UNIVERSITY OF MINNESOTA
BOARD OF REGENTS
Facilities and Operations Committee
Thursday, June 13, 2013
1:30 - 3:30 p.m.
600 McNamara Alumni Center, West Committee Room

Committee Members
Dean Johnson, Chair
Clyde Allen, Vice Chair
Laura Brod
John Frobenius
David Larson
Peggy Lucas

AGENDA

1. UMD Campus Master Plan Update - Action - L. Black/P. Wheelock/M. MacKenzie (pp. 2-92)

2. Project Components of the President’s Six-Year Capital Improvement Plan - Action - P. Wheelock/S. Smith/M. MacKenzie (pp. 93-95)

3. Project Components of the President’s Recommended FY 2014 Capital Improvement Budget - Action - P. Wheelock/S. Smith/M. MacKenzie (pp. 96-98)

   A. UMD Campus Utility Building - Duluth Campus
   B. Microbiology Research Facility - Twin Cities Campus
   C. Glensheen June 20, 2012 Water Damage and Cleanup - Duluth Campus

5. University of Minnesota Landscape Arboretum Master Plan Update - Review/Action - P. Wheelock/E. Schneider (pp. 112-190)

6. Information Items - P. Wheelock (pp. 191-222)
Facilities and Operations Committee  June 13, 2013

Agenda Item:  University of Minnesota Duluth Campus Master Plan Update

☐ review  ☐ review/action  ☑ action  ☐ discussion

Presenters:  Chancellor Lendley Black
Vice President Pamela Wheelock
Monique MacKenzie, Director of Capital Planning

Purpose:

☐ policy  ☐ background/context  ☑ oversight  ☐ strategic positioning

Present to the Board of Regents an updated University of Minnesota Duluth Campus Master Plan that supports the University's Strategic Plan and mission to integrate liberal education, research, creative activity, and public engagement and prepare students to thrive as lifelong learners and globally engaged citizens. The updated Master Plan defines a conceptual and physical framework, guided by master plan principles and goals, for making physical changes to the campus over time. The plan describes the long-term vision for the campus as well as short-term implementation goals. This includes guidance on land use, buildings and infrastructure, open space, natural features, and circulation networks for movement to, from, and around the campus.

Outline of Key Points/Policy Issues:

Serving the people of Minnesota and beyond, the University of Minnesota Duluth (UMD) takes full advantage of its Northeast Minnesota location on the dramatic shores of Lake Superior to offer a quality living and learning experience. It nurtures student success in an academic culture of high expectations through a learning-centered environment characterized by innovative comprehensive undergraduate and graduate programs, student life initiatives, discipline-specific and interdisciplinary research opportunities, creative endeavors, and thriving international exchanges.

UMD's new vision focuses on students learning and growing through experience, critical inquiry, and interaction with other learners. It eagerly embraces a global future while maintaining a strong presence in the cultural, economic, and intellectual life of the Duluth community, the Northland, the state, and the nation.

UMD endeavors to become and remain a model of community engagement and service which improves the quality of life for all and deepens the understanding, meaning, and purpose of the UMD educational experience. This updated Master Plan provides the flexible framework to accommodate change while guiding the incremental physical manifestation of the University Strategic Plan.
Master Plan Guiding Principles and Goals
The intent of the Guiding Principles is to provide an overarching framework of ideas that ground future decision making. The Principles are commonly agreed upon ideas about how the campus should evolve and how implementation should be prioritized. The Master Plan Guiding Principles are as follows:

- Establish a clear campus edge on West College Street and Woodland Avenue
- Establish primary campus entries
- Maintain and strengthen the “academic core” of the campus
- Connect the campus to the regional environment
- Visibly manifest sustainability

The Master Plan Goals are supported by the Guiding Principles and provide a more focused set of expectations for implementation. The Master Plan Goals include:

- Create a “Front Door” for the UMD Campus
- Develop a “Focal Point” for the UMD Campus
- Make the UMD Campus more “Visible”
- Enhance the “Visual Quality” of UMD Campus
- Create a “Pedestrian and Bicycle Friendly” UMD Campus
- Connect and “Integrate” UMD Campus into the City of Duluth

Trends and Assumptions
This Master Plan update is predicated on a variety of assumptions that informed the underlying planning process, approach and methodology. These assumptions include:

- This plan describes strategies for change and growth; final solutions will require additional planning, design, and engineering to resolve specific programmatic and functional requirements.
- The 2005 Master Plan content and background inform this master plan. Changes to the 2005 plan are noted herein.
- Enrollment will continue to increase at a modest rate, approximately 1%-2% per year.
- The campus is essentially land-locked on all sides with the exception of several strategic expansion areas.
- Existing natural areas should be preserved.
- Recommendations should be fiscally responsible and achievable.
- Parking stall quantity should remain static.
- Transit service to and from the campus will continue.
- On campus sports and recreation fields must be preserved.
- On campus housing capacity is adequate; any future demand will be absorbed by the private sector.

Key Initiatives
The immediate focus of the Master Plan Update will be to design and construct the new “Visitor Gateway” entry on the south side of the campus off of West College Street. A second new entry, the “Grand Ped/Bike Gateway” will be designed and constructed off of Woodland Avenue. This Ped/Bike Gateway will provide a much stronger and safer access point to campus from the Blue Stone Commons residential and commercial (private) development as well as other areas east of Woodland Avenue.

Additional near-term activities involve working with the City of Duluth on a possible reconfiguration/relocation of the West College Street/Woodland Intersection to Clover Street, implementation of several “in-process” design/construction projects, and planning for future capital projects. These capital projects are aligned with the goals outlined in UMD’s Strategic Plan.

Strategic Plan Campus Goals
- Goal 1: Promote integrated curricular, co-curricular, and living-learning undergraduate experiences that achieve UMD’s student learning goals and prepare students for lifelong learning, globally engaged citizenship, and success in their academic, personal, and professional lives.
- Goal 2: Create a positive and inclusive campus climate for all by advancing equity, diversity, and social justice.
- Goal 3: Establish UMD as a center of excellence for graduate studies in the Upper Midwest.
• Goal 4: Advance UMD’s stature as a major campus for research and creative activities, leveraging our region’s unique natural, human, and cultural resources.
• Goal 5: Strengthen ties with Duluth and surrounding communities in an intentional, visible, and mutually beneficial partnership.
• Goal 6: Utilize UMD’s infrastructure; technologies; and information, human and financial resources to support the campus in a sustainable manner.

Plan Elements and Guidance
The plan recommendations are broken down into five main sections. Each section contains a general description of guidelines that should be taken into account when making decisions about future investments.

The sections in the plan are listed below:
1. Land use
   • The recommended land use plan generally follows the historic development pattern of the campus.
2. Public Spaces and Buildings
   • There should be a synergy between buildings and open space on campus.
   • Create a variety of open space types on campus.
   • The northern forest environment should be invited into the campus.
3. Movement and Circulation
   • Systems should work together to promote ease of access and clear routes to, and within, the campus.
   • Pedestrian movement should be of primary importance on campus.
   • Enhance routes, services, and storage for bicycles on campus.
   • Transit should be integrated into the campus movement systems, signage and amenities
   • Vehicular access should be clear for visitors and discreet for regular users.
4. Parking
   • De-emphasize parking as the primary first impression of the campus.
5. Additional Considerations
   • Internal Circulation—Legibility, Light and Views
   • Off-Campus Facilities—Ambassadors and Brand Steward

Background Information:
Included in the docket material is a copy of the University of Minnesota Duluth Master Plan. The full Plan can be found at: http://www.d.umn.edu/fm/construction/master_rev_2013.pdf

Board of Regents Policy: Reservation and Delegation of Authority, section VIII, subdivision 5, states “The Board of Regents reserves to itself authority to approve campus master plans and amendments thereto.”

In September 1992 the Chair of the Board of Regents and the President of the University appointed a Master Planning Steering Committee to “design and recommend a set of principles which will discipline and inspire the development of a master planning process.”

In 1993 the Board of Regents adopted the following four Campus Master Planning principles as developed by the master Plan Steering Committee:

• Creating and maintaining a distinctive and aspiring vision for the physical development of each campus;
• Enriching the experience of all who come to the campus;
• Maximizing the value of existing physical assets while responding to emerging/changing physical needs;
• An inclusive, accountable, and timely process for creating and implementing a master plan vision.

In September 1996, the Board of Regents adopted a resolution directing the campus master plans reviewed earlier in the year to be used to “guide the future development of the campuses
in accordance with the four planning principles and the policies, procedures, and strategies therein will be the basis for all future master planning decisions.”

In 2012, the University of Minnesota Duluth engaged Hay Dobbs Architects to undertake this Master Plan Update. This Master Plan Update is an update to the 2005 Campus Master plan and is predicated on much of the conceptual and strategic direction set by the 2005 plan. This update to the UMD Campus Master Plan was undertaken with ongoing involvement and participation by the UMD Physical Facilities Committee (PFC) as well as campus leadership.

The PFC was charged with the task of evaluating, researching, analyzing, planning, and recommending implementation of an updated Campus Master Plan to address a short and long term planning time frame. Committee members were chosen to represent specific areas of the University and to gather input from their respective constituents. The PFC held scheduled planning meetings, workshops and two on-campus forums as vehicles to both garner and communicate information. The committee members were:

Steve Bardolph, Assistant Professor, Art and Design
Lester Drewes, Professor, Biochemistry and Molecular Biology
Amanda Fudala, Program Associate, Facilities Management
Jodi Carlson Grebinoski, Associate Librarian
Ava Heinrich, Student Representative
Pat Keenan, Administrative Director, Student Life
John King, Director, Facilities Management
Bob Krumwiede, Associate Vice Chancellor, Academic Affairs
Joan Kwako, Associate Professor, Education
Mick McComber, Senior Administrative Director, Recreational Sports
Nik Hassan, Associate Professor, Finance and Management Information Sciences
Adam Pine, Assistant Professor, Geography
John Rashid, Associate Director, Facilities Management
Lisa Pratt, Director, Alumni Relations
Harlan Stech, Professor, Math and Statistics
Molly Tomfohrde, Student Representative
Matthew Weber, Student Representative
Drew Wimmer, Assistant Professor, Theater
Lorentz Wittmers, Interim Director, Center for American Indian and Minority Health; Director, Animal Services; Associate Professor, Biomedical Sciences
Mark Zmudy, Assistant Professor, Health, Physical Education and Recreation

Additional participants included Lendley Black, Chancellor; Mike Seymour, Vice Chancellor, Finance and Operations; and Cheryl Love, Supervisor, Parking Services.

The Master Plan was presented to the UMD campus neighborhood at the Annual Neighbors meeting in October 2012 and to the UMD campus community (which included students, faculty, and staff) in October and December of 2012. It was also presented to the Duluth City Council in February 2013. The final documentation of the update was published and presented in early 2013, resulting in the document presented to the Facilities and Operations Committee in May.
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Lead Master Plan Consulting Firm:

www.hayedobbs.com

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ACKNOWLEDGEMENTS

This update to the UMD Campus Master Plan was undertaken with ongoing involvement and participation by the UMD Physical Facilities Committee (PFC) as well as campus leadership. The PFC was charged with the task of evaluating, researching, analyzing, planning, and recommending implementation of an updated Campus Master Plan to address a short and long term planning time frame. Committee members were chosen to represent specific areas of the University and to gather input from their respective constituents. The PFC held scheduled planning meetings, workshops and two on-campus forums as vehicles to both garner and communicate information relevant to the update of the broader University.

Physical Facilities Committee:

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Lead Master Plan Consulting Firm:

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INTRODUCTION

EXECUTIVE SUMMARY

PLANNING FRAMEWORK

Campus Master Plan

University of Minnesota Duluth

Update
EXECUTIVE SUMMARY

Introduction

In 2012, the University of Minnesota Duluth engaged Hay Dobbs Architects to undertake this Master Plan Update. This Master Plan Update is an update to the 2005 Campus Master plan and is predicated on much of the conceptual and strategic direction set by the 2005 Plan. The Update was undertaken with ongoing involvement and participation by the UMD Physical Facilities Committee (PFC) as well as campus leadership. The Update will support the University’s Strategic Plan and Academic Mission by guiding future land use and development decisions. The final documentation of the Update was published and presented in early 2013.

The UMD 2013 Campus Master Plan Update defines a conceptual and physical framework, guided by master plan principles and goals, for making physical changes to the campus over time. The plan describes the long term vision for the campus as well as short term implementation goals. This includes guidance on land use, buildings and infrastructure, open space, natural features, and circulation networks for movement to, from and around the campus.

Guiding Principles

The intent of the Guiding Principles is to provide an over arching framework of ideas that ground future decision making. The Principles are commonly agreed upon ideas about how the campus should evolve and how implementation should be prioritized. The Master Plan Guiding Principles are as follows:

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Master Plan Goals

The Master Plan Goals are supported by the Guiding Principles and provide a more focused set of expectations for implementation. The Master Plan Goals include:

• Create a “Front Door” for the UMD Campus
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• Enhance the “Visual Quality” of UMD Campus
• Create a “Pedestrian and Bicycle Friendly” UMD Campus
• Connect and “Integrate” UMD Campus into the City of Duluth
Major Changes from 2005 Plan

1. Campus Entries
The 2005 Plan suggested a new primary campus entry off of Woodland Avenue. The Master Plan Update process revealed many impediments to implementation of a Woodland entry including displacing several critical ball fields, severing future growth from the primary campus, pedestrian safety, outdoor facility security and high costs. The Master Plan Update allows for orderly campus growth and preservation of on-campus ball fields by locating a new primary campus entry off of West College Street. This new entry will be the primary Visitor Entry and will connect with a re-aligned University Drive. The Update plans for many new buildings on campus to be located along this entry drive allowing the University to showcase these new facilities as the "front door" to the campus.

A new ped/bike entry on Woodland Avenue will create a Grand Pedestrian and Bicycle Entry from Woodland Avenue to University Drive.

2. Solon Lawn
The 2005 Plan suggested a large informal open space east of Solon Campus Center identified as "The Clearing". The Update evolves this idea into a more structured public lawn known as "Solon Lawn". Solon Lawn will be a large elevated lawn and plaza established at the east ground floor entry level of Solon Campus Center. This elevated lawn is envisioned to have several levels of structured parking below to allow for underground, climate controlled parking in the core of the campus near athletic, performing arts and visitor activities. A large drop-off area is envisioned surrounding the lawn and connecting University Drive to the Solon Student Center Visitor Entry. The east end of Solon Lawn is planned to have large stepped - amphitheater like - terraces allowing students and visitors to socialize, study and enjoy views of Lake Superior and on-campus recreational and athletic fields.

3. Perimeter Structured Parking
UMD currently relies entirely upon surface parking lots to accommodate campus parking needs. Many of these large surface lots are located along key arrival points to campus. This creates the first impression of the campus as that of parking lots.

Construction of new multilevel parking structures is recommended at the north and south campus perimeter to meet campus parking demands in the coming years. Parking should also be designed to be located under, or in the lower levels of, new facilities whenever possible. The northern parking deck top level can also be surfaced for athletic and recreation activities (soccer, tennis courts, etc.) and may even be roofed over for year round use. Because of the topography, this level should be designed to be at the same grade level as the existing ball diamond, thus creating contiguous space for related activities.
Short Term Plan

The immediate focus of the Master Plan Update will be to design and construct the new “Visitor Gateway” entry on the south side of the campus off of West College Street. This new entry will become the primary vehicular access point to the campus for visitors. University Drive will be reconfigured to connect to this new entry and allow for campus building expansion eastward around the campus core.

A second new entry, the “Grand Ped/Bike Gateway” will be designed and constructed off of Woodland Avenue. This Ped/Bike Gateway will provide a much stronger and safer access point to campus from the Blue Stone Commons residential and commercial development as well as other areas east of Woodland Avenue.

Already underway, additional wayfinding, signage and markers will supplement this effort.

Additional near-term activities involve working with the City of Duluth on a possible reconfiguration/relocation of the West College Street/Woodland Intersection to Clover Street; implementation of several “in-process” design/construction projects; and planning for future capital projects.
The long term plan for UMD grows the campus in a compact and walkable manner. Nature is invited in more fully on the north end of campus while the southeastern portions of campus become more regularized and urban. Parking is primarily located in perimeter structured parking facilities creating a more pedestrian friendly and visually appealing campus core. Academic, Student Service, Administrative, Recreational and Athletic facilities expand near similar related facilities following the campus land use plan. Buildings and open spaces work synergistically in support of one another. Buildings are positioned to allow for views, vistas and solar access. Natural and sustainable features are tangibly present on campus and new campus facilities are showcased within their respective precincts and along major vehicular and pedestrian thoroughfares. Off campus UMD facilities become ambassadors to each host community, reinforcing the UMD brand and demonstrating the value UMD brings to the region.

The future of UMD is bright. This plan provides the flexible framework to accommodate change while guiding the incremental physical manifestation of the University Strategic Plan.
Update

Campus Master Plan

University of Minnesota Duluth
OVERVIEW

A campus master plan is a physical manifestation of a university’s strategic plan. At its best, it is a road map for the future of a campus, and becomes a crucial tool in confirming that short-term projects are working in conjunction with long-term plans and goals. Without it, each decision made about infrastructure improvements – from new buildings to renovations to infrastructure improvements – is made in isolation, without a bigger vision in mind. A good campus plan builds in flexibility, so that it can accommodate shifting academic priorities and economic conditions.

The UMD 2013 Campus Master Plan Update defines a conceptual and physical framework, guided by master plan principles and goals, for making physical changes to the campus over time. The plan describes the long-term vision for the campus as well as short-term implementation goals. The plan includes guidance on land use, buildings and infrastructure, open space, natural features, and circulation networks for movement to, from, and around the campus.
UMD Strategic Plan

An Inclusive and Collaborative Planning Process

The UMD Strategic Plan is the product of an inclusive, collaborative process involving the entire campus as well as Duluth community leaders. Because UMD’s planning is “rolling,” the document will be reviewed, assessed, and refined annually.

The plan includes these elements:

• UMD’s Core Values articulate the essential principles that guide our decision-making.

• UMD’s Mission Statement defines our purpose for being. It succinctly states why the institution exists.

