 CONCRETE CONSTRUCTION JOINT
SCALE: 1 1/2"=1'-0"



4 CONCRETE EXPANSION JOINT
SCALE: 1 1/2"=1'-0" (INDICATED EJ ON LAYOUT PLAN)



5 CONC UNIT PAVERS
SCALE: 1 1/2"=1'-0"

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Material Schedules
Site Details

L4.3

LIGHTING FIXTURE SCHEDULE

Fixture Type	Manufacturers	Catalog Numbers	Description	No. of Lamps	Lamp Type	Volt	VA	Mounting	Remarks
A	KIM	DBF13-70PHM208-BL-P	PULSE START METAL HALIDE, IN-GRADE LIGHT FIXTURE	1	1 - 70 WATT PMH	208	70	IN GRADE	AIM FIXTURE UP AT A 45 DEGREE ANGLE TOWARD MONUMENT. SEE THE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION. MOUNT PER MANUFACTURERS SPECIFICATION.
B	HOLOPHANE HOLOPHANE	WA-15AHP-20-B-3-B-3-F POLE S-B-RT-20-J-BC	POLE MOUNTED, HIGH PRESSURE SODIUM, LIGHT FIXTURE	1	1 - 150 WATT HPS	208	150	POLE	SEE THE LIGHT FIXTURE POLE BASE DETAIL AND ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
C	KIM	6740-R-50PARPMHWFL-BL- AGS74BL-PLT4-SM18-BL	STANCHION MOUNTED ACCENT LIGHT FIXTURE	1	1-50 WATT PMH	208	50	IN GRADE	MOUNT STANCHION POLE IN CONCRETE BASE PER MANUFACTURERS SPECIFICATIONS. POLE SHALL STICK OUT OF CONCRETE 6" MAXIMUM.
D	KIM	6740-R-70PARPMHFL-BL- AGS74BL-PLT4-SM18-BL	STANCHION MOUNTED ACCENT LIGHT FIXTURE	1	1-70 WATT PMH	208	70	IN GRADE	MOUNT STANCHION POLE IN CONCRETE BASE PER MANUFACTURERS SPECIFICATIONS. POLE SHALL STICK OUT OF CONCRETE 6" MAXIMUM.

ELECTRICAL ABBREVIATIONS AND SYMBOLS LEGEND

ABBREVIATIONS

AFG	ABOVE FINISHED GRADE
BKR	BREAKER
E	SUBSCRIPT "E" ADJACENT TO ANY DEVICE INDICATES EXISTING.
(ER)	SUBSCRIPT (ER) ADJACENT TO ANY DEVICE INDICATES EXISTING TO BE RELOCATED.
GFI	GROUND FAULT INTERRUPTER
UGE	UNDERGROUND ELECTRICAL
OHE	OVERHEAD ELECTRICAL
PVC	POLYVINYL CHLORIDE
(R)	SUBSCRIPT (R) ADJACENT TO ANY DEVICE INDICATES THE RELOCATED POSITION OF AN EXISTING DEVICE.
RGS	RIGID GALVANIZED STEEL
UGE	UNDERGROUND ELECTRICAL
WP	WEATHERPROOF

LIGHTING

	POLE MOUNTED EXTERIOR LIGHT FIXTURE. LETTER INDICATES FIXTURE AND POLE TYPE.
	IN GRADE FLOOD LIGHT FIXTURE. LETTER INDICATES FIXTURE TYPE.

ELECTRICAL DISTRIBUTION EQUIPMENT

	LIGHTING AND APPLIANCE PANEL
	GROUND

ELECTRICAL DISTRIBUTION

	20A, 125V DUPLEX CONVENIENCE OUTLET (NEMA 5 – 20R)
	PIGTAIL DENOTES CONNECTION TO EQUIPMENT
	JUNCTION BOX – CEILING, FLOOR, AND WALL MOUNTING
	BRANCH CIRCUIT HOMERUN TO PANEL (NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. NUMBER OF TICK MARKS INDICATES NUMBER OF WIRES) (NUMBER 12AWG, MINIMUM, UNLESS OTHERWISE NOTED). IF NO TICK MARKS ARE SHOWN, ASSUME 3– NUMBER 12 AWG IN 1/2" CONDUIT.
	CONDUIT AND WIRE CONCEALED. NUMBER OF TICK MARKS INDICATES NUMBER OF WIRES (NUMBER 12AWG MINIMUM, UNLESS OTHERWISE NOTED) IF NO TICK MARKS ARE SHOWN, ASSUME 3–NUMBER 12 IN 1/2" CONDUIT.