• UMD’s Vision Statement describes our ideal future and the institution’s aspirations. It guides institutional decision-making and priority setting. The year 2020 serves as our target for achieving this new vision.

• UMD’s Campus Goals define the six major initiatives leading to the realization of our new vision. They focus on the primary programs and activities for moving us forward within the next three to five years.

• UMD’s Campus Action Plan delineates specific measurable steps for achieving the six goals. Some are short-term, to be completed within a year or two, while others are long-term, intended to be accomplished over a period of several years.

Continued,
UMD Strategic Plan, Continued

Introducing a New Vision

Serving the people of Minnesota and beyond, the University of Minnesota Duluth takes full advantage of its Northeast Minnesota location on the dramatic shores of Lake Superior to offer a quality living and learning experience. An integral part of the University of Minnesota System, UMD takes pride in its collaborative programs and initiatives with other System campuses. We nurture student success in an academic culture of high expectations through a learning-centered environment characterized by innovative comprehensive undergraduate and graduate programs, student life initiatives, discipline-specific and interdisciplinary research opportunities, creative endeavors, and thriving international exchanges.

Our new vision focuses on students learning and growing through experience, critical inquiry, and interaction with other learners. An enhanced research presence leading to regional accomplishments will ultimately result in UMD’s recognition as a world-class center of scholarly outreach. At the same time, we build upon our reputation for excellence in recreational programs, student life, and intercollegiate athletics, thereby providing a holistic experience for students.

We encourage the ability to speak honestly about issues and ourselves by fostering a campus culture that welcomes students, faculty, staff, and guests to an inclusive learning climate committed to diversity, equity, and social justice. We serve the educational needs of indigenous peoples, their economic growth, their culture, and the sovereignty of the American Indian nations of the region, the state, and North America.

UMD eagerly embraces a global future while maintaining a strong presence in the cultural, economic, and intellectual life of the Duluth community, the Northland, the state, and the nation. By strengthening and firmly establishing the centrality of international activities on and away from campus, we leverage our place within the global strategies of the University of Minnesota System. We endeavor to become and remain a model of community engagement and service which improves the quality of life for all and deepens the understanding, meaning, and purpose of the UMD educational experience.

Core Values
To promote student success and to enrich the educational experience, students, staff and faculty at UMD strive to learn, work, and live in accord with the following core values:

- Learning. We educate students through an integrative learning-centered environment that fosters a lifelong pursuit of wisdom.
- Discovery. We discover, create, and share knowledge.
- Engagement. We actively collaborate with each other and the larger community to identify and achieve common goals.
- Inclusiveness. We respect and embrace the diversity of individuals, perspectives, and ideas and promote social justice.
- Sustainability. We balance current environmental, economic, and social needs with those of future generations.
- Integrity. We adhere to the highest ethical standards and take responsibility for our ideas and actions.
- Excellence. We achieve excellence through creativity, continuous improvement, and innovation.

Mission Statement
The University of Minnesota Duluth integrates liberal education, research, creative activity, and public engagement and prepares students to thrive as lifelong learners and globally engaged citizens.

Vision Statement
The University of Minnesota Duluth will build upon its unique land-grant and sea-grant traditions to become a premier comprehensive university recognized as world class for its learning-centered student experiences, research, creative activities, and public engagement.

- We will educate students to be engaged, lifelong learners through our rich learning-centered and innovative curricular and student life experiences.
- We will prepare graduates who are sought after by employers because of their cultural, global, and professional competence.
- We will address issues central to the global society’s scientific, cultural, economic, and artistic vitality through research and creative inquiry.
- We will become a world leader in learning and research opportunities by leveraging the region’s unique natural, human, and cultural resources.
- We will serve the educational needs of indigenous peoples, as well as the economic growth, cultural preservation, and sovereignty of the American Indian nations of the region, the state and North America.
- We will create a campus that exemplifies resource sustainability, technology and information integration, global perspectives and connections, social justice, and collaboration.
- We will be central to the cultural, economic, and intellectual life of Duluth and surrounding communities.
Campus Goals

Goal 1: Promote integrated curricular, co-curricular, and living-learning undergraduate experiences that achieve UMD’s student learning goals and prepare students for lifelong learning, globally engaged citizenship, and success in their academic, personal, and professional lives.

Goal 2: Create a positive and inclusive campus climate for all by advancing equity, diversity, and social justice.

Goal 3: Establish UMD as a center of excellence for graduate studies in the Upper Midwest.

Goal 4: Advance UMD’s stature as a major campus for research and creative activities, leveraging our region’s unique natural, human, and cultural resources.

Goal 5: Strengthen ties with Duluth and surrounding communities in an intentional, visible, and mutually beneficial partnership.

Goal 6: Utilize UMD’s infrastructure; technologies; and information, human and financial resources to support the campus in a sustainable manner.

The UMD Strategic Planning Steering Committee unanimously recommended the endorsement of this version of the strategic plan on April 11, 2011.

Master Plan Assumptions

This Master Plan update is predicated on a variety of assumptions that informed the underlying planning process, approach and methodology. These assumptions include:

- This plan describes strategies for change and growth; Final solutions will require additional planning, design and engineering to resolve specific programmatic and functional requirements.

- The 2005 Master Plan content and background inform this master plan. Changes to the 2005 plan are noted herein.

- Enrollment will continue to increase at a modest rate, approximately, 1%-2% per year.

- The campus is essentially “land-locked” on all sides with the exception of several strategic expansion areas.

- Existing natural areas should be preserved.

- Recommendations should be fiscally responsible and achievable.

- Parking stall quantity should remain static.

- Transit service to and from the campus will continue.

- On campus sports and recreation fields must be preserved.

- On campus housing capacity is adequate; Any future demand will be absorbed by the private sector.
INTRODUCTION

OVERVIEW

PLANNING FRAMEWORK

Update
Campus Master Plan
University of Minnesota Duluth
GUIDING PRINCIPLES

Establish a clear campus edge on West College Street and Woodland Avenue

West College Street and Woodland Avenue form the southern and eastern edges of the campus, respectively. Today, in many locations, there is a blurring of the campus and the surrounding neighborhoods. The University should seek to better define these edges to better distinguish the campus as a distinct district within the community. This may be achieved by many means including future building siting, landscaping, hardscaping, streetscaping including the use of lighting, signage, markers, monuments and gateways.

Establish primary campus entries

Currently, University Drive and Kirby Drive provide the primary vehicular access to the campus from West College Street and West St. Marie Street. These entries should be distinguished from other entries into the campus. Of utmost importance is relocating the southern University Drive entry - from West College Street, further to the east. This relocated entry drive should be designed to be the primary gateway into the campus. The other entries to campus should still provide functional access to campus but should take on a secondary character and scale.

Maintain and strengthen the “Academic Core” of the campus

The “Academic Core” of the campus is roughly centered around Kirby Student Center and Kirby Plaza. Currently, the Academic Core extends nearly 1/4 mile to the north and south of this center which allows pedestrians to travel from one end to the other in about 10 minutes, or 5 minutes from core to perimeter. Primary future academic, administrative and student service facilities and buildings should be located within this core to support campus walkability, sustainability and efficiency.
Duluth, Minnesota is located in the unique Lake Superior north shore natural environment. The Master Plan recognizes the landscape, topography and geology of this environment as a key component in building a unique campus. The campus should engage and connect with this environment through paths, trails, views and vistas, stewardship, programs and coursework, and a commitment to celebrate, and connect to, the natural environment both on and around the campus.

The Master Plan recognizes sustainability as a key component in building a unified and enduring campus. It is important that sustainability is not only practiced in policy, but that it is also manifested more visibly on the campus. The landscape is a major vehicle for realizing the University's commitment to environmental stewardship and sustainability. Landscape design elements contribute to student life with spaces for learning, recreation, relaxation, and connections to nature. The Landscape can also provide more functional support of sustainable practices including stormwater rate and flow control, biofiltration; solar control, erosion control, heat recovery, latent biomass, biodiversity and wildlife habitat. Buildings and constructs should also outwardly convey the University’s commitment to sustainability through daylight harvesting, solar orientation, material use, density of usable square footage and parking, use/generation of renewable energy and conservation of existing assets.
GOALS

Create a “Front Door” for the UMD Campus

There should be a clear sense of arrival to the UMD campus that begins when nearing the campus and ends when one has the sense they have arrived at the “Front Door” to campus. A future “Solon Lawn” and expanded Kirby Student Center/Solon Hall should be designed to create this welcoming experience for visitors that signals that they have arrived at, and are welcome on, the UMD campus.

Develop a “Focal Point” for the UMD Campus

Buildings and open space on campus should be composed to create a focal point to the campus both visually and spatially. Selected buildings should be designed to punctuate the visual and spatial experience while other buildings should be designed as background buildings consistent with other buildings on campus. The design of open space should support this effort as well by creating primary public open spaces in key locations.

Make the UMD Campus more “Visible”

Today, in many locations, there is a blurring of the campus and the surrounding neighborhoods. The University should seek to better distinguish the campus as a distinct district within the community. This may be achieved by several means including future building siting, landscaping, hardscaping, streetscaping including the use of lighting, signage, markers, monuments and gateways. Additionally, UMD should better utilize off-campus locations as “ambassadors” within the region that signal a connection to the primary campus while conveying the value UMD brings to city, region and state.
Enhance the “Visual Quality” of UMD Campus

The Master Plan should make the campus easier to navigate and more visually cohesive.

The current UMD campus building style varies throughout the campus. Structures are scattered throughout the campus forming a fragmented and visually incoherent appearance. Buildings are not uniform in size or style. In addition, wayfinding for pedestrians and vehicles is difficult. Signage exists but is difficult to find and directions are not easily identifiable. The University should improve the visual cohesiveness and linkages on campus by defining a consistent architectural vocabulary for buildings, establishing strong building edges, open space and distinctive pedestrian pathways, and using landscaping and streetscaping to differentiate parts of the campus. Unified buildings and open space as well as lighting, paving, exterior furnishings and other features should improve wayfinding.

Create a “Pedestrian and Bicycle Friendly” UMD Campus

The plan should seek to resolve conflicting needs between vehicles, pedestrians and cyclists on campus. Some students live on campus but many more students, and all faculty and staff, commute from the neighborhood and the entire Duluth region. The Master Plan should support multi-modal transportation options and clear and accessible connections to and through the campus in support of safety and function. Those living on campus or coming to the campus should have transit and transportation options. UMD should create a culture that promotes walking and bicycling on campus. Parking should be limited primarily to the perimeter of the campus and bicycle facilities should be strategically located. The core of the campus should support pedestrian and bicycle access for easy, legible and safe movement across campus.

Connect and “Integrate” the UMD Campus into the City of Duluth

The University should continue to positively make it’s presence felt within the city and region. On-campus and off-campus programs, research, functions, events and conferences as well as off-campus facilities should build awareness and signal a connection to the University while conveying the synergistic and inherent value UMD brings to the city, region and state.
Background

With three colleges and over 20,000 students, Duluth is a college town. And as with other college towns, the growth of the student population and the changing characteristics of colleges have influenced the city's neighborhoods and economy. In light of these changes, the Higher Education Small Area Plan looks at ways to make Duluth an even more successful college town by balancing the needs of the colleges, students, businesses, and residents. It examines land use, transportation, demographics, and environmental considerations in the study area, which covers approximately six square miles of the city and includes the areas with highest concentrations of students living near the colleges.

In March 2012, the City of Duluth published the City of Duluth Higher Education District Small Area Plan. The study area includes the University of Minnesota Duluth as well as the College of St. Scholastica. A small area plan is a plan that is developed for a clearly defined area and gives more detailed recommendations than would be provided in the City of Duluth Comprehensive Plan.

The plan aims to:

1) Identify areas and strategies for residential and commercial development that meets market demand and includes places for students to dine and shop.

2) Identify strategies to alleviate pressure on established neighborhoods and to maintain their residential character.

The Five Goals of the Plan include:

1) Strengthen single-family neighborhoods through appropriate zoning tools and neighborhood stabilization efforts.

2) Minimize impacts on single-family neighborhoods from noise, light pollution, and visual impacts of student housing.

3) Promote mixed-use development and student housing along transit corridors and within walking distance of campus.

4) Increase use of alternate modes of transportation.

5) With leadership from The University of Minnesota Duluth and The College of St. Scholastica, integrate the colleges and students into the community.
Each goal has specific recommendations. Many require ongoing partnerships between the colleges, City, non-profit organizations, businesses, and neighbors. The recommendations continue the City's policy of strengthening neighborhoods through land use changes, neighborhood stabilization, and code enforcement. The plan supports the transition of the Woodland Avenue corridor to a mixed-use, pedestrian friendly area providing student housing, stores, restaurants, and neighborhood services. It also identifies social and physical ways to integrate the colleges and the community. An important part of this planning process was identifying win-win recommendations, such as bike trails and increased neighborhood retail. Importantly, the plan also finds that Duluth has already achieved success with such tools as the Duluth Transit Authority's UPASS program and the Social Host Ordinance. In recognition of efforts already underway, this plan's recommendations identify ways to build on these successes and increase collaboration across the city.
Update

Campus Master Plan

University of Minnesota Duluth
The primary land uses on campus are academic, housing, recreation/athletics, natural open space and parking.

General Description: The recommended land use plan generally follows the historic development pattern of the campus. This pattern concentrates academic facilities at the core of the campus while providing housing to the west, parking at the perimeter, and recreation, athletic and natural areas to the north and east.
a. Academic: Academic facilities should be concentrated within the “Academic Village” at the core of the campus. Administrative and student support services should also be located within this core area.

b. Housing: Housing should continue to be located primarily on the west side of the campus.

c. Recreation/Athletics: Recreation and Athletic facilities should, in general, remain proximate to one another for efficiency and ease of maintenance. These facilities should continue to be located on the east and north side of the campus.

d. Natural Open Space: Natural Open Space should continue to be located on the north side of the campus and extend into the campus on the north side where possible and practical.

e. Parking: Parking should primarily be concentrated on the north and south sides of the campus. Over time, parking should be accommodated with structured parking where possible. When surface parking is required it should be limited in size and screened from view as much as possible.
There should be a synergy between buildings and open space on campus

Buildings and open space should be designed to work together on the campus. As the UMD campus develops toward its target enrollment, a number of new buildings will be added and the density or intensity of development throughout the campus will increase. To prepare for this growth, open space can be designed and implemented early on in the process in anticipation of future building design and construction. These open spaces then form the development framework for future buildings while preserving the required area for the building. This approach has the added benefit of creating more usable open space on the campus regardless of the timing of future building construction.

Conversely, if building design and construction is more immediate, then the building should seek to “create” meaningful and cohesive open space, of the proper character, by the careful siting and design of the building.

The primary formal public open space should be the future “Solon Lawn” on the east side of the campus. This area should be slowly revealed to the visitor as they enter the campus from West College Street on the new University Drive. Future buildings should frame this arrival sequence and provide the backdrop to the primary public open spaces.
Future Buildings Framework

New Facilities become the “face” of the University
Create a variety of open space types on campus

The goal for the campus open space is to create a rich, supportive environment of open spaces and amenities that will support the academic and residence life components of the campus. Existing open spaces will be improved and new spaces added over time to improve the image of the campus, provide programmable and informal usable space, and contribute to a sustainable campus by conserving water and reintroducing native and other sustainable vegetation.

The campus today lacks a clear pattern of open space that was more present in the original campus plan concepts. The strategies in this master plan seek to reestablish some of the original patterns while supplementing them with spaces of varying scales and purposes. Careful implementation of these open, outdoor spaces will have an important impact on the character of the campus for decades to come.

Five types of open spaces are planned on campus:

- Primary Public Lawns
- Secondary Campus Yards
- Courtyards and Plazas
- Recreation and Athletic Fields
- Informal Natural Landscapes
The northern forest environment should be invited into the campus

The Northern Minnesota landscape and nearby Lake Superior are powerful forces in creating a university with an authentic connection to place. Views to Lake Superior should be celebrated and enhanced wherever possible as a reminder of the campus proximity to this great lake.

Efforts should be made to more fully embrace the natural features already found on the northern portion of the campus and to integrate this landscape fully within the campus.

A Principle Goal of this master plan is to “Visibly Manifest Sustainability”. This can be achieved, in part, by a commitment to make restorative investments in:
- Hydrological systems: campus ponds and streams should be highlighted and used as natural amenities and rainwater biofilters, while still protecting them from degradation; and ecosystems;
- Geological systems: rock outcroppings, rip-rap, features;
- Ecosystems: local flora and fauna in and around campus;
- Open Space: lawns, yards, gardens and recreation fields;
- Trails and Paths: bike and pedestrian - on and beyond campus.

Natural features and systems should be used as a living laboratory, as is currently being done in Bagley Nature Center, to advance the University Mission and Strategic Plan.
Natural Features and Systems

Existing Northern Woodland Landscape

Proposed Constructed Northern Woodland Landscape
Gateways, Wayfinding and Orientation

Systems should work together to promote ease of access and clear routes to, and within, the campus

Wayfinding systems should be developed to create a series of layers that convey clearly to users that they are:
1) Approaching the campus,
2) Near the campus,
3) Arriving to campus,
4) On the campus,
5) At their first destination (often drop-off or parking),
6) At their final destination (building, room, event, etc.).

Tools such as banners, signage, lighting and appropriately scaled constructs should indicate proximity to the campus and should guide visitors to the major campus entries with simplicity and ease.

Major campus gateways should welcome visitors and embody the spirit of UMD in form, material and message. They must be significant enough to intuitively convey a sense of arrival to users. Phase one of this effort will include the development of a new major campus entry on the south side of campus off of College Drive. This gateway will allow entry to the campus to the east of the Lund Physical Plant and will reconnect with the existing University Drive near the Weber Music Hall. University Drive will be downgraded to a service drive allowing for future building expansion and new open space to the southeast of the Medical School and Darland Hall. This will also provide the opportunity to create an arrival sequence that can express the natural beauty of the campus and showcase new facilities while minimizing the visibility of surface parking as the primary first impression upon arrival. The relocation of the entry drive will allow for the orderly and methodical expansion of academic buildings while preserving the recreation and athletic fields on the east side of the campus. Wayfinding on campus should be clear and easily understood. Pedestrian and vehicular circulation, landmarks, signage, and architecture should create a hierarchy of space that will add to imageability and wayfinding helping to facilitate travel to, from, and within buildings and parking areas.
New "Visitor" Gateway and realigned University Drive
Pedestrian movement should be of primary importance on campus

Safe, reliable and convenient pedestrian access on campus is essential. However, pedestrian access should go beyond mere utility. A thriving academic community depends as much on the casual encounters that arise from well designed patterns of access, as it does on the more structured encounters of the classroom and laboratory. The ongoing trend toward interdisciplinary scholarship requires a campus sufficiently compact to allow for both formal and informal collaboration. Walking, the primary means of movement in and around the campus, should be encouraged both by upgrading major interior and exterior pedestrian routes to make them pleasant, legible, and secure day and night, and by minimizing conflicts with vehicles.

Capital investment should both optimize access to campus programs and resources and maintain the primacy of the pedestrian by: establishing a program of strategic investments to upgrade major pedestrian routes into and within the core campus - both externally and internally; consolidating campus parking in structures outside or at the edge of the core campus; collaborating with the city of Duluth on integrated landscape and access improvement programs at the campus perimeter and; restricting service and delivery vehicles to designated times and routes.

Plan Elements and Guidance

Movement and Circulation

Pedestrians

Formal

Informal
Pedestrian Framework
Plan Elements and Guidance

Movement and Circulation

Bicycles

Enhance routes, services and storage for bicycles on campus

Not only are more students, faculty, and staff opting for public transit rather than automobile to travel to and from the campus, but bicycle use has also increased. The Plan responds to this demand by recommending enhanced bike facilities on campus with connections to off-campus locations and City of Duluth bicycle trails. The UMD Campus should support an increase in the number of bike commuters. New bicycle facilities should be added including secure bike parking, covered storage and selected service/sales areas. It is also recommended that a stronger bike network be developed on campus along with these enhanced bicycle facilities. The Plan seeks to create stronger east-west bike routes along around and through the campus. These new connections should occur as either dedicated bike paths, on-street lanes or by sharing the roadway with traffic using a sharrow symbol to mark space for bike riders (as the City of Duluth has already done in several locations). This use will need to be monitored to determine if additional sidewalk width is needed in the future, or if paths/trails separated from pedestrians is needed based on high use of these routes by both pedestrians and bikes. Pedestrian safety should be a paramount concern in all cases. These new connections are major improvements and will strengthen UMD’s commitment to supporting all means of transportation.
Plan Elements and Guidance

Movement and Circulation

Transit

Transit should be integrated into the campus movement systems, signage and amenities.

Thanks to a cooperative effort between UMD and the Duluth Transit Authority (DTA), UMD students, faculty and staff can ride DTA buses anytime, anywhere throughout the Twin Ports, free of charge with their UMD Photo I.D.

Users have realized that riding the DTA is a smart choice as they encounter no fees and no parking hassles.

The DTA has plans in place to increase safety and efficiency of bus service. By including adding additional buses during peak periods and improving routes, the DTA system will help to decrease vehicle congestion on and around campus. All buses should eventually be equipped with bike racks to better serve multi-modal passengers. Buses will eventually have global positioning devices, allowing passengers to monitor actual arrival times with smart phones and in-station real-time schedules.

The Kirby Transit Plaza on the UMD campus is anticipated to remain as the primary transit stop on campus. Future secondary stops should be considered on the east side of the campus as the campus grows physically to the east.
Transit Framework

Existing Routes

Potential Additional Routes/Circulator

Existing Transit Plaza
Vehicular access should be clear for visitors and discreet for regular users

The arrival sequence to campus makes a major impression on visitors to the campus. UMD events and destinations draw visitors from all over the region to the campus, as well as off campus venues. As such, a clear, layered, logical wayfinding system should be developed to greet those destined for the UMD campus. “Trailblazer” signage and banners should be put in place within one-mile of the campus. More distinct signage and architectonic elements should be put in place near the campus and adjacent to the campus to confirm visitor’s proximity to the campus. Campus Markers and Gateway elements, supported by cohesive signage, should beckon visitors into the campus where they should be greeted by a cohesive on-campus wayfinding system that guides them to parking or drop-off locations and on to their final destination.

Signature Streets, as an extension of campus gateways, should be treated with a higher degree of design quality, attention and detail followed by Primary Routes. Service and utilitarian routes should be more discreet, intended primarily for regular users and service vehicles.

A balance must be maintained between public vehicular access and the need to limit vehicular access to selected areas of the campus.
Signature Street created by re-aligning University Drive and creating the Solon Lawn Drop-off and below ground parking.

New “Visitor” Gateway

Vehicle Framework
Plan Elements and Guidance

Parking

A long term strategy

De-emphasize parking as the primary first impression of the campus

Existing conditions of transportation on the UMD campus were assessed and include traffic circulation and access, parking, transit, and pedestrian facilities. Regional transportation issues were also considered. UMD currently relies entirely upon surface parking lots to accommodate campus parking needs. Many of these large surface lots are located along key arrival points to campus. This creates the first impression of the campus as that of parking lots.

Parking demands will increase with future growth in student enrollment and development of new and expanded campus facilities. Construction of new multilevel parking structures is recommended at the north and south campus perimeter to meet campus parking demands in the coming years. Parking should also be designed to be located under, or in the lower levels of, new facilities whenever possible. Additionally, below grade parking should be designed into the future “Solon Lawn” to provide centralized structured parking for visitors to athletic, performing arts and other campus events. The northern parking deck top level can also be surfaced for athletic and recreation activities (soccer, tennis courts, etc.) and may even be roofed over for year round use. Because of the topography, this level should be designed to be at the same grade level as the existing ball diamond, thus creating contiguous space for related activities.

Structured parking can be decked, wrapped or located underground. Surface parking lots that remain should be screened with landscape and fencing treatments.

Lots should also be broken down in scale whenever possible by the introduction of islands, rainwater gardens, and other treatments.
Parking Framework

Structured Parking
- With rooftop sports fields or courts at the same level as the existing ball diamond
- Attached to new building
- Underground parking below the new "Solon Lawn"

Surface Parking
- Under / Behind Buildings

Mixed Use
- Solon Lawn over Parking
- University Drive
- Kirby Drive
- Junction Avenue
- Buffalo Street
- Woodland Avenue

SCALE: NO SCALE
Presently, the campus is very internalized. As a pedestrian, one can circulate throughout nearly all of the on-campus buildings without ever leaving the comfort of the interior environment. Although this practical response works quite well, it also can be quite disorienting. Many of the buildings are focused inward and there are limited opportunities to take advantage of natural daylighting, natural ventilation and views to the outdoors. Additionally, nearly all of the vertical circulation - stairs and elevators - are located internally with few or no windows, again limiting exposure to natural light and orienting views of surrounding buildings and landscape.

Daylighting is the controlled admission of natural light—direct sunlight and diffuse skylight—into a building to reduce electric lighting and save energy. By providing a direct link to the dynamic and every changing patterns of outdoor illumination, daylighting helps create a visually stimulating and productive environment for building occupants, while reducing as much as one-third of total building energy costs.

Whenever possible in both new and existing buildings and linkways, daylighting and views should be a design priority to enhance sustainability, reduce operating costs, support wayfinding and orientation, visually connect to the outdoors, and better connect public open space and natural features with internal spaces.
Off-Campus Facilities

UMD maintains and utilizes numerous off-campus facilities ranging from research facilities to historic properties located throughout northern Minnesota. These facilities have the ability to expand the UMD brand by functioning visually and programmatically in their respective locations. As such, these facilities can act as “ambassadors” for the University, positively connecting each remote facility back to the main UMD campus and demonstrating the value UMD brings to the region. Specifically, these facilities include:

- Natural Resources Research Institute, Duluth
- Research Lab Building, Duluth
- Limnology Lab, Duluth
- Research and Field Studies Farm, Duluth
- Glensheen, Duluth
- Natural Resources Research Institute (NRRI)
- Research and Field Studies Farm, Coleraine
- Research and Field Studies Farm, Ely
- Research and Field Studies Farm, Zim

The first four facilities focus largely on research and learning related to Natural Resources and Environmental issues. Collectively, these facilities can convey a powerful message of UMD’s commitment to sustainably, conserving and economic development of Minnesota’s natural resources in an environmentally sound manner.

The UMD brand should be manifested in these facilities by unified exterior, on-site and web-based graphics/signage; consistent messaging, and synergistic programming. On-campus efforts should also be made to raise awareness of these proximate facilities.

Research Lab Building - One of three remaining buildings on the former UMD lower campus on Fifth Street, this facility houses the Large Lakes Observatory (LLO), among others, and has strong ties to the NRRI and the Limnology Lab.

Limnology Lab Building - Originally a Fish Hatchery and on the National Register of Historic Places, this highly visible facility sits directly on the shore of Lake Superior adjacent to London Road. Research is closely tied to the LLO as well as the NRRI.

Research and Field Studies Farm - 114 acre site located along Amity Creek approximately 4 miles from campus in Jean Duluth, this resource hosts educational and research-oriented activities and also provides space to support other UMD campus activities.

Glen sheen - Donated to UMD in 1988, the Glen sheen Historic Estate is a historic mansion and 76 acre estate on Lake Superior, constructed as the family home of Chester Congdon. Listed on the National Register of Historic Places, this facility today functions as a tourist destination, reception facility and event center.
Creating a Better Sense of Arrival

The immediate focus of the Master Plan Update will be to design and construct the new “Visitor Gateway” entry on the south side of the campus off of West College Street. This new entry will become the primary vehicular access point to the campus for visitors. University Drive will be reconfigured to connect to this new entry and to allow for campus building expansion eastward around the campus core.

A second new entry, the “Grand Ped/Bike Gateway” will be designed and constructed off of Woodland Avenue. This Ped/Bike Gateway will provide a much stronger and safer access point to campus from the Blue Stone Commons residential and commercial development as well as other areas east of Woodland Avenue.

Already underway, additional wayfinding, signage and markers will supplement this effort.

Additional near-term activities involve working with the City of Duluth on a possible reconfiguration/relocation of the West College Street/Woodland Intersection to Clover Street; implementation of several “in-process” design/construction projects; and planning for future capital projects.
Proposed UMD Master Plan - Short Term Plan

- New "Visitor" Gateway and realigned University Drive
- Future Solon Lawn
- Future BLU STONE COMMONS
- New Bike & Pedestrian Path
- New "Grand" Ped/Bike Gateway

Campus "Marker"

Bike/Ped Path

Ballfield Fencing

UMD

University of Minnesota Duluth

Driven to Discover
Being thoughtful about growth and change

The long term plan for UMD grows the campus in a compact and walkable manner. Nature is invited in more fully on the north end of campus while the southeastern portions of campus become more regularized and urban. Parking is primarily located in perimeter structured parking facilities creating a more pedestrian friendly and visually appealing campus core. Academic, Student Service, Administrative, Recreational and Athletic facilities expand near similar related facilities following the campus land use plan. Buildings and open spaces work synergistically in support of one another. Buildings are positioned to allow for views, vistas and solar access. Natural and sustainable features are tangibly present on campus and new campus facilities are showcased within their respective precincts and along major vehicular and pedestrian thoroughfares. Off campus UMD facilities become ambassadors to each host community, reinforcing the UMD brand and demonstrating the value UMD brings to the region.

The future of UMD is bright. This plan provides the flexible framework to accommodate change while guiding the incremental physical manifestation of the University’s strategic plan.
### Table of Contents

#### Appendix

**Acknowledgements**
- Physical Facilities Committee

**Process Summary**
- Meetings & Summaries
- Presentations

**Sub Consultant Reports**
- LKPB
- Pierce Pini & Associates, Inc.
- Midwest Traffic Consulting, LLC

**Board of Regents Campus Master Planning Principles**
- Campus Master Planning Principles

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Lead Master Plan Consulting Firm:

[www.haydobbs.com](http://www.haydobbs.com)
ACKNOWLEDGEMENTS

This update to the UMD Campus Master Plan was undertaken with ongoing involvement and participation by the UMD Physical Facilities Committee (PFC) as well as campus leadership. The PFC was charged with the task of evaluating, researching, analyzing, planning, and recommending implementation of an updated Campus Master Plan to address a short and long term planning time frame. Committee members were chosen to represent specific areas of the University and to gather input from their respective constituents. The PFC held scheduled planning meetings, workshops and two on-campus forums as vehicles to both garner and communicate information relevant to the update of the broader University.

Physical Facilities Committee:

Steve Bardolph, Assistant Professor, Art and Design
Lester Drewes, Professor, Biochemistry and Molecular Biology
Amanda Fudala, Program Associate, Facilities Management
Jodi Carlson Grebinczki, Associate Librarian
Ava Heinrich, Student Representative
Pat Keenan, Administrative Director, Student Life
John King, Director, Facilities Management
Bob Krumwiede, Associate Vice Chancellor, Academic Affairs
Joan Kwako, Associate Professor, Education
Mick McComber, Senior Administrative Director, Recreational Sports
Nik Hassan, Associate Professor, Finance and Management Information Sciences
Adam Pine, Assistant Professor, Geography
John Rashid, Associate Director, Facilities Management
Lisa Pratt, Director, Alumni Relations
Harlan Stech, Professor, Math and Statistics
Molly Tomfohrde, Student Representative
Matthew Weber, Student Representative
Drew Wimmer, Assistant Professor, Theater
Lorenz Wittmers, Interim Director, Center for American Indian and Minority Health; Director, Animal Services; Associate Professor, Biomedical Sciences
Mark Zmudy, Assistant Professor, Health, Physical Education and Recreation

Additional Participants:

Tom Ambrosi, Librarian
Lendley Black, Chancellor
Cheryl Love, Supervisor, Parking Services
Hannah Mumm, Student Body President
Mike Seymour, Vice Chancellor, Finance and Operations

Lead Master Plan Consulting Firm:

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## AGENDA

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<th>Agenda Items</th>
<th>Person(s) Responsible</th>
<th>Item Start Time</th>
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<tr>
<td>• Opening Comments, Introductions,</td>
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<td>Contract Status, Agenda Review</td>
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<td>• Campus Insight workshop:</td>
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<td>- What things make UMD Special?</td>
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<tr>
<td>• Guiding Principles Discussion</td>
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<td>• Break</td>
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<td>• Opportunities</td>
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<td>• Lunch (brought in)</td>
<td>Hay Dobbs/All</td>
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<td>• Continued Discussion, 6 Year Capital Plan/Other Needs</td>
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<td>• Community Outreach</td>
<td>Hay Dobbs</td>
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<td>• Digital/Social Media</td>
<td>Hay Dobbs</td>
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<td>• Next Meeting Proposed 07/10/12</td>
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<td>• Adjourn</td>
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## MEETING MINUTES

**Project Name:** UMD Campus Master Plan Update  
**HD Project #:** 12007.001

**Meeting Purpose:** Master Plan Workshop

**Meeting Called by:** Hay Dobbs

**Meeting Date:** 06/07/12

**Location:** UMD, 520 Darland

**Meeting Purpose:** Master Plan Workshop

**Participants:** Hay Dobbs, UMD PFC

### Discussion

Gary Hay began the meeting by welcoming the participants and having them introduce themselves. Gary shared with the PFC (Physiological Facilities Committee) that Hay Dobbs has now received a contract from the University of Minnesota and that Hay Dobbs is finalizing insurance and contract requirements. Gary then reviewed the agenda for the workshop and outlined general goals and expected outcomes.

Tom Dobbs and Gary Hay led a series of exercises wherein the PFC was requested to individually note on 6 separate maps, their respective insights into Special Places on the UMD campus. The "best" places on the UMD campus, the "worst" places on the UMD campus, the arrival sequence getting to and from the campus to the regional environment; 5) Visibly manifest sustainability.

Tom explained the rationale for the 5 Guiding Principles. These principles build upon the 3 Key values and that they are intended to be broad-based touchstones for future strategies and directions can be based. Tom also explained that although these principles need to be finalized at some point soon, they are open for review and comment by the PFC. After additional discussion Tom shared the 5 Guiding Principles: 1) Establish a clear campus edge on College and Woodland; 2) Establish a primary campus entry; 3) Maintain and strengthen the "Academic Village"; 4) Connect the campus to the regional environment; and 5) Visibly manifest sustainability.

Gary then sequentially shared and explained their rationale for their choices/selections/notes captured on each site plan.

### Action By

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<tr>
<td>Campus Insights Exercise</td>
<td>Tom Dobbs and Gary Hay led a series of exercises wherein the PFC was requested to individually note on 6 separate maps, their respective insights into Special Places on the UMD campus. The &quot;best&quot; places on the UMD campus, the &quot;worst&quot; places on the UMD campus, the arrival sequence getting to and from the campus to the regional environment; 5) Visibly manifest sustainability.</td>
<td>Hay Dobbs</td>
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<tr>
<td>Guiding Principles Discussion</td>
<td>Tom Dobbs and Gary Hay shared that they had thoroughly reviewed the past (2005) master plan and that Hay Dobbs has compiled initial campus reconnaissance and analysis. They noted that the 3 key values and plan elements: &quot;Concentrated Academic Core&quot;, &quot;Outreach and Access&quot;, and &quot;Regional Setting&quot;, along with their respective subsets, were still generally valid. After some discussion, Tom Dobbs proceeded to present Hay Dobbs' initial draft &quot;Guiding Principles&quot;. Tom explained that these principles build upon the 2005 key values and that they are intended to be broad-based touchstones for which future strategies and directions can be based. Tom also explained that although these principles need to be finalized at some point soon, they are open for review and comment by the PFC. After additional discussion Tom shared the 5 Guiding Principles: 1) Establish a clear campus edge on College and Woodland; 2) Establish a primary campus entry; 3) Maintain and strengthen the &quot;Academic Village&quot;; 4) Connect the campus to the regional environment; and 5) Visibly manifest sustainability. Tom explained the rationale for the principles as well as conveying how various initiatives and projects nest within the principles. Harlan Stech inquired how the Campus Insights Exercise conducted prior informs the principles. It was explained that the Campus Insights Exercise provided insight and details that confirm Hay Dobbs' observations to date.</td>
<td>Hay Dobbs</td>
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</table>
Opportunities

Tom Dobbs presented a diagram, prepared by Hay Dobbs, that showed a 1000-foot radius from Kirby Hub being the focus. The campus grows north and south over time. Tom explained that the circle represented a 10-minute walk from end to end of the campus. The north and south limits to the main mass of the campus coincidentally extend to the edges of this circle. It was noted that the campus does not have much more room to grow in the north/south direction. Gary Hay and Tom Dobbs showed on the plan how the campus could begin to grow to the east while still remaining comfortably within the 1000-foot radius from Kirby. The diagram also suggested opportunities to bring the character similar to the natural environment found in Bagley Nature Area more fully down the hill into the campus. Hay Dobbs also suggested that the character of campus buildings may want to transition from more urban and formal in the southern and eastern parts of the campus to more distributed and “dispersed in the forest” in the northern portions of the campus. The diagram further described how a signature entrance off of West College Street could allow a symbolic campus entry without creating major disruptions by displacement of recreation and athletic fields and open space along Woodland Drive. Hay Dobbs also pointed out that a signature entrance off of West College Drive would be less expensive than a new signature entry off of Woodland Drive due to a shorter length and little to no impact on the recreation and athletic fields. There was much discussion about the merits and shortcomings of the described opportunities. John Rashid stated that decisions should be made within the long run. Tom Dobbs stated that the City of Duluth has not yet been contacted by Hay Dobbs to discuss the visibility of any new or relocated entries into campus and that needs to occur as a next step. John Rashid suggested that we meet with the Mayor and City Staff soon to discuss. Hay Dobbs concurred and John volunteered to set up the meeting(s). The meetings are anticipated to take place within the next two weeks. It was also stated by the PFC that the Chancellor’s Committee would have to make any final decisions about any new, improved or relocated campus entry. John Rashid stated that Hay Dobbs could likely present alternatives to the Committee for review and selection, on July 9th, a day before the next planned PFC meeting. Hay Dobbs will illustrate alternative campus entries and will articulate the pros and cons of each option for Committee review. Hay Dobbs pointed out that the strategic direction shown in diagrammatic form could accommodate all of the space needs described in the 6-Year Capital Plan as well as other needs beyond that timeframe.