PROJECT GENERAL ELECTRICAL NOTES

GENERAL LIGHTING NOTES:

1. COORDINATE THE INSTALLATION OF LIGHTING FIXTURES WITH ALL OTHER TRADES.
2. ROUTE ALL WIRE AND CONDUIT CONCEALED UNLESS OTHERWISE NOTED. PATCH ALL EXISTING SURFACES AFTER WIRE AND CONDUIT INSTALLATION, AS REQUIRED. REFER TO THE SPECIFICATION FOR CUTTING AND PATCHING REQUIREMENTS. ALL COSTS ASSOCIATED WITH ABOVE REQUIREMENTS MUST BE INCLUDED IN THE PROJECT BID.
3. FLUSH MOUNT ALL NEW WIRING DEVICES IN NEW OR EXISTING SURFACES, UNLESS OTHERWISE NOTED. PATCH ALL EXISTING SURFACES AFTER DEVICE INSTALLATION, AS REQUIRED. REFER TO THE PROJECT SPECIFICATION FOR CUTTING AND PATCHING REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL TYPES.
4. SEAL AROUND ALL CONDUIT AND CABLE PENETRATIONS THROUGH WALLS, CEILINGS, AND FLOORS TO MAINTAIN CODE REQUIRED RATINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

GENERAL POWER & AUXILIARY SYSTEMS NOTES:

1. FULLY COORDINATE THE INSTALLATION OF ALL ELECTRICAL DEVICES WITH THE WORK OF OTHER TRADES.
2. UNLESS OTHERWISE NOTED, ELECTRICAL DEVICES ARE TO BE FLUSH MOUNTED AND ALL WIRE AND CONDUIT IS TO BE ROUTED CONCEALED. FULLY COORDINATE INSTALLATION WITH EXISTING CONDITIONS, AND INCLUDE PATCHING AND REFINISHING OF EXISTING SURFACES TO ACCOMODATE THIS REQUIREMENT.
3. MANY OF THE CIRCUITS SHOWN ARE PROVIDED WITH DEDICATED NEUTRAL AND GROUND CONDUCTORS, TO SERVE COMPUTER EQUIPMENT LOADS. CAREFULLY REVIEW CIRCUITING TICK MARKS, AND PROVIDE ALL NECESSARY CONDUCTORS.
4. SEAL AROUND ALL CONDUIT AND CABLE PENETRATIONS THROUGH WALLS, CEILINGS AND FLOORS TO MAINTAIN CODE REQUIRED RATINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
5. IN ADDITION TO THOSE SHOWN ON THE DRAWINGS, PROVIDE ALL NECESSARY SLEEVES THROUGH WALLS AND FLOORS TO ALLOW FOR THE DISTRIBUTION OF OWNER FURNISHED TELEPHONE AND DATA CABLING. COORDINATE REQUIREMENTS WITH THE OWNER.