John Rashid, Hay Dobbs

John Rashid suggested that the concern for beginning to grow the campus to the east while still remaining comfortably within the 1000-foot radius from Kirby may need to be revisited. He suggested that the concern should be for the 5 Guiding Principles being valid. No additional Principles, or edits to those proposed, were offered by the PFC.

Community Outreach

Hay Dobbs inquired about the appropriate timeframe and forum to share master planning concepts and direction with the broader community. Lisa Pratt noted that community outreach is essential and that the PFC will determine the appropriate time frame and content to share with the community. The PFC generally agreed. Hay Dobbs requested a more definitive timeline and audience for the outreach.

Digital/Social Media

Hay Dobbs asked about the desire by the PFC to share master planning concepts with the greater University (students, staff, faculty, etc.) as well as the community via Social Media. It was discussed that
**Meeting Minutes**

**Project Name:** UMD Campus Master Plan Update

**HD Project #:** 12007.001

**Date:** 07/10/12

**Location:** UMD, 520 Darland

**Purpose of Meeting:** Master Plan Workshop

**Meeting #:** 4

**Start time:** 9:00 am

**End time:** 1:00 pm

**In Attendance:**
- Thomas Dobbs
- Gary Hay
- Amanda Fudala
- Jodi Grebinko
- Patrick Keenan
- John King
- Cheryl Love
- Mick McComber
- Lisa Pratt
- John Rashid
- Harlan Stech

**Firm:** Hay Dobbs

**Abbreviation:** UMD

**CC:** John Rashid for distribution; File

**Writer:** Thomas Dobbs

**Future Campus Snapshot**

Hay Dobbs inquired about future campus projections for enrollment and facility utilization related to academics, housing, support, recreation, athletics and parking. John King shared that the strategic enrollment plan is being undertaken by the University as an outgrowth of the Strategic Plan. He shared that work will complete in about a year and that for the purposes of this master plan a 1%-2% per year enrollment growth projection should be used. Hay Dobbs requested more detail related to facility needs as determined by the University. A subset of the PFC will meet the week of July 10th to discuss this in more detail. The findings will be conveyed to Hay Dobbs, in a spreadsheet format, at or before the next PFC Meeting.

**PFC**

**Community Outreach and Digital/ Social Media**

Hay Dobbs inquired about the appropriate timeframe and forum to share master planning concepts and direction with the broader community. John Rashid shared that the PFC will determine the appropriate timeframe and content to share with the community and that no action is required at this time. Hay Dobbs requested a more definitive timeline and audience for the outreach.

**PFC**

**City of Duluth Review Process**

Hay Dobbs requested that John Rashid convene a meeting with the City of Duluth to review the concept plans and issues specifically related to campus entries, traffic and pedestrian/bike paths and street crossings (at grade and at bridge). John stated that he will set up the meeting within 2 weeks or sooner.

**John Rashid**

**Schedule Update**

Gary Hay noted that due to the PFC request for Hay Dobbs to meet with the Chancellor’s Cabinet to review entry options, and the subsequent meeting, the schedule has been slightly impacted by approximately 2 weeks.

**All**

**Concept Plan Feedback**

Hay Dobbs requested feedback on the direction of the master plan and specific plan components. The PFC, individually in turn, described general support of the plan direction. In summary, comments included:

- Positives: New Entry Location; New Entry can be implemented with little impact on existing facilities. The idea of transparent/glassy linkways between buildings/new buildings; A Ped Bridge over Woodland; More greenspace/open space/quads on campus; A monument/sign on the corner of Woodland and College;
- Future Campus Snap
- Keeping University Drive even with the introduction of a new entry drive; More Ped/Bike paths and their support of sustainability; A glassy staircase/winter garden connection Kirby down to Solon and looking out (south facing) over a new open lawn and grand stair east of Solon;
- Neutral/Not Needed: Exploration; Better Identification of corner of Junction and College as a campus edge;
- Potential roundabouts at intersections of College/Woodland and College/Irondeale;
- Crosswalks at Snelling and/or Lawn; View/Aval from Woodland to Solon is the best but is impractical; Replace chain link fences around ball fields with more decorative fencing;
- Concerns: Ped/Bike Paths from Woodland to campus may still disrupt/displace some of the fields; A bike path from the campus to the Lambert development isn’t as strong as a roadway connection;
- Traffic/Access at College/Woodland: Redirect some ball fields to the north of St. Mary’s?; Removing/replacing chain link fences around ball fields may increase the likelihood of damage to the fields.

**John Rashid**

**Positives:**
- New Entry Location;
- New Entry can be implemented with little impact on existing facilities;
- The idea of transparent/glassy linkways between buildings/new buildings;
- A Ped Bridge over Woodland; More greenspace/open space/quads on campus;
- A monument/sign on the corner of Woodland and College;
- Keeping University Drive even with the introduction of a new entry drive; More Ped/Bike paths and their support of sustainability;
- A glassy staircase/winter garden connection Kirby down to Solon and looking out (south facing) over a new open lawn and grand stair east of Solon;
- Neutral/Not Needed: Exploration; Better Identification of corner of Junction and College as a campus edge;
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- Traffic/Access at College/Woodland: Redirect some ball fields to the north of St. Mary’s?; Removing/replacing chain link fences around ball fields may increase the likelihood of damage to the fields.

**John Rashid**

**Next Meeting**

The next workshop will be held on Thursday, August 2nd; 9 am to 1 pm. All participants are encouraged to attend.

**All**

**Adjourn**

The meeting was adjourned at 1:00 pm.

**All**

The writer believes this document accurately reflects the business transacted during the meeting. If any attendees believe there are inclusions, omissions or errors in the minutes, they should notify the writer within 3 business days. Unless objections arise, consider this account accurate and acceptable to all present.

**Writer:** Thomas Dobbs

**Cc:** John Rashid for distribution; File
<table>
<thead>
<tr>
<th>Agenda Items</th>
<th>Person(s) Responsible</th>
<th>Item Start Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Opening Comments, Agenda Review, prior meeting Meeting Minutes</td>
<td>All</td>
<td>9:00 am</td>
</tr>
<tr>
<td>• City of Duluth Planning Department</td>
<td>Hay Dobbs</td>
<td>9:15 am</td>
</tr>
<tr>
<td>• Alignment</td>
<td>Hay Dobbs/All</td>
<td>9:30 am</td>
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<tr>
<td>• Break</td>
<td>All</td>
<td>10:35 am</td>
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<tr>
<td>• Priorities and Phasing</td>
<td>All</td>
<td>10:45 am</td>
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<tr>
<td>• Lunch (brought in)</td>
<td>All</td>
<td>12:00 pm</td>
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<tr>
<td>• Schedule Update &amp; Campus Input Planning</td>
<td>Hay Dobbs</td>
<td>12:20 pm</td>
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<tr>
<td>• Community Outreach /Digital/Social Media</td>
<td>All</td>
<td>12:30 pm</td>
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<tr>
<td>• Next Meeting Proposed 08/23/12</td>
<td>All</td>
<td>12:50</td>
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<tr>
<td>• Adjourn</td>
<td>All</td>
<td>1:00 pm</td>
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Meeting Called by: Hay Dobbs
Participants: Hay Dobbs, UMD PFC
Date: 08/02/12
Start Time: 9:00 am
Location: UMD, Darland 520
Meeting Purpose: Master Plan Workshop
Project Name: UMD Campus Master Plan Update
Project Number: 12007.001
<table>
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<th>Agenda Items</th>
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<th>Item Start Time</th>
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<tbody>
<tr>
<td>• Introductions/Opening Comments,</td>
<td>All</td>
<td>10:00 am</td>
</tr>
<tr>
<td>• Fundamentals of UMD Master Plan</td>
<td>Hay Dobbs/UMD</td>
<td>10:10 am</td>
</tr>
<tr>
<td>- Improve walkability and pedestrian safety on and around campus</td>
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<td></td>
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<tr>
<td>- Limit traffic and pedestrian street crossings in campus interior</td>
<td></td>
<td></td>
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<td>- Park on the campus perimeter</td>
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<td>- Retain/Expand number of ball fields</td>
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<tr>
<td>- Allow for facilities expansion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• City of Duluth Staff Priorities</td>
<td>City of Duluth Staff</td>
<td>10:25 am</td>
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<tr>
<td>• Alignment/Common Understandings</td>
<td>Hay Dobbs/UMD/City of Duluth</td>
<td>10:40 am</td>
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<tr>
<td>- Embrace the Higher Education Small Area Plan</td>
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<tr>
<td>- Address traffic issues throughout the the neighborhood</td>
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<tr>
<td>- Other</td>
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<tr>
<td>• Break</td>
<td>All</td>
<td>10:55 am</td>
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<tr>
<td>• Traffic Issues</td>
<td>UMD/City of Duluth</td>
<td>11:05 pm</td>
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<tr>
<td>- Woodland; College; Junction; St. Marie; Clover; Other</td>
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<td></td>
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<tr>
<td>• Commitment to Financial Responsibility/Implementability</td>
<td>UMD/City of Duluth</td>
<td>11:30 pm</td>
</tr>
<tr>
<td>• Lunch (brought in)</td>
<td>All</td>
<td>11:50 pm</td>
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<tr>
<td>• Concepts</td>
<td>All</td>
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<tr>
<td>• Next Steps</td>
<td>All</td>
<td>12:45 pm</td>
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<tr>
<td>• Adjourn</td>
<td>All</td>
<td>1:00 pm</td>
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<td>Agenda Items</td>
<td>Person(s) Responsible</td>
<td>Item Start Time</td>
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<tr>
<td>Introductions/Opening Comments,</td>
<td>All</td>
<td>10:30 am</td>
</tr>
<tr>
<td>City of Duluth Review Summary</td>
<td>Hay Dobbs / UMD</td>
<td>10:35 am</td>
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<tr>
<td>Public Outreach Discussion</td>
<td>Hay Dobbs / UMD</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Schedule Review</td>
<td>Hay Dobbs / UMD</td>
<td>11:30 am</td>
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<tr>
<td>Next Steps</td>
<td>All</td>
<td>11:50 am</td>
</tr>
<tr>
<td>Adjourn</td>
<td>All</td>
<td>12:00 pm</td>
</tr>
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</table>

Tom Dobbs began the meeting by welcoming the participants and asking everyone to introduce themselves as there are several new members of the PFC. Tom Dobbs then reviewed the agenda for the workshop and outlined general goals and expected outcomes.

Tom Dobbs shared with the committee a summary of the work progress with the City of Duluth that has transpired over the last two months. Tom summarized the 07/23/12 mtg at City Hall, the 08/15/12 mtg at City Hall, and the 08/29/12 on-campus. He described how the City (Mayor, Councilor, and Staff) is now supportive of the plan as well as Mark Lambert, developer of the Bluestone Commons project east of Woodland Avenue. Tom went on to describe how meeting traffic and access issues with the City of Duluth took about 2 months but that the study should still be completed by the end of the UMD Fall Semester. John Rashid pointed out that a bigger question will now be "when" will the University begins to undertake the entry/gateway project(s).

Tom Dobbs expressed the desire/head of bringing the master plan to broader community to get feedback. It was stated by several participants, that outreach is essential and should be undertaken. Various means/methods were discussed by committee members and it was determined that an open house format along with several additional workshops was the appropriate means to engage the surrounding neighborhood, known as Campus Neighbors, as well as the student body and greater UMD community. It was suggested that a 6pm presentation be scheduled on Wednesday, October 17th during the Campus Neighbors regularly scheduled meeting. Suggestions were made about additional Open House times and informal presentations preceding the 10/17 meeting or on the following day primarily focused on the UMD community. This will be discussed further by Hay Dobbs, John Rashid and John King to figure out the appropriate forum and date of additional outreach.

Tom Dobbs reviewed the overall master plan process schedule in light of the 2 month effort with the City of Duluth. Tom pointed out major milestones that will be achieved to complete the plan, including 75% and 90% draft submittals, a final draft submittal date and several more reviews workshops. It is anticipated that the next PFC meeting/workshop will take place no 10/26/12 from 10am to 12 pm.

The meeting was adjourned at 12:05 pm.

The writer believes this document accurately reflects the business transacted during the meeting. If any attendees believe there are inconsistencies, omissions or errors in the minutes, he should notify the writer within 3 business days. Unless objections arise, consider this accurate and acceptable to all present.

Writer: Thomas Dobbs
Cc: John Rashid for distribution; File.
Project Name: UMD Campus Master Plan Update

HD Project #: 12007.001

Date: 11/01/12

Location: UMD, 520 Darland

Purpose of Meeting: Master Plan Workshop

Meeting #: 6

Start time: 10:30 am

End time: 12:00 pm

In Attendance:
- Thomas Dobbs
- Gary Hay
- UMD PFC, Sign In Sheet

Firm/Abbreviation:
- Hay Dobbs
- Hay Dobbs
- UMD

Discussion

John Rashid began the meeting conveying to Hay Dobbs and the PFC the positive feedback received regarding the on-campus presentations to the UMD and Campus Neighbors Communities on 10/17/12.

Tom Dobbs shared with the committee a summary of the two presentations that were completed on 10/17/12. The first of which was held in Kirby over the lunch hour primarily for UMD faculty, staff and students. The second of which was held in SdOn that evening during the Campus Neighbors Annual Meeting.

Tom Dobbs presented to the PFC the final document format for comments. The proposed table of contents was distributed and the primary sections and content were presented.

Tom Dobbs reviewed the overall master plan process schedule to complete the Draft Master Plan update and the Final Master Plan update.

The meeting was adjourned at 11:45 am

The writer believes this document accurately reflects the business transacted during the meeting. If any attendees believe there are inconsistencies, omissions or errors in the minutes, he should notify the writer within 3 business days. Unless objections arise, consider this account accurate and acceptable to all present.

Writer: Thomas Dobbs

Cc: Cheryl Anderson for distribution; File

Attachments: 1 – 11/01/12 PFC Meeting Sign-In sheet
CAMPUSS MASTER PLAN WORKSHOP

University of Minnesota Duluth

DATE: 14 June 2012

Potential New Entry Option - 4

C A M P U S  M A S T E R  P L A N  U P D A T E

View Southwest Over Practice Field

University of Minnesota Duluth
Duluth, Minnesota

 SCALE: NO SCALE

Project No.: 12007.001

Date: 14 June 2012

• Likely requires structured parking solution at some point
• Only connects to Woodland via Pedestrian/Bike Paths
• Displaces surface parking

Cons:

• Can develop a more naturalized setting to the east of new entry drive
• Likely 30-40% less expensive than Entry Drive off of Woodland
• Allows for Campus Building(s) expansion eastward

Pros:

New Primary Entry off of West College Street with Arrival Court near

Woodland Avenue South Entry

Connect the UMD Campus to Woodland Avenue South

"Connect"

"Pedestrian and Bicycle Friendly"

"Integrate"

"Focal Point"

"Primary Entry"

"Sustainability" for the UMD Campus

"Regional Environment"

"Open Space"

"Front Door"

"Arrival Courtyard"

Arrival Courtyard

"Preregistered University Drive System"

New Bike/Ped Path

Woodland Avenue North Entry

"Focal Point"

"Regional Environment"

"Open Space"

"Front Door"

"Arrival Courtyard"

Connect the UMD Campus to Woodland Avenue North

"Connect"

"Pedestrian and Bicycle Friendly"

"Integrate"

"Sustainability" for the UMD Campus

"Regional Environment"

"Open Space"

"Front Door"

"Arrival Courtyard"

Arrival Courtyard

"Preregistered University Drive System"

New Bike/Ped Path

Woodland Avenue South Entry

"Focal Point"

"Regional Environment"

"Open Space"

"Front Door"

"Arrival Courtyard"
C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota

C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota

M a s t e r  P l a n  A l i g n m e n t  -  P a r k i n g

C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota

M a s t e r  P l a n  A l i g n m e n t  -  N e w  B u i l d i n g  L o c a t i o n s

C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota

M a s t e r  P l a n  A l i g n m e n t  -  P e d / B i k e  C o n n e c t i o n s

C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota

M a s t e r  P l a n  A l i g n m e n t  -  P e d / B i k e  C o n n e c t i o n s

C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota

C i t y  o f  D u l u t h  H i g h e r  E d u c a t i o n  S m a l l  A r e a  P l a n  G o a l s

C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota

C i t y  o f  D u l u t h  H i g h e r  E d u c a t i o n  S m a l l  A r e a  P l a n  G o a l s

C A M P U S  M A S T E R  P L A N  U P D A T E

University of Minnesota Duluth
Duluth, Minnesota


**UMD Master Plan Principles**

1. Establish a clear campus edge on College and Woodland
2. Establish primary campus entries
3. Maintain and strengthen the “Academic Village”
4. Connect the campus to the regional environment
5. Visibly manifest sustainability

---

**City of Duluth Higher Education Small Area Plan Goals**

- **Goal 1**: Promote walkability and support the development of a compact, mixed-use campus
- **Goal 2**: Support and promote single-family neighborhoods
- **Goal 3**: Encourage mixed-use development and student housing along transit corridors and within walking distance of campus
- **Goal 4**: Strengthen ties with Duluth and surrounding communities in an integrated manner
- **Goal 5**: Advance UMD’s stature as a major campus for research and creative activities, leveraging our region’s unique natural, human, and cultural resources

---

**UMD Master Plan Goals**

- **Primary Goal**: Make the UMD Campus more visible and manifest University of Minnesota Duluth for the UMD Campus
- **Secondary Goals**:
  1. Promote integrated curricular, co-curricular, and living-learning under¬
  2. Strengthen single-family neighborhoods through appropriate zoning
  3. Increase use of alternate modes of transportation
  4. Connect the campus to the regional environment
  5. Maintain and strengthen the “Primary Entry”
  6. Make the UMD Campus more “Sustainability”-oriented

---

**Campus Master Plan Update**

Process and Preliminary Recommendations

**Project No.: 12007.001**

**Date:** 17 October 2012

**Objectives**

- Connect and create a “Urban细细” to fill the UMD Campus
- Make the UMD Campus a “Hub”
- Create a “Crossings at Multiple Locations”
- Establish primary campus entries
- Maintain a “Public Spaces”

**University of Minnesota Duluth**

**Duluth, Minnesota**

**Presented to Open Public**
UMD Master Plan Principles

1) Establish a clear campus edge on College and Woodland
2) Establish primary campus entries
3) Maintain and strengthen the “Academic Village”
4) Connect the campus to the regional environment
5) Visibly manifest sustainability

TRANSPORTATION
...policies to support "More Walking, Biking and Transit..." as a city of Duluth Small Area Plan...p. 52

UMD Master Plan Document Content

Table of Contents

G O A L S
Project No.: 12007.001
Date: 26 November 2012
**UMD Master Plan Purpose**

1. Develop Strategies for Campus Change and Growth
2. Create agreed upon Guiding Principles
3. Establish Priorities
4. Document Ideas
5. Build Support and Enthusiasm

**UMD Master Plan Principles**

1. Establish a clear campus edge on College and Woodland
2. Establish primary campuses
3. Maintain and strengthen the "Academic Village"
4. Connect the campus to the regional environment
5. Make the campus more "Visible" and "Pedestrian and Bicycle Friendly"

**UMD Master Plan Goals**

- Develop a "Pedestrian" for the UMD Campus
- Create a "Grand Focal Point" for the UMD Campus
- Make the UMD Campus more "Visible"
- "Balance" the UMD campus to Woodland Avenue
- Create a "City" and "Regional" UMD Campus into the City of Duluth
- Enhance "Visual Quality" of UMD Campus

**UMD Master Plan Document Content**

- Executive Summary
- Introduction
- Planning Framework
- UMD Strategic Plan
- Overview
- Guiding Principles
- Plan Elements and Guidance
- Natural Features/Systems
- Open Space
- Buildings
- Housing
- Parking
- Movement and Circulation
- Vehicles
- Transit
- Bicycles
- Pedestrians
- Area Vignettes
- Future Building Framework
- Long Term Priorities/Phasing
- Area Vignettes
- Connectivity

**UMD Master Plan Update Purpose**

- Develop a "Pedestrian" for the UMD Campus
- Create a "Grand Focal Point" for the UMD Campus
- Make the UMD Campus more "Visible"
- "Balance" the UMD campus to Woodland Avenue
- Create a "City" and "Regional" UMD Campus into the City of Duluth
- Enhance "Visual Quality" of UMD Campus

**ENTRIES AND GATEWAYS**

- Junction Avenue
- University Drive
- Kirby Drive
- Woodland Avenue
- College Street
- St. Marie Street
- Buffalo Street
Proposed Major Bike Facility

Exterior Routes
Future New/Improved Exterior Routes

Buffalo Street
Campus Entry & "Signage"

Kirby Drive

Illustrative View of Potential Future Athletic Facility

Proposed UMD Master Plan - Short Term Plan

Chapter 11: Campus Master Plan Update

Expiring Routes Potential Additional Routes Circulator

Junction Avenue

University Drive

New "Visitor" Gateway and realigned University Drive

Future
BLUE STONE
COMMONS

Campus Gateway
Ballfield Fencing
Bike/Ped Path

PROJECT NO.: 12007.001

DATE: 06 December 2012

TRANSIT HUB

Recreation Athletics

Informal Natural Landscape

Informal Natural Landscape

Informal Natural Landscape

Informal Natural Landscape

Informal Natural Landscape

Informal Natural Landscape

Informal Natural Landscape

Informal Natural Landscape

Informal Natural Landscape

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Information from: Trail Design and Development, Duluth, MN

UMD
University of Minnesota Duluth

Driven to Discover
EXECUTIVE SUMMARY
The UMD Strategic Plan provides a comprehensive framework of ideas that ground future decision making. The Plan includes guidance on land use and circulation networks for movement to, from and around the campus core. This Plan builds on the UMD Strategic Plan, Continued by UMD's Core Values articulate the essential principles that guide the University of Minnesota—Duluth as a center for educational excellence.

A CREDITS AND ACKNOWLEDGMENTS
This Plan is supported by the UMD Physical Facilities Committee (PFC) and the UMD Physical Facilities Services. The Plan is supported by the UMD Department of Planning and Design, the UMD Department of Housing and Residence Life, and the UMD Department of Parking and Transporation. The Plan is supported by the UMD Department of Facility Management, the UMD Department of Recreational Services, and the UMD Department of Athletics. The Plan is supported by the UMD Department of Information Technology, the UMD Department of Security, and the UMD Department of Administration and Finance. The Plan is supported by the UMD Department of Human Resources, the UMD Department of Diversity, Equity, and Social Justice, and the UMD Department of Student Life.

INTRODUCTION
The UMD Master Plan is a comprehensive strategic plan that guides the University of Minnesota—Duluth’s growth and preservation of on-campus ballfields by location of athletic fields. The Plan is a critical component of the UMD Master Plan and provides a framework for the University’s long-term vision for the campus.

OVERVIEW
The Update will support the University of Minnesota—Duluth’s vision for the campus as well as short-term goals.

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should be designed to create this welcoming experience for visitors and expanded Kirby Student Center/Solon Hall.

GOALS

The UMD Strategic Planning Steering Committee unanimously agreed on April 11, 2011.

Goal 4: Advance UMD’s stature as a major campus for research

Goal 3: Establish UMD as a center of excellence for graduate

Goal 1: Promote integrated curricular, co-curricular, and living-

spatial experience while other buildings should be designed as

Buildings and open space on campus should be composed to cre-

The design of open space should support this effort as well by

creating primary public open spaces in key locations.

Existing natural areas should be preserved.

The campus is essentially “land-locked” on all sides with the ex-

 Enrollment will continue to increase at a modest rate, approxi-

This Master Plan update is predicated on a variety of assump-

The UMD Campus

Develop a plan on April 11, 2011.

Goal 4: Advance UMD’s stature as a major campus for research

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The University should continue to positively make it’s presence felt

“Integrate” the

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Academic Village
The campus today lacks a clear pattern of open space that was to improve the image of the campus, provide programmable and open spaces will be improved and new spaces added over time in this master plan seek to reestablish some of the original patterns while supplementing them with spaces of varying scales and vegetation.

The goal for the campus open space is to create a rich, supportive environment of open spaces and amenities that will support the campus to users. Phase one of this effort will include the development of Major campus gateways should welcome visitors and should construct should indicate proximity to the campus and should Tools such as banners, signage, lighting and appropriately scaled Movement and Circulation systems should work together to promote ease of access and clear routes and connections to off-campus locations and City of Duluth bicycle trails.

Not only are more students, faculty, and staff opting for public transit, but bicycle use has also increased. The Plan responds to this demand by enhancing routes, services and storage for bike riders (as the City of Duluth has already done in several locations) and connecting to off-campus locations and City of Duluth bicycle trails.

The UMD Campus should support an increase in the number of bicycle commuters. New bicycle facilities should be added including connections to off-campus locations and City of Duluth bicycle trails.

Natural Features

(new Facilities are featured, and form the backdrop to the new Campus Gateway and Entry Drive).
several "in-process" design/construction projects; and planning for Drive/Woodland Intersection to Clover Street; implementation of campus from the Blue Stone Commons residential and commercial signed and constructed off of Woodland Avenue. This Ped/Bike the primary vehicular access point to the campus for visitors. Uni-

Short Term Plan

DATE:  06 December 2012

Structured Parking Surface Parking

Buffalo Street
Kirby Drive
University Drive

Movement and Circulation - Transit

W.. College Street
Kirby Drive
Woodland Avenue

Implmentation

Marked Gateways

Possible/Future

Campus Gateway

Future

Campus Entry & "Signage"

UMD

Proposed UMD Master Plan - Short Term Plan

UMD

University of Minnesota Duluth

Driven to Discover
Engineering Systems Review Summary

Chiller Plant
The current chiller plant consists of five chillers with a total capacity of 3200 tons. Several existing buildings have been added to the chilled water plant in recent years which have used up the available capacity. On a peak day when the temperatures reach into the 80's or 90's all five chillers need to run. When the outdoor temperatures reach into the 90's with high humidity the chiller plant begins to lose capacity and can't keep up with the current loads. A chiller plant study was conducted and in that study they estimated a peak load on campus of 3368 tons which confirmed the observed shortage of capacity at peak times. The same study predicted an additional load of 1870 tons would be needed in the future for new buildings and existing buildings not currently air conditioned.

A new chiller plant on the north side of campus is being planned for construction in 2013. The new chiller plant is anticipated to provide 2400 tons of additional capacity with one 1200 ton chiller installed now and one 1200 ton chiller in the future. The 1220 ton chiller would be able to accommodate and additional 400,000 SF of new and existing buildings. As more building area added to the chiller plant, the second 1200 ton chiller should be added to provide redundant capacity in the event of a chiller failure. This new chiller plant will be connected into the campus distribution.

Chilled Water Distribution
There are chilled water mains leaving the heating plant building. The pipes leave the heating plant and head north. One set of pipes branches and is routed north of Darlin, the other set of pipes crosses the athletic fields on its way to Sports and Health Center. Any new construction anticipated in these areas should account for the relocation of these chilled water pipes.

New construction that might occur in the vicinity of lot A and lot B would be handled from the heating plant to the south east. Buildings in these areas would have new pipes from the chiller/heating plant and eventually provide a piping connection to Marshall north of lot A completing a chilled water loop.

Heating Plant
The heating for campus is currently handled by three high pressure steam boilers. Two of the boilers have a nominal reading of 80,000 lbs per hour and the third boiler is used primarily in the summer and is rated at 40,000 lbs per hour.

Peak demand in the winter is estimated to be 85,000 lbs per hour. One of the large boilers is needed for the campus winter loads and the other large boiler is standby. The smaller boiler is used primarily for the summer loads and is available for use in winter if needed to meet peak loads.

The current boiler plant does not have capacity to handle very much additional load and still have boiler for standby. Any major new construction would require an additional boiler to be added to the boiler plant. There is a six year capital plan for the boiler plant which adds a fourth boiler in year five or six which would provide the capacity and standby boiler for future buildings.

Heating Distribution System
The steam pipe distribution system has had continuous upgrades in recent years to replace older piping and increase pipe sizes where restrictions occurred. In general the distribution piping is adequate to handle the new buildings proposed in the master plan.

One pipe is in need of repair. It is the direct buried high pressure steam pipe that travels from the boiler plant to the Sports Health Center. This pipe is only ten years old but is beginning to show signs of failure in the outer casing. This pipe needs to eventually be repaired or replaced. Any master plan concepts that would facilitate the replacement of this pipe would be an opportunity to combine some projects and save some money.

To other pipes may be in the way of proposed future buildings. One leaves the steam plant and is routed in a tunnel north of the Darlin lot, and another goes under lot B toward the School of Medicine. Any buildings anticipated to be built in either of these two areas would need to relocate these pipes into tunnels, route them through the new buildings or other some way accommodate the steam pipe.

Electrical Distribution
The campus is currently served through two substations located on the northwest and east ends of the campus. Distribution is a basic parallel looped 13.8 KV medium voltage distribution feeder system supplying mostly double primary fed single ended substations located inside of buildings. The campus utilizes two primary loops with one loop feeding housing loads and the second feeding the remaining campus building loads. The campus distribution loop supplies all areas of the campus and is readily available for extension at the expansions sites being considered. Maximum campus demand occurred August of 2011 and was measured at 6.6 MVA. The existing medium voltage infrastructure has adequate capacity for the future expansion plans for the campus.
Civil Engineering Review of potential realignment of College/Woodland Intersection to Clover/Woodland.

Gary + Tom,

Attached please find the alignment adjustments we’ve made. This is assuming a 30 mph roadway and we’ve shown the radii larger and allowed for longer tangent segments.

As shown in the drawing to the right, the roadway and cul-de-sac area would be best to have a gutter line or a speed bump or something to discourage entering this road. This is just to accommodate the couple houses that are there.

We don’t have any grade information in this area but I was “walking” around on Google maps and it seems like the grade change elements would be manageable.

There is some re-grading that is involved that will feather back from the road into the site. There are some ball fields close to the realignment but the grading of the road can be managed with respect to the fields even if a low wall needs to be installed mid-way between the two to account for re-grading.

I don’t see anything in terms of the grades and civil given the site information we have on the campus to make this a deal breaker or cause really expensive/extensive civil impacts.

Rhonda S. Pierce, P.E.
Pierce Pini + Associates, Inc. / 9298 Central Avenue, Suite 202 Blaine, MN 55434
phone 763.537.1311 / fax 763.537.1354 / cell 763.242.9039 / email rhonda@piercepini.com
PPA hours: M-Th 8-5, F 8-12
The development was estimated to generate 11,265 vehicular trips, with 191 trips entering and 284 exiting in the AM peak hour, and 475 entering and 515 exiting in the PM peak hour.

The study assigned development trips to the roadway network using the following:

- 35% to and from the north (Woodland Avenue)
- 35% to and from the south (Woodland Avenue)
- 15% to and from the west (College Street)
- 10% to and from the east (Clover Street)
- 5% to and from the UMD Main Entrance

Capacity Analysis

According to the study's analysis, the Woodland Avenue & College Street currently experiences LOS F for the eastbound left-turn movement.

The intersection of Woodland Avenue & Clover Street would operate acceptably after development.

The study states that the proposed intersection of Woodland Avenue & development main access/UMD Main Entrance would see failing conditions without a traffic signal.

Study Review

Overall, there are a few assumptions in the study that result in an overestimation of development-generated trips.

- With its proximity to the UMD Campus, and the goals laid out in the Duluth Higher Education Small Area Plan, this development would be expected to see very high percentages of non-vehicular usage. With apartments primarily oriented towards student housing, its direct access to transit, and the general nature of campus life, we can reasonably expect residential trips to be reduced by 50% when compared with ITE Trip Generation estimates. There would also be considerable reductions to the retail/restaurant estimates to account for bicycle, pedestrian, and transit users.

- Internal Capture is the phenomenon by which traffic engineers estimate trip reduction based on mixed-use developments. When residential, retail, and restaurant land uses are combined within a single development, these uses tend to interact with each other, and thus attract a portion of each other’s trip generation rate. This study did not include internal capture trip reduction and we can reasonably expect a further 5% to 10% reduction in vehicular trips.

Conclusions

Overall, the study made a few assumptions that have overestimated vehicular trips generated by the development. It is recommended to analyze the intersection of Woodland Avenue & main development access with more accurate vehicular trip estimates, accounting for reductions for bike/ped/transit/internal capture, and also without the UMD Main Entrance.

The study states that 5% of development trips head to and from the UMD Main Entrance, which equates to 13 cars entering and 15 cars exiting the development in the PM peak hour. Although many of the development trips will be student-oriented, it can be said that the majority of development trips would not use the UMD Main Entrance.

Introduction

The Bluestone Commons traffic study looked at the intersections of Woodland Avenue & College Street, and Woodland Avenue & Clover Street. Also included were three accesses on Woodland Avenue, one of which will be the main development access as well as a proposed main UMD entrance.

The study examined 6-phase construction consisting of a grocery store, restaurants, apartments, general retail, a health club, and educational classrooms. Construction is expected to be complete by 2016.

The study recommended signalized control for the main access/UMD main entrance intersection.

Traffic Forecast Assumptions

The study determined development-generated trips using the ITE Trip Generation Manual, and determined the amount of non-primary trips for retail uses based on the ITE Trip Generation Handbook. A background traffic growth rate of 1% per year was added to account for increased traffic in future year scenarios.
The owner has expressed concerns about the location of the UMD Main Entrance, particularly with respect to its alignment with the development main access.

- With respect to the UMD Main Entrance, the study assumed origin/destination of 5% to and from the development. This results in 13 cars entering and 15 cars exiting during the PM peak hour. The vast majority of development trips will not travel on the UMD campus.

**Recommendations**

The study assumed that the UMD Main Entrance would align with the development main access on Woodland Avenue. At the time of the study, this Main Entrance was not certain but conceptual, so the study should have reviewed the intersection without the UMD Main Entrance to determine the most appropriate form of control if the UMD entrance is located elsewhere.

Without appropriate reduction in vehicular trips, the study exaggerated the impacts of development on the roadway network. Since the study recommended signalization of the Woodland Avenue & main development access intersection, it would be worth revisiting the analysis with more accurate trip estimates and without the UMD Main Entrance.