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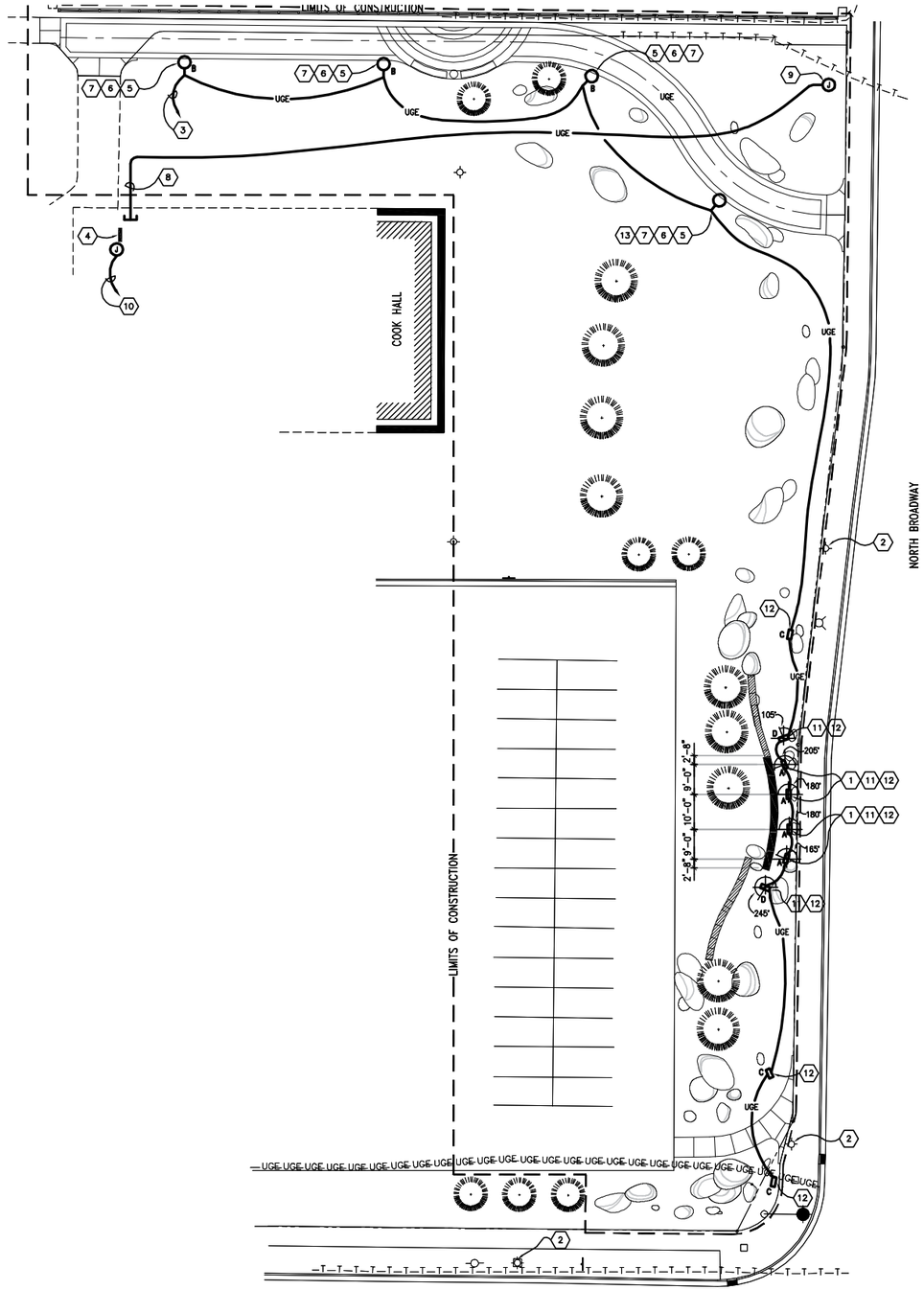
Electrical Abbreviations & Symbols Legend, & General Notes & Light Fixture Schedule

E0.0

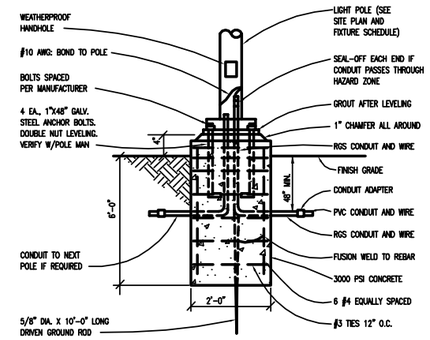


MONUMENT AND PEDESTRIAN LIGHTING PLAN

SCALE: 1"=20'-0"