With removal of the school, the intersection of Woodland Avenue & Clover Street may no longer meet warrants for signalized control. This signal should be evaluated for signal warrants after development.
Appendix

Campus Master Plan

University of Minnesota Duluth
BOARD OF REGENTS
CAMPUS MASTER PLANNING
PRINCIPLES

Board of Regents
Campus Master Planning Principles
In 1993, the Board of Regents determined that all campuses of the University of Minnesota should have master plans, and adopted four principles to guide the preparation and implementation of those plans. The principles and an explanation of how each is to be applied are:

1. Create and maintain a distinctive and aspirable vision for the physical development of each campus.

   The campus master plan should:
   1.1 Establish how the physical setting will embody the distinctive missions of each campus.

   1.2 Highlight and celebrate the special realities of each campus, including its natural setting and ecological structure, architectural and landscape heritage, and its surrounding settlement patterns. The unique and special qualities of each place should be made an integral part of the educational experience.

   1.3 Organize the landscape and places to establish a coherent circulation and infrastructure pattern for the campus as a whole.

   1.4 Determine building location and design guidelines so each incremental addition to the campus will contribute to a distinctive and inspiring vision of the whole.

   1.5 Encourage exemplary architecture and landscape architecture which demonstrates sensitivity to local conditions and contributes to the master plan vision.

   2. Enrich the experience of all who come to campus.

   The campus master plan should:
   2.1 Accommodate the specific needs, experiences and requirements of the various user groups, giving highest priority to students, faculty and staff, while extending hospitality to visitors, surrounding communities, and the people of Minnesota.

   2.2 Provide coherence to the campus entrances, movement systems, landscape spaces and architectural vocabulary in order to create a sense of welcome, orientation and presence for a special community which celebrates learning.

   2.3 Create a positive system of campus circulation. This necessitates minimizing conflict between pedestrians and the needs of other vehicular circulation including bicycles, cars, service vehicles, parking and other transit modes, especially buses and LRT. The pedestrian environment should be given special priority and be made comfortable, secure, pleasant, and acceptable so as to dignify and show respect for all participants in campus life.

   2.4 In creating a positive pedestrian environment, integrate all supporting amenities including information, signage, lighting, phones, outdoor furnishings, landscape into the overall master plan concept.

   2.5 Organize campus activities into functional and or organizational affiliations while supporting the overall aesthetic character and intent of the campus plan.

   2.6 Devote special attention to non-scheduled campus use by providing informal spaces (interior and exterior) for study, meeting, and participation in campus life. The purpose is to create a campus community where people “want to be” rather than one where they “have to be”.

   3. Maximize the value of existing physical assets while responding to emerging and changing physical needs.

   The campus master plan should:
   3.1 Be based on a realistic assessment of all the physical and financial constraints and opportunities on each campus – the assets and liabilities. The assessment should include: a determination of the unique physical assets and enduring features of each campus; a determination of the most significant physical liabilities; an evaluation of the quality and level of maintenance of buildings, landscapes and infrastructure; a determination of which buildings and landscapes are historically significant and worth maintaining and enhancing, and which structures are obsolete and not capable of or worth the investment in adaptive reuse; a determination of priorities for the maintenance of existing buildings, landscapes and infrastructure; and evaluation of the most significant opportunities for physical enhancement of lasting value.
3.2 Measure and determine the need for new construction against the following criteria: the need for deferred maintenance; the demand of changing student enrollment; the need for appropriate teaching and research facilities; the opportunities for adaptive reuse and renovation; the opportunities for attracting new capital resources; the need of the pedestrian environment, landscape or vistas.

3.3 Anticipate and allow for rapidly evolving development in instructional technology.

3.4 Require that each capital improvement project demonstrate how it contributes to enhancing the specific goals of its campus master plan and adds long-term value to the University. One of the measures of long-term value should be a careful analysis of life cycle costs for any capital project.

3.5 Pay attention to the special role and value of the natural landscape in creating and enhancing the quality of experience on each campus. The natural landscape is a physical asset which, with appropriate maintenance, grows in value.

4. Ensure an inclusive, accountable and timely process for creating and implementing the master plan vision.

The campus master plan should:

4.1 Be developed by an open and inclusive process representing each constituency of campus community. Such representation requires ample time for input and feedback during the entire process.

4.2 Be guided by a Campus Planning Committee representing those important constituents, appointed by the Senior Officers for the Twin Cities Campus or the Chancellors for Duluth, Morris, Crookston and Rochester Campuses, and prepared by professional consultants with staff support.

4.3 Be prepared in conformance with these principles and recommended procedures.

4.4 Be approved by the Senior Office for the Twin Cities Campus or the Chancellors for the Duluth, Morris, Crookston and Rochester Campuses, by a separate Master Plan Oversight Committee and the Board of Regents.

Once the master plan has been completed and approved:

4.5 Each campus must continue to be involved in the implementation of the master plan. Therefore a procedure must be established whereby the plan can be continuously applied to the dynamics of change, subjecting such change to an open and inclusive forum for campus and community participation.

4.6 Each capital project must be in conformance with the master plan. A process for uniformly determining conformance must be established by the Senior Officers, the Chancellors and the President.

4.7 The President, the Senior Officers, and the Chancellors must be held accountable to the Board of Regents for progress in implementing the master plan. For this purpose the Board of Regents needs to be provided an Annual Report which assesses implementation of the campus plan, recommends adoption of minor amendments, cyclical revisions to the plan, and advises on the criteria for designer selection.
Facilities and Operations Committee

June 13, 2013

Agenda Item: Project Components of the President’s Six-Year Capital Improvement Plan

☐ review  ☐ review/action  ☒ action  ☐ discussion

Presenters: Vice President Pamela Wheelock
Assistant Vice President Suzanne Smith
Monique MacKenzie, Director of Capital Planning

Purpose:

☐ policy  ☐ background/context  ☒ oversight  ☐ strategic positioning

Board of Regents Policy requires a Six-Year Capital Plan that sets priorities and direction for ongoing academic and capital planning efforts.

Outline of Key Points/Policy Issues:

The President’s recommended Six-Year Capital Plan includes major capital improvements planned for fiscal years 2014 through 2019. The Six-Year Capital Plan includes projects to be funded with state capital support as well as projects funded by the University through a combination of University debt obligations, local unit resources, fundraising, and public/private partnerships.

The complete 2013 Six-Year Capital Plan documents are included in the Board of Regents Meeting portion of the docket.

Background Information:

Board of Regents Policy: Board Operations and Agenda Guidelines directs the administration to conduct capital planning with a “six-year time horizon, updated annually.” This annual capital planning process is completed in two parts, defined below.

Part I is the six-year capital plan, which is updated annually and identifies capital projects approved to proceed with preliminary project planning but not authorized to proceed with design and construction.

Part II is the annual capital improvement budget, which authorizes the completion of design and construction projects with approved financing and schematic design, consistent with Board policies.

The updated Six-Year Capital Plan was presented to the Facilities and Operations Committee in May for Review.
President's Recommendation for Action:

The President recommends that the Board approve the University of Minnesota Six-Year Capital Plan for Fiscal Years 2014–2019.
REGENTS OF THE UNIVERSITY OF MINNESOTA

RESOLUTION RELATED TO

THE PRESIDENT’S SIX-YEAR CAPITAL IMPROVEMENT PLAN

WHEREAS, preserving the University campuses through stewardship of public investments that have been made over 150 years is a commitment the Board has made to the State; and

WHEREAS, advancing key academic priorities is critical for the University to achieve and maintain excellence; and

WHEREAS, continuing investment in research infrastructure is essential for the future competitiveness of the University and the State of Minnesota; and

WHEREAS, enhancing the student experience for both undergraduate education and graduate and professional education is required as the core of its mission in order to generate and disseminate knowledge; and

WHEREAS, improving outreach and engagement is necessary in order to transform State communities, fuel the State economy, address State social issues, and improve the State’s health; and

WHEREAS, the administration has developed a capital-planning framework designed to focus its capital planning efforts toward projects that support the University’s institutional priorities within a financial strategy that is responsible.

NOW, THEREFORE, BE IT RESOLVED that the Facilities and Operations Committee and the Finance Committee of the Board of Regents approves the President’s Six-Year Capital Improvement Plan in order to create and maintain facilities that serve as tools in accomplishing the University’s education, research and outreach objectives.
2012 Six-Year Capital Improvement Plan
for FY2014 to FY2019

Board of Regents Facilities and Operations Committee
June 13, 2013
What is the Six-Year Capital Plan?

- Board of Regents Policy directs the administration to develop a capital budget with a “six-year time horizon, updated annually”
Considerations and Constraints

- Academic and Service Unit Strategic Directions
- Legal Obligations
- Project Interdependencies
- Geographical Balance
- Project Readiness
- Availability of Local Unit Resources
- Potential for Staging
- Prior Planning or Partial Funding
- Bond Rating
- Health, Safety and Infrastructure
- Ability to Leverage Private Funds
- 1/3 State Match Requirement
- Annual Operating & Debt Costs
- Traditional Share of State Bonding
- Six-Year Capital Plan
- Approved Pre-design
- Health, Safety and Infrastructure
- Prior Planning or Partial Funding
- Potential for Staging
- Legal Obligations
- Project Interdependencies
- Geographical Balance
- Project Readiness
Changes since May Review
## Changes to Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Changes from May 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMD Academic Priority</td>
<td>Reassigned from 2016 to 2014</td>
</tr>
<tr>
<td>UMC Wellness Center</td>
<td>Reassigned from 2013 to 2014</td>
</tr>
<tr>
<td>Research Laboratory Improvement Fund</td>
<td>Reassigned from 2013 to 2014</td>
</tr>
<tr>
<td>Tate Laboratory of Physics</td>
<td>Reassigned from 2013 to full project cost in 2014</td>
</tr>
<tr>
<td>St Paul Laboratory Investment</td>
<td>Reassigned from 2013 to full project cost in 2014</td>
</tr>
<tr>
<td>West Bank Recreation Facility</td>
<td>Added to 2015</td>
</tr>
</tbody>
</table>
Projects Under Consideration

• The projects on this list:
  – are insufficiently developed in terms of their programmatic needs at this time
  – are key investments based on collegiate and academic priorities
  – may need further definition and/ or development before they advance

• This list of investments can be considered the potential next tier of capital projects
# Projects Under Consideration

<table>
<thead>
<tr>
<th>Project</th>
<th>Change from May 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eddy Hall</td>
<td>Reassigned from 2013 to Under Consideration</td>
</tr>
<tr>
<td>Kirby Student Center <em>renamed as</em> Student Life Priority</td>
<td>Maintain on Under Consideration</td>
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<tr>
<td>AHC Interprofessional Education Center</td>
<td>Added to Under Consideration</td>
</tr>
<tr>
<td>Bell Museum of Natural History</td>
<td>Added to Under Consideration</td>
</tr>
<tr>
<td>Athletics Facilities Phase 1</td>
<td>Added to Under Consideration</td>
</tr>
</tbody>
</table>
Next Steps

• 2013 legislative session did not result in any capital appropriation to the University.

• State rules require submittal of preliminary 2014 capital request in June 2013. Proposed state funded Six-Year Plan projects will be advanced to Minnesota Management and Budget (MMB).

• Final submittals are due to MMB in October 2013. 2014 capital request will be finalized with review and approval by the Board in the fall.
Six-Year Capital Improvement Plan Resolution

• **WHEREAS**, preserving the University campuses through stewardship of public investments that have been made over 150 years is a commitment the Board has made to the State; and

• **WHEREAS**, advancing key academic priorities is critical for the University to achieve and maintain excellence; and

• **WHEREAS**, continuing investment in research infrastructure is essential for the future competitiveness of the University and the State of Minnesota; and

• **WHEREAS**, enhancing the student experience for both undergraduate education and graduate and professional education is required as the core of its mission in order to generate and disseminate knowledge; and

• **WHEREAS**, improving outreach and engagement is necessary in order to transform State communities, fuel the State economy, address State societal issues, and improve the State’s health; and

• **WHEREAS**, the administration has developed a capital-planning framework designed to focus its capital planning efforts toward projects that support the University’s institutional priorities within a financial strategy that is responsible.

• **NOW, THEREFORE, BE IT RESOLVED** that the Facilities and Operations Committee and the Finance Committee of the Board of Regents approves the President’s Six-Year Capital Improvement Plan in order to create and maintain facilities that serve as tools in accomplishing the University’s education, research, and outreach objectives.
Facilities and Operations Committee  
June 13, 2013

Agenda Item:  Project Components of the President’s Recommended FY 2014 Capital Improvement Budget

☐ review  ☐ review/action  ☒ action  ☐ discussion

Presenters:  Vice President Pamela Wheelock
            Assistant Vice President Suzanne Smith
            Monique MacKenzie, Director of Capital Planning

Purpose:

☒ policy  ☒ background/context  ☒ oversight  ☐ strategic positioning

The University adopts an annual capital improvement budget which authorizes projects costing more than $500,000 to begin design and construction during the upcoming fiscal year.

The purpose of the committee discussion is to provide additional detail regarding projects included in the annual capital budget.

Additional information for projects included in the annual capital budget is included in the docket materials for the full Board of Regents

Outline of Key Points/Policy Issues:

The Annual Capital Budget is reflective of the following planning principles.

1. Advance the academic excellence of the University of Minnesota by aligning capital projects with the Platform for Excellence.

2. Address service unit priorities that support the academic priorities.

3. Ensure that investments in existing facilities and infrastructure contribute to the safety, renewal, preservation, and restoration objectives and are aligned with the priorities of the University's academic plan.

4. Give preference to projects that create flexible space, improve space utilization, and reduce operational costs.

5. Protect the University's financial position by keeping capital expenditures within the projected debt capacity limits.

6. Advance the guiding principles of campus master plans and the Board’s sustainability policies.
**Background Information:**

Board of Regents policy directs the administration to conduct capital planning with a “six-year time horizon, updated annually.” This annual capital planning process is completed in two parts.

- Part 1, approved by the Board in June, is the annual Capital Improvement Budget for the coming fiscal year in which projects with completed predesigns and financing plans are approved to proceed with design and construction.

- Part 2 is a Capital Improvement Plan that establishes the institutions' capital priorities for an additional five years into the future. This plan will become the basis for continued capital and financial planning.

This item was reviewed by the full Board and the Facilities and Operations Committee in May.

**President's Recommendation for Action:**

The President recommends approval of the University Capital Improvement Budget and reaffirmation of its prior year capital expenditure authorization.
WHEREAS, the Board of Regents directed the administration to annually submit a capital improvement budget and a 6-year capital improvement plan; and

WHEREAS, the Board has adopted principles to guide the formulation of the capital improvement budget and 6-year capital improvement plan; and

WHEREAS, the Board recognizes the importance of sustaining and improving the University’s facilities in support of teaching, research, and outreach; and

WHEREAS, the administration has developed a capital planning framework designed to focus its capital planning efforts toward projects that support the University’s institutional priorities within a financial strategy that is realistic;

NOW, THEREFORE, BE IT RESOLVED, that the Facilities and Operations Committee and the Finance Committee of the Board of Regents approves the FY 2014 Capital Improvement Budget and reaffirms its prior year capital expenditure authorizations.
Capital Plan

Board of Regents policy directs the administration to develop a capital budget with a “six-year time horizon, updated annually”
Annual Capital Improvement Budget

- Year 1 of the Six-Year Capital Plan
- Includes individual projects over $500,000
- Projects need to have a completed predesign
- Projects must be fully funded
- Approved projects move into design and/or construction
Sample University Projects

- Repair and Replacement (Systemwide)
- Animal Science Active Learning Classroom (UMTC)
- Coffman Union 2nd Floor Renovation (UMTC)
- Donhowe Work+ Remodel (UMTC)
- Parking Ramp/Garage Lighting Upgrade (UMTC)
- Raptor Center Mews Replacement (UMTC)
- Vet Med South Surgery and Clinical Skills Lab (UMTC)
## Changes Since May

<table>
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<tr>
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<tbody>
<tr>
<td>UMTC Tate Laboratory</td>
<td>UMTC MN Vikings Projects at TCF Stadium</td>
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<tr>
<td>UMTC St Paul Campus Laboratory Design</td>
<td>UMD Glensheen Estate Water Damage Repair and Cleanup</td>
</tr>
<tr>
<td>UMTC Active Learning Classroom Fund</td>
<td>UMTC Variety Club Research Center 1st Floor Remodel</td>
</tr>
<tr>
<td>UMTC Eddy Hall Building Renovation</td>
<td>UMTC Microbiology amendment increase from $9m to $11m</td>
</tr>
<tr>
<td>SYSTEMWIDE Research Lab Improvement Fund</td>
<td>UMTC Engineering &amp; Fisheries New Well Construction</td>
</tr>
<tr>
<td>UMC UMC Campus Wellness Center</td>
<td>UMTC U Stores North Loading Dock Expansion</td>
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<tr>
<td>SYSTEMWIDE HEAPR</td>
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</table>
Changes Since May:
$289,774,000 \rightarrow $110,100,000

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<tr>
<td>(9,000,000)</td>
<td>Tate Laboratory</td>
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<tr>
<td>(6,000,000)</td>
<td>St Paul Campus Laboratory Design</td>
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<tr>
<td>(12,000,000)</td>
<td>Active Learning Classroom Fund</td>
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<tr>
<td>(14,500,000)</td>
<td>Eddy Hall Building Renovation</td>
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<tr>
<td>(12,000,000)</td>
<td>Research Lab Improvement Fund</td>
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<td>(18,000,000)</td>
<td>UMC Campus Wellness Center</td>
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<td>(125,000,000)</td>
<td>HEAPR</td>
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<thead>
<tr>
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<tr>
<td>6,641,000</td>
<td>MN Vikings Projects at TCF Stadium</td>
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<tr>
<td>3,700,000</td>
<td>Glensheen Estate Water Damage Repair and Cleanup</td>
</tr>
<tr>
<td>3,300,000</td>
<td>Variety Club Research Center 1st Floor Remodel</td>
</tr>
<tr>
<td>2,000,000</td>
<td>Microbiology amendment increase from $9m to $11m</td>
</tr>
<tr>
<td>685,000</td>
<td>Engineering &amp; Fisheries New Well Construction</td>
</tr>
<tr>
<td>500,000</td>
<td>U Stores North Loading Dock Expansion</td>
</tr>
</tbody>
</table>
2014 Capital Improvement Budget: $110.1 Million

- Local Funds: $17.1 Million
- Grants & Gifts: $11.1 Million
- University Funds: $13.6 Million
- Self Support Funds: $33.0 Million
- State Debt: $0.0 Million
- University Debt: $35.3 Million
Questions, Discussion
2014 Capital Budget Resolution

• **WHEREAS**, the Board of Regents directed the administration to annually submit a capital improvement budget and a six-year capital improvement plan; and

• **WHEREAS**, the Board has adopted principles to guide the formulation of the capital improvement budget and six-year capital improvement plan; and

• **WHEREAS**, the Board recognizes the importance of sustaining and improving the University’s facilities in support of teaching, research, and outreach; and

• **WHEREAS**, the administration has developed a capital planning framework designed to focus its capital planning efforts toward projects that support the University’s institutional priorities within a financial strategy that is realistic; and

• **NOW, THEREFORE, BE IT RESOLVED**, that the Facilities and Operations Committee and the Finance Committee of the Board of Regents approves the FY 2014 Capital Improvement Budget and reaffirms its prior year capital expenditure authorizations.
Facilities and Operations Committee

June 13, 2013

**Agenda Item:** Schematic Plans: UMD Campus Utility Building

- [ ] review
- [x] review/action
- [ ] action
- [ ] discussion

**Presenters:** Vice President Pamela Wheelock  
Vice Chancellor Mike Seymour  
Assistant Vice President Suzanne Smith

**Purpose:**

- [ ] policy  
- [ ] background/context  
- [x] oversight  
- [ ] strategic positioning

In accordance with the Board of Regents Policy: Reservation and Delegation of Authority, review and act on the Schematic Plan for the Campus Utility Building located on the Duluth Campus.