MONUMENT AND PEDESTRIAN LIGHTING PLAN – NOTES

1. MOUNT FLOOD LIGHT SO THAT FRONT OF LIGHT FIXTURE IS 3'-6" FROM FRONT OF THE MONUMENT SIGN. SEE LIGHT FIXTURE SCHEDULE FOR VERTICAL AIMING DEGREE.
2. EXISTING POLE LIGHT FIXTURE TO REMAIN.
3. ROUTE THE 208 VOLT, SINGLE PHASE LIGHTING CIRCUIT TO A 20A/2P BREAKER IN PANELBOARD 'B'. ALSO ROUTE THE 120 VOLT, SINGLE PHASE RECEPTACLE CIRCUIT TO A SEPERATE 20A/1P BREAKER IN PANELBOARD 'B'. ROUTE THE LIGHTING CIRCUIT WITH 2–#8 & 1–#10 GRND THROUGHOUT ENTIRE CIRCUIT. CONNECT THE RECEPTACLE CIRCUIT WITH 2–#10 & 1–#10 GRND THROUGHOUT ENTIRE CIRCUIT. ROUTE BOTH CIRCUITS 48" MINIMUM UNDERGROUND, IN 1 – 3/4" SCHEDULE 40 PVC CONDUIT. PEDESTRIAN POLE LIGHT FIXTURES AND MONUMENT SIGN LIGHT FIXTURES SHALL BE ROUTED THROUGH LIGHTING CONTACTOR AND PHOTOCELL. REFER TO EXTERIOR LIGHTING CONTROL DIAGRAM FOR ADDITIONAL INFORMATION.
4. PANELBOARD 'B' MOUNTED ON EAST WALL OF FIRST FLOOR MECHANICAL ROOM.
5. PROVIDE POLEGEAR–2 SERIES, ADJUSTABLE FIBERGLASS BANNER ARMS/BRACKETS MANUFACTURED BY PROJECT GRAPHICS, INC. MOUNT ONE BRACKET AT +12'–0" AFG AND ONE AT +15'–0" AFG POSITIONED 180 DEGREES FROM HANDHOLE.
6. PROVIDE A NEMA 5–15 GFCI RECEPTACLE WITH CAST ALUMINUM "IN–USE" TYPE WEATHERPROOF COVER MOUNTED 90 DEGREES FROM HANDHOLE AT +15'–0" AFG.
7. MOUNT FIXTURE 5'–0" OFF OF SIDEWALK. SEE LIGHT FIXTURE SCHEDULE AND POLE BASE DETAIL FOR ADDITIONAL INFORMATION.
8. PROVIDE 2 – 1" SCHEDULE 40 PVC SPARE CONDUITS WITH PULLSTRINGS BURIED 48" MINIMUM UNDERGROUND TO JUNCTION BOX. ROUTE 6" INTO MECHANICAL ROOM IN LOCATION SHOWN. BUSH AND CAP BOTH ENDS.
9. PROVIDE 4 – 12" X 12" COMPOSITE "PC" STYLE (STACKABLE) SERVICE BOX ASSEMBLY BY QUAZITE. TOP BOX SHALL BE FLUSH WITH GRADE. ROUTE THE TWO SPARE CONDUITS THROUGH THIS BOX.
10. CONNECT TIMECLOCK AND PHOTOCELL TO PANELBOARD 'B' INSIDE OF THE FIRST FLOOR MECHANICAL ROOM. PROVIDE A NEW 20A/1P BREAKER IN PANELBOARD 'B'. ROUTE 2–#12 & 1–#12 GRND IN 1/2" CONDUIT THROUGHOUT CIRUIT. MOUNT PHOTOCELL ON ROOFTOP OF COOK HALL.
11. ALL OF THE SCHEDULE 40 PVC CONDUIT AND CONDUCTORS ROUTED BETWEEN FIXTURES SHALL BE ROUTED UNDERGROUND AT 48" MINIMUM.
12. MOUNT FIXTURE IN CONCRETE PER MANUFACTURER'S SPECIFICATION.
13. MINOT STATE UNIVERSITY PROVIDED POLE LIGHT FIXTURE AND POLE. CONTRACTOR TO INSTALL IN LOCATION SHOWN. COORDINATE WITH OWNER.

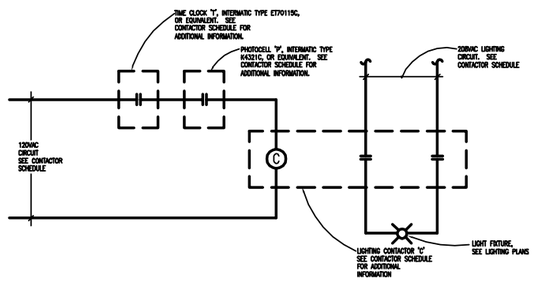


LIGHT FIXTURE POLE BASE DETAIL

NO SCALE

POLE BASE DETAIL NOTES:

1. FULLY COORDINATE INSTALLATION DETAILS WITH POLE MANUFACTURER.



EXTERIOR LIGHTING CONTROL DIAGRAM

NO SCALE

CONTACTOR SCHEDULE									
DESIGNATION	LOCATION	SERVES	CIRCUITS	NO. OF POLES	CONTACT RATING	COIL VOLTAGE	CONTROL CIRCUIT	CONTROLLED BY	REMARKS
C1	1ST FLOOR MECHANICAL ROOM	EXTERIOR POLE & MONUMENT SIGN LIGHT FIXTURES	SEE LIGHTING PLANS	2	30 AMPS	120	SEE LIGHTING PLANS	TIME CLOCK & PHOTOCELL	PROVIDE ELECTRICALLY HELD CONTACTOR RATED FOR CONTINUOUS DUTY OPERATION. SEE EXTERIOR LIGHTING CONTROL DIAGRAM FOR ADDITIONAL INFORMATION

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TCEP No.: 665-007-08

June 2008

Monument and Pedestrian Site Lighting Plan

E0.1