**Outline of Key Points/Policy Issues:**

A Project Data Sheet addressing the basis for request, project scope, cost estimate, funding, and schedule is attached for the project. A map locating the project on its respective campus is also included.

**Campus Utility Building, Duluth Campus**

The Duluth Campus is reaching capacity with the current chilled water infrastructure. As existing buildings are upgraded and new buildings added, additional cooling capacity is required to keep up with demand. The design of the chilled water system includes three separate chiller pods connected to the existing piping infrastructure on campus. The first two pods are complete, one is located in the basement of the Lund Building and the second is located in the Swenson Science Building. This third chiller pod is located on the opposite side of campus from the first two pods to help balance the chilled water load entering the piping system.

**Background Information:**

Funding for this project was included in the FY 2013 Capital Improvement Budget approved by the Board of Regents in June 2012 for $4,000,000. An additional $500,000 is included in the FY 2014 Capital Improvement Budget for the purchase of a second chiller for the building.

**President’s Recommendation for Action:**

The President recommends approval of schematic plans for the Campus Utility Building located on the Duluth Campus and of the appropriate administrative officers proceeding with the completion of the design and construction for this project.
Campus Utility Building
Campus Utility Building
Duluth Campus
Project No. 03-545-12-2015, Capital Budget No. 3084

1. Basis for Request:

The UMD campus is reaching capacity with the current chilled water infrastructure. As existing buildings are upgraded and new buildings added, additional cooling capacity is required to keep up with demand. The design of the chilled water system includes three separate chiller pods connected to the existing piping infrastructure on campus. The first two pods are complete, one is located in the basement of the Lund Building and the second is located in the Swenson Science Building. This third chiller pod is located on the opposite side of campus from the first two pods to help balance the chilled water load entering the piping system.

Current design of this building includes installation of two 1000 ton chillers. One chiller, cooling tower, and associated pumps will be operational when the project is completed. To reduce future construction costs, the second chiller will be purchased and set in the building for future demand. For security reasons, the electrical substation located on the site will also be enclosed.

The design and construction of this utility building is in accordance with the campus utility master plan and the UMD campus master plan.

Capital Budget Metrics addressed by this project:
Protecting public assets and investment by:
• Making infrastructure investments that ensure reliability over the long term, lower energy and operating costs and advance environmental stewardship

2. Scope of Project:

This building will be located on the northwest edge of the UMD campus off of St. Marie Street. The scope of the project includes a new 5000 gross square foot facility designed to house an additional 2000 tons of cooling capacity for the campus. This building will enclose the pad mounted electrical substation located on site. This electrical substation is one of two main electrical feeds to campus.

3. Environmental Issues:

Site evaluations were completed and there are no known environmental issues.

4. Cost Estimate:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Cost</td>
<td>$3,500,000</td>
</tr>
<tr>
<td>Non-Construction Cost</td>
<td>$500,000</td>
</tr>
<tr>
<td>Second Chiller Equipment Purchase</td>
<td>$500,000</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$4,500,000</td>
</tr>
</tbody>
</table>

5. Capital Funding:

UMD Facilities Management Utility Infrastructure $4,500,000

6. Capital Budget Approvals:

This project was approved in June 2012 as a part of the FY 2013 Capital Improvement Budget for $4,000,000. An additional $500,000 is requested in the FY 2014 Capital Budget to purchase a second 1000 ton chiller.
7. Annual Operating and Maintenance Cost and Source of Revenue:

Annual operating costs are anticipated to be $29,000 and will be paid for with existing campus operating budget.

8. Time Schedule:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete design</td>
<td>June 2013</td>
</tr>
<tr>
<td>Anticipated construction start</td>
<td>June/July 2013</td>
</tr>
<tr>
<td>Anticipated construction complete</td>
<td>January 2014</td>
</tr>
</tbody>
</table>

9. Architect / Engineer:

This project will be delivered using the Construction Manager at Risk project delivery method.

- Architect (Utility Building): Perkins + Will Architects
- Engineer (Chilled Water Plant): Dunham and Associates
- Construction Manager at Risk: Kraus Anderson Construction

10. Recommendation:

The above described project scope of work, cost, funding, and schedule is appropriate:

[Signature]
Lendley Black, Chancellor, University of Minnesota - Duluth Campus

[Signature]
Richard Brutzenreuter, Vice President & Chief Financial Officer

[Signature]
Pamela Wheelock, Vice President for University Services
Location Map

Campus Utility Building
Site Plan
Project Rationale

- Campus is reaching capacity with its current chilled water infrastructure
- Chilled water master plan includes a third chiller pod on campus
- The third chiller pod will help balance the campus cooling infrastructure system
- The existing electrical substation will be enclosed as part of the project for security purposes and aesthetics
- Meets UMD Strategic Goal 6
  - Enhance UMD’s infrastructure, technologies, and information, financial, and human resources to support the campus in a sustainable manner
Project Rationale: Capital Plan Metrics

• Ensure student success by:
  – Creating facilities that are directly related recruiting, educating, supporting, and graduating students
  – Creating facilities that improve learning and research outcomes
  – Creating facilities that uniquely enhance student satisfaction

• Protecting public assets and investment by:
  – Making infrastructure investments that ensure reliability over the long term, lower energy and operating costs and advance environmental stewardship
Project Description

- 5,000 gsf Central Utility Building which includes:
  - 2,000 additional tons of cooling capacity for campus
  - Purchase / install a second 1,000 ton chiller to reduce future construction costs
  - Enclosure of the existing electrical substation
Project Description

• Cost Estimate
  – Construction $ 3,500,000
  – Non-Construction Cost $ 500,000
  – Second Chiller Purchase $ 500,000
  – Total Project Cost $ 4,500,000

• Capital Funding
  – UMD Facilities Management $ 4,500,000
Project Description

• Anticipated Completion
  – January 2014

• Estimated Annual Operating Costs
  – $29,000

• Architect and Utility Engineer
  – Perkins+Will Architects
  – Dunham and Associates

• Project Delivery Method
  – Construction Manager at Risk: Kraus Anderson Construction
Building Exterior

Approach View
First Floor Plan

Floor Plans

- roof-top cooling towers
- open to below
- electrical substation (existing)
- chiller plant
- capacitor bank (existing)
- voice data

Upper Floor Plan

Ground Floor Plan

University of Minnesota
Campus Utility Building
Facilities and Operations Committee       June 13, 2013

Agenda Item:  Schematic Plans: Microbiology Research Facility

☐ review       ☒ review/action       ☐ action       ☐ discussion

Presenters:  Vice President Pamela Wheelock
             Vice President Suzanne Smith
             Senior Vice President Aaron Friedman

Purpose:

☐ policy       ☐ background/context       ☒ oversight       ☐ strategic positioning

In accordance with the Board of Regents Policy: Reservation and Delegation of Authority, review and act on the Schematic Plans for the Microbiology Research Facility Project located on the Twin Cities East Bank Campus.

Outline of Key Points/Policy Issues:

The attached Project Data Sheet addresses the basis for request, project scope, cost estimate, funding, and schedule. A map locating the project is also included.

The 80,000 gross square foot Microbiology Research Facility, the fourth and final building funded under the Biomedical Facility Program, will house the laboratories, offices, and collaborative work spaces for the faculty, staff, and graduate students of the Department of Microbiology. The building will house research labs and lab support, a research commons, and office and collaborative/office support. Special environmental controls, clean, and standby power will be provided to select rooms based on programmatic need. This project will also provide district circulation and utility infrastructure. This new facility will be located north of the Cancer/Cardio facility, which is nearing completion.

Project funding in the amount of $63,000,000 is provided through the Biomedical Discovery District (BDD) funding. This project was approved in June 2012 as a part of the FY 2013 Capital Improvement Budget for $52,000,000. An additional $11,000,000 is for funds being transferred to the Microbiology project upon completion of the Cancer/Cardio project as requested in the FY2014 Capital Budget.

Background Information:

The 2008 Minnesota Legislature enacted as part of the Omnibus Capital Appropriations bill legislation to provide for a biomedical science research-funding program to further the investment in biomedical science research facilities. The Minnesota Biomedical Facilities Program allows the University to bond for $292 million - split 75/25 with State of Minnesota - to finance new research buildings and associated infrastructure in the East Gateway district of the Twin Cities campus. The Microbiology Research Facility, the fourth and final facility
under the Biomedical Discovery District authorization project funding, was approved in June 2012 as a part of the FY 2013 Capital Improvement Budget ($52,000,000).

**President's Recommendation for Action:**

The President recommends approval of schematic design plans for the Microbiology Research Facility on the Twin Cities East Bank Campus and of the appropriate administrative officers proceeding with the completion of the design and construction for this project.
Microbiology Research Facility
Twin Cities Campus
1. Basis for Request:

The 2008 Minnesota Legislature enacted as part of the Omnibus Capital Appropriations bill legislation to “provide for a biomedical science research funding program to further the investment in biomedical science research facilities in Minnesota to benefit the state’s economy, advance the biomedical technology industry, benefit human health, and facilitate research collaboration between the University of Minnesota and other private and public institutions in this state.”

The Minnesota Biomedical Facilities Program allows the University to bond for $292 million - split 75/25 with State of Minnesota - to finance new research buildings and associated infrastructure in the East Gateway district of the Twin Cities campus. The first of these four projects, the Center for Magnetic Resonance Research (CMRR), is complete. The second and third combined project, the Cancer and Cardiovascular Research Building, is substantially complete, pending commissioning and occupancy.

This schematic design review for the Microbiology Research Facility requests authorization for design to proceed. This project includes utility infrastructure, district circulation, research laboratories, offices, research support services, and common space for the Microbiology Research Facility.

2. Scope of Project:

The 80,000 gross square foot Microbiology Research Facility, the fourth and final building funded under the Biomedical Facility Program, will house the laboratories, offices, and collaborative work spaces for the faculty, staff, and graduate students of the Department of Microbiology. The building will be comprised of research labs and lab support, a research commons, and office and collaborative/office support. Special environmental controls, clean, and standby power will be provided to select rooms based on programmatic need. This project will also provide district circulation and utility infrastructure.

3. Master Plan or Precinct/District Plan:

The project is in compliance with the Campus District Plan dated March 2009.

4. Environmental Issues:

There are no environmental issues associated with the design of this new facility.
5. Cost Estimate:

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<td>Non-Construction Cost</td>
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6. Capital Funding:

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<td>Biomedical Facilities Program Debt</td>
<td>$63,000,000</td>
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<tr>
<td>Total Project Funding</td>
<td></td>
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</table>

7. Capital Budget Approvals:

This project was approved in the 2013 Capital Budget at $52,000,000 and $11,000,000 is requested in the 2014 Capital Budget.

8. Annual Operating and Maintenance Cost and Source of Revenue:

Annual operating and maintenance costs are anticipated to be approximately $927,000.

9. Time Schedule:

Construction is anticipated to start October 2013 with a substantial completion date of December 2014.

10. Architect / Construction Manager:

This project will be delivered using the Construction Manager at Risk project delivery method.

Architect: BWBR Architects
Construction Manager: M. A. Mortenson Construction

11. Recommendation:

The above described project scope of work, cost, funding, and schedule is appropriate:

[Signature]
Aaron Friedman, Senior Vice President Health Sciences

[Signature] 5/31/13
Richard Putzenreiter, Vice President and Chief Financial Officer

[Signature] 5/31/13
Pamela Wheelock, Vice President, University Services
Location Map

Microbiology

Cancer Cardio
Site Plan
Project Rationale

• Microbiology Research Facility is the 4th and final building in the Biomedical Facilities Program (2008 State Investment)

• Microbial Research
  – Department of Microbiology and faculty from many disciplines, colleges, and schools in the AHC
  – Microbiology, Immunology, Infectious Diseases, and Drug & Vaccine Discovery

• Collaborative space for faculty in the Infectious Disease Corridor of Discovery to treat cure and prevent infectious diseases
  – Research in 26 principal investigators and future recruits
  – “Hotel” lab space for collaborative investigators
Project Rationale: Capital Plan Metrics

• Ensure Research Productivity and Impact by:
  – Providing space conducive to the conduct of contemporary research in order to enhance competitiveness

• Protect Public Assets and Investment by:
  – Implementing campus master plans and advancing the University’s sustainability goals
  – Leverage facility investments to advance the academic mission and principles
  – Improving facility durability and energy conservation
Project Description

• 80,000 gsf Microbiology Research Facility for the Infectious Disease Corridor of Discovery

• Includes:
  – Laboratories
  – Offices
  – Collaborative work areas
  – Support spaces

• Allows for district interconnectivity
Project Description

• Cost Estimate
  – Construction $49,040,000
  – Technology/Equipment 4,833,000
  – Non-construction 9,127,000
  – Total Project Cost $63,000,000

• Capital Funding
  – Biomedical Facilities Program Debt $63,000,000
Project Description

• Anticipated Completion
  – June 2015

• Estimated Annual Operating Costs
  – $283,000

• Architect
  – BWBR Architects

• Project Delivery Method
  – Construction Manager at Risk: M. A. Mortenson
Building Exterior

West View with CCRB

Courtyard

Entry
Facilities and Operations Committee  

June 13, 2013

Agenda Item:  Schematic Plans: Glensheen June 20, 2012 Water Damage and Cleanup

☐ review  ☒ review/action  ☐ action  ☐ discussion

Presenters:  Vice President Pamela Wheelock  
Vice Chancellor Michael Seymour  
Assistant Vice President Suzanne Smith

Purpose:

☐ policy  ☐ background/context  ☒ oversight  ☐ strategic positioning

In accordance with the Board of Regents Policy: Reservation and Delegation of Authority, review and act on the Schematic Plan for the Glensheen June 20, 2012 Water Damage and Cleanup Project located in Duluth.

Outline of Key Points/Policy Issues:

A Project Data Sheet addressing the basis for request, project scope, cost estimate, funding, and schedule is attached. A map locating the project is also included.

Background Information:

The University of Minnesota Duluth Glensheen Historic Estate property experienced extensive damage due to severe four-county wide storms on June 19-20, 2012. This emergency required immediate forensic analysis of damage and recommendations for necessary temporary repairs and public safety protection efforts as well as long-term repairs.

President’s Recommendation for Action:

The President recommends approval of schematic design plans for the Glensheen June 20, 2012 Water Damage and Cleanup Project located in Duluth and of the appropriate administrative offices proceeding with the completion of the design and construction for this project.
UNIVERSITY OF MINNESOTA DULUTH CAMPUS

UMD OLD MAIN CAMPUS

NORTH

UNIVERSITY OF MINNESOTA
GLENSHEEN HISTORIC ESTATE
3300 LONDON ROAD. DULUTH MINNESOTA
1. **Basis for Request:**
The University of Minnesota Duluth Glensheen Historic Estate property experienced extensive damage due to severe four-county wide storms on June 19-20, 2012. This emergency required immediate forensic analysis of damage and recommendations for necessary temporary repairs and public safety protection efforts as well as long-term repairs.

**Capital Budget Metrics addressed by this project:**
Fulfill our statewide mission by:
- Maintaining specific facilities and spaces needed to achieve unique mission elements on coordinate campuses, research and outreach centers, and field stations.
- Investing in facilities that leverage unique regional assets.

Protecting public assets and investment by:
- Leveraging facility investment to advance the academic mission and priorities.
- Making infrastructure investments that ensure reliability over the long term, lower energy and operating costs, and advance environmental stewardship.

Recognize current extraordinary financial realities by:
- Honoring projects that have an identified source of payment for debt costs.

2. **Scope of Project:**
The Glensheen Historic Estate (Glensheen) was designed by Clarence H. Johnston Sr. of St. Paul, architect of multiple University of Minnesota buildings statewide. Completed in 1908, Glensheen's manor house and grounds are a highly visible presence for tourism in Duluth. Moreover, as an emerging key academic element for the School of Fine Arts, Glensheen contributes to UMD’s mission in the education, outreach, research, and regional economic partnerships.

Glensheen is listed on the National Register of Historic Places and is a Partner Place of the National Trust for Historic Preservation. Glensheen stewardship requires compliance with the University of Minnesota Board of Regents 2010 Historic Preservation Policy and applicable federal and state laws and regulations. The form and detailing of materials that are important defining elements of the property’s overall character (interior, exterior, and site) must be retained and preserved.

In specific key areas, emergency barriers and signage were deployed immediately after the event as public safety protection and then replaced by longer term temporary safety fencing in September, 2012. The damaged areas that are included in this project are listed below. The Tischer Creek is a designated trout stream and construction can only occur July 1st - September 15th.

- a. Collapsed masonry wall at London Road
- b. London Road embankment washout
- c. Sanitary lift station (restoration work has been completed)
- d. Tischer Creek stabilization, streambed, and retaining wall washout
- e. Bent Brook streambed and masonry bridges
- f. Retaining wall along the service court drive
- g. Rain garden
- h. Manor house area wells
- i. Service entrance court masonry walls
- j. West entry drive serpentine retaining wall and stairs.
3. Master Plan or Precinct/District Plan:
The Glensheen Water Damage and Cleanup project is in compliance with the University of Minnesota Duluth 2005 Campus Master Plan and Update dated 2009.

4. Environmental Issues:
Hazardous materials (asbestos, lead, mercury, indoor air quality, mold, etc.) are not anticipated at the project site or in the event affected elements of the main building. However, Archaeological site services to monitor soil disturbance will be required for recovery work when Tischer Creek restoration is undertaken.

5. Cost Estimate:

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<tr>
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<tr>
<td>Non-Construction Cost</td>
<td>458,531</td>
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<tr>
<td>Total Project Cost</td>
<td>$3,412,557</td>
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6. Capital Funding:

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<tr>
<td>FEMA Funds Commitment*</td>
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<tr>
<td>Insurance Funds</td>
<td>1,961,349</td>
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<tr>
<td>University of Minnesota Duluth**</td>
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<tr>
<td>University of Minnesota General Contingency**</td>
<td>91,500</td>
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<tr>
<td>Total Current Project Funding Available***</td>
<td>$3,412,557</td>
</tr>
</tbody>
</table>

* FEMA funds and Insurance funds may be revised to match actual costs.
** For scope not covered by FEMA or Insurance.
*** The final funding available will match project cost and scope.

7. Capital Budget Approvals:
This project is included in the Fiscal Year 2014 Capital Budget scheduled to be approved in June 2013.

8. Annual Operating and Maintenance Cost and Source of Revenue:
Operating and maintenance costs will remain approximately the same as the project is primarily for site and infrastructure restoration.

9. Time Schedule:

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<tr>
<td>Complete Construction Documents</td>
<td>June 2013</td>
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<td>Establish Construction Bid Price</td>
<td>June 2013</td>
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<tr>
<td>Begin construction</td>
<td>July 2013</td>
</tr>
<tr>
<td>Complete construction</td>
<td>September 2014</td>
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</tbody>
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10. Architect, and Contractor:
The Construction Manager at Risk project delivery method will be used to deliver this project.

| Architect:                        | Miller Dunwiddie Architecture |
| Construction Manager at Risk:     | To be determined               |

11. Recommendation:
The above described project scope of work, cost, funding, and schedule is appropriate:

Lendley Black, Chancellor, University of Minnesota - Duluth Campus

Richard Pfutzemeyer, Vice President and Chief Financial Officer

Pamela Wheelock, Vice President for University Services
Glensheen Water Damage and Cleanup
Duluth Campus

Board of Regents Facilities and Operations Committee
June 13, 2013
Project Rationale

• Extensive damage due to severe storm June 19-20, 2012

• Emergency required
  – Immediate forensic analysis and recommendations
  – Necessary temporary repairs and public safety protection
  – Long term repair
Walk and Upper Bridge During Storm Event
Project Rationale: Capital Plan Metrics

• Fulfill our statewide mission by:
  – Maintaining facilities to achieve unique mission elements
  – Investing in facilities that leverage unique regional assets

• Protecting public assets and investment by:
  – Leveraging facility investment to advance the academic mission and priorities
  – Making infrastructure investments that ensure reliability and advance environmental stewardship

• Recognize current extraordinary financial realities by:
  – Honoring projects that have an identified source of payment for debt costs
Site Plan – Scope of Work

a. Collapsed masonry wall at London Road
b. London Road embankment washout
c. Sanitary lift station
d. Tischer Creek stabilization
e. Tischer Creek streambed
f. Tischer Creek retaining wall washout
g. Bent Brook streambed and masonry bridges
h. Retaining wall along the service court drive
i. Rain garden
j. Manor house area wells
k. Service entrance court masonry walls
l. West entry drive serpentine retaining wall
London Road Masonry Wall Collapse

Before Storm Event

After Storm Event
Bent Brook Streambed

Before Storm Event
Concrete lined streambed

After Storm Event
Significant debris settlement in streambed from upstream
Tischer Creek Retaining Walls and Streambed

Before Storm Event  After Storm Event

Significant erosion of the creek and loss of retaining wall, most notably at the mouth to Lake Superior
Project Description

• Cost Estimate
  – Construction $ 2,954,026
  – Non-construction 458,531
  – **Total Project Cost** $ 3,412,557

• Capital Funding
  – FEMA Funds Commitment $ 1,259,208
  – Insurance Funds 1,961,349
  – University of Minnesota Duluth 100,500
  – University of Minnesota General Contingency 91,500
  – **Total Current Project Funding Available** $ 3,412,557
Project Description

• Anticipated Completion:
  – Fall 2014

• Estimated Annual Operating Costs:
  – Operating and maintenance costs will remain approximately the same as the project is primarily for site and infrastructure restoration

• Architect:
  – Architect of Record: Miller Dunwiddie Architecture

• Project Delivery Method:
  – Construction Manager at Risk: to be determined
Facilities and Operations Committee

June 13, 2013

Agenda Item: University of Minnesota Landscape Arboretum Master Plan Update

☐ review  ☒ review/action  ☐ action  ☐ discussion

Presenters: Vice President Pamela Wheelock
Dr. Edward Schneider, Director Minnesota Landscape Arboretum

Purpose:

☐ policy  ☐ background/context  ☒ oversight  ☐ strategic positioning

Present to the Board of Regents an updated University of Minnesota Landscape Arboretum Master Plan. This update consists of a Circulation and Development Framework document, which is proposed as an amendment to the 1998 approved Master Plan.

Overall goals and objectives in the Master Plan are reaffirmed. The Framework Plan anticipates open space development, facilities growth and replacement parking upgrades, and includes landscape improvements that will unify and beautify the Arboretum. The plan describes the long-term vision for the campus as well as short-term implementation goals, referred to as “immediate impact projects.” Implementation of the plan will help the Arboretum express its unique mission through its physical presence.

Outline of Key Points/Policy Issues:

The University of Minnesota Landscape Arboretum is part of the College of Food, Agricultural, and Natural Resource Sciences (CFANS). The organization’s mission is to serve as a community resource for horticultural science, cold-hardy plant research, and the environment; to actively engage in plant conservation and education; and to inspire and delight visitors with display gardens, plant collections, programs, and experiences.

As an outgrowth of the Arboretum Strategic Plan FY 2012-2016, an update to the 1998 Master Plan was undertaken in 2011. While the Master Plan provides overall guidance for the growth of the Arboretum, dedicated attention to visitor access and egress, parking accommodation, circulation drives, and an improved pedestrian/bicyclist experience were considered necessary to expand the Arboretum’s success and increase visitor use of the facility.

Circulation and Development Framework Guiding Principles

The intent of the Guiding Principles is to provide an overarching framework of ideas that ground future decision-making. The Principles are commonly agreed-upon ideas about how the Arboretum facility should evolve and how implementation should be prioritized.

The Guiding Principles are as follows:

1. Maintain the Arboretum’s character and beauty while addressing future program needs and revenue generation.
2. Provide greater physical access to the Arboretum.
3. Ensure a safe and secure arboretum environment for guests, volunteers, staff, exhibits, and collections.
4. Create a clear pedestrian, bicycle, and vehicular circulation system with a hierarchy of trails, roads, and walks.

**Framework Relationship to 1998 Master Plan**
A number of key findings from the 1998 Master Plan timeframe remain valid today:

- Many collections are near or have met limits on available land area for further expansion.
- Collections with available land area for growth typically lack access or sufficient signage and could benefit from better orientation.
- Traffic lights are desired at Minnewashta Parkway and at Highway 41 to reduce vehicle speeds and provide safe crossings.
- A new Visitor Center should become the hub of visitor activities.
- A significant portion of the visitor experience should be as a pedestrian. Interconnected, accessible walkways should link collections, exhibits, and services.
- Acquisition of all land within the boundaries of Highway 5, Highway 41, W. 82nd Street and Bavaria Road is critical to protect the watershed around the Arboretum, to maintain the continuity of the environment, and to provide land for expansion.

Many of the 1998 Master Plan’s Goals and Objectives that define the overall approach to Arboretum development are still relevant and useful in planning for the facility today. Including a focus on visitor services, land acquisition, circulation, research, gardens, and collections.

**Trends and Assumptions**
This Master Plan update is predicated on a number of assumptions that informed the underlying planning process, approach, and methodology. These assumptions include:

- Increasing attendance, given national and regional recognition as a destination and in concert with peak demand in spring and fall seasons.
- Evolving communications that can support the visitor self-guided experience, using mobile applications and mobile-accessible information about the holdings of the Arboretum. This interest requires development of way finding and signage systems, informational resources, and web development efforts previously not undertaken at the Arboretum.
- Metropolitan growth in the western metro area continues to exert development pressure around the edges of the Arboretum. The opening of Highway 212 within the last five years has furthered the conversion of formerly agricultural land to other, more intensive uses. The Arboretum’s potential to offer visitors an opportunity to connect with nature and actively experience the grounds is of increasing interest to the broader community.
- Donor support and interest remains strong but is increasingly challenged in an uncertain economy. Securing participation from multiple sources to complete priority Arboretum improvements will advance the responsible use of financial resources.
- Use of the Arboretum as an on-site research “lab” will continue, focusing on woody plant breeding, in the vicinity of tree and shrub specimens accessed by Three Mile Drive. Conservation of rare and threatened plants is an important component of the Arboretum’s commitment to sustainability and environmental education. Conservation research on these subjects would occur in native forests and wetlands and gradually, when acceptable, be introduced into public gardens and grounds.
- Events that engage visitors in nature and the outdoors are paired with seasonal themes and are supported by indoor art galleries and the Anderson Horticultural Library. Continued delivery of highly successful events is highly desirable to maintain target levels of visitors throughout the year.
**Key Initiatives**

Most of the Arboretum’s facilities, exhibits, and activities are concentrated around the visitor center and along the Three Mile Drive. The expansion of accessibility by auto, bicycle, and pedestrians, in conjunction with the decentralization of venues, allows for flexibility of implementation as funds become available. In December 2011, the Arboretum Foundation Board of Trustees approved the following Circulation and Parking Improvements as a priority for implementation over the next five years:

- **East Gateway and Parking**
  Improving the capacity to move visitors through the gate and providing sufficient parking during high turnout events are essential first steps to increasing attendance.

- **West Gateway and Linkage Roadway**
  A new entrance drive with two points of entry/egress will move more people through the Arboretum in a safer and less confusing manner.

- **Eastern Drive**
  A new 1.9 mile Eastern Drive will be added with an adjacent combined walk and bike path. The expanded road network will provide access to the Arboretum’s eastern property, the Red Barn, and Spring Peeper Meadow.

Circulation improvements are the first priority for the Arboretum’s continued success. Visitors need to be able to enter the Arboretum safely and efficiently and find a place to park before they can experience the Arboretum’s gardens, grounds, facilities, and programs. In addition, proposed new venues including the Woodland Performance Stage and Garden, the Farm Garden, and Bee Discovery Center all require access roads, parking, and utility infrastructure before they can be developed.

Development opportunities are defined in the Framework document by program, conceptual cost estimate, and general site location. They do not have a prescribed horizon for achievement given that they are expected to advance based on available donor resources.

For reference, each of these projects is described in the Plan document:
- Woodland Performance Center and Gardens p.33
- Tree Top Canopy Walk, p. 37
- Chinese Garden, p. 41
- Bee Discovery Center, p. 59
- Sculpture Garden, p. 63
- The Farm Gardens, p. 45
- Meyers-Deats Conservatory Expansion
- Maintenance Facility Improvements

**Background Information:**

Included in the docket material is a copy of the University of Minnesota Landscape Arboretum Circulation and Development Framework. Board of Regents Policy: *Reservation and Delegation of Authority*, section VIII, subdivision 5, states “The Board of Regents reserves to itself authority to approve campus master plans and amendments thereto.”

In September 1992 the Chair of the Board of Regents and the President of the University appointed a Master Planning Steering Committee to “design and recommend a set of principles which will discipline and inspire the development of a master planning process.”

In 1993 the Board of Regents adopted the following four Campus Master Planning principles as developed by the master Plan Steering Committee:

- Creating and maintaining a distinctive and aspiring vision for the physical development of each campus;
- Enriching the experience of all who come to the campus;
- Maximizing the value of existing physical assets while responding to emerging/changing physical needs; and
• An inclusive, accountable, and timely process for creating and implementing a master plan vision.

In September 1996, the Board of Regents adopted a resolution directing the campus master plans reviewed earlier in the year to be used to “guide the future development of the campuses in accordance with the four planning principles and the policies, procedures, and strategies therein will be the basis for all future master planning decisions.”
Dear friends, faculty, staff, and supporters,

The 2012 Minnesota Landscape Arboretum Circulation and Development Framework is the culmination of a year and a half of critical examination, discourse, and insightful explorations. Our master planning process sought the involvement of the Arboretum community within and beyond our borders through a combination of committee discussions, staff interviews and board input.

As you will see, the framework creates a flexible plan to guide future physical development of the Arboretum as needs prescribe and funding allows. This document describes the objectives of the University of Minnesota Landscape Arboretum and juxtaposes the Arboretum of today with what we hope it will become in the future. It articulates major planning opportunities for all areas of the property. Major gateways, improved circulation and access, additional development opportunities, and the relationship with the surrounding community are addressed.

The plan anticipates open space development, facilities growth and replacement, parking upgrades, and landscape improvements that will unify and beautify the Arboretum. Immediate Impact Projects that could reasonably be achieved in the near future are proposed as a starting point as funding becomes available. The document highlights the University of Minnesota Landscape Arboretum's commitment to sustainability and planned growth.

Implementation of this plan will help the Minnesota Landscape Arboretum to express, through its physical presence, our unique mission.

We would like to thank the members, volunteers, and visitors, The Minnesota Landscape Arboretum Foundation and Arboretum staff for their participation, vision, and hard work.

Sincerely,

Ed Schneider, Director, Minnesota Landscape Arboretum

Dave Maiser, President, Minnesota Landscape Arboretum Foundation
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Executive Summary
University of Minnesota Landscape Arboretum

Introduction
The University of Minnesota Landscape Arboretum is part of the College of Food, Agricultural and Natural Resource Sciences at the University of Minnesota. Its mission is to be a growing resource for horticultural and environmental information, plant conservation, research and education; to inspire and delight a growing visitiorship with quality plants in well-designed and maintained displays, collections, model landscapes and natural areas.

The Arboretum features more than 1,100 acres of magnificent gardens, model landscapes, and natural areas—from woodlands and wetlands to prairie—with extensive collections of northern-hardy plants. Visitors enjoy 12.5 miles of garden paths and hiking trails, five miles of snowshoe and five miles of cross-country ski trails. Gardens, collections and visitor amenities are clustered around Three-Mile Drive, a shared road that serves as the primary means of circulation.

In the summer of 2010 the Arboretum Board of Trustees agreed on a mandate to increase Arboretum attendance and fund raising over a 5 year period. Dr. Edward Schneider, a former President and CEO of Santa Barbara Botanic Garden in California, was hired as Arboretum Director and Professor of Horticultural Science to carry out the charge. The following fall, a meeting of Arboretum benefactors was convened to update the Landscape Arboretum Strategic Plan. The strategic planning team, consisting of Arboretum staff, benefactors and trustees, championed ideas to increase attendance by building an amphitheater and a Tree Canopy Walk and to accommodate larger audiences with improvements to roads, parking and internal circulation.

Minnesota Landscape Arboretum leadership and the strategic planning committee decided at this time to undertake a new study to provide a cohesive framework addressing circulation concerns and future opportunities for growth. Damon Farber and Associates was contracted to help development the framework and provide cost estimates to further guide the decision making process. Over the next year, Damon Farber developed concept plans that were reviewed by Arboretum administration and the Board of Trustees Officers. Plans were also presented to staff for comments.

Objectives of the Framework
The Minnesota Landscape Arboretum Master Plan, completed in 1998, continues to provide overall guidance for the growth of the Arboretum today. The Master Plan addresses themes of programming, circulation, parking, preservation, visitor experience and land acquisition.

The Circulation and Development Framework will be used in conjunction with the 1998 Master Plan as a flexible guide for development according to the principles established and in accordance with the vision for the Arboretum.

The framework is intended to:
1. Enhance the relationship among services, visitor access & egress and new exhibits, gardens and research venues.
2. Update and expand parking to meet growing visitor needs and new circulation patterns associated with displays and facilities for an expanded Arboretum.
3. Develop a new eastern drive to access additions and to connect research areas, model landscapes, new developments and collections/exhibits.
4. Promote the pedestrian and bicycle experience by connecting to surrounding communities, regional trail and bikeway systems.

Strategic Plan

Vision
To be the world-class northern public arboretum.

Mission
To serve as a community resource for horticultural science, cold-hardy plant research and the environment
To inspire and delight visitors with public display gardens and plant collections, programs and experiences.
To actively engage in plant conservation and education.

Core Values
We must continue to support research to discover new knowledge about plants.

We will provide leadership in conserving our native flora.

Plants are a necessary part of the emotional and spiritual well-being of all people.

Horticulture and Gardening is a nurturing and creative activity.

Dissemination of information is an essential activity of the Arboretum.

This dissemination includes landscape models, collections, and gardens, as well as written, visual, and verbal formats in order to reach an expanding community.

It is our commitment to create an atmosphere of excitement, enthusiasm, and interest about the living environment.

We will be accessible and welcoming to all people.

From Arboretum Strategic Plan, FY 2012 - 2016
Guiding Principle One
Maintain the Arboretum’s character and beauty while addressing future program needs and revenue generation.

- Preserve the native forest, diverse wetlands and natural ponds and streams on the site while increasing their visibility and accessibility.
- Continue the iconic Edwin Lundie design style using carved timbers, brick and stone throughout the Arboretum.
- Provide beautifully designed and maintained landscape plantings along with natural areas for quiet relaxation and enjoyment.
- Build new venues such as tree canopy walk and sculpture garden which will attract expanded audiences and create new opportunities for education and private rentals.
- Increase parking to accommodate multiple events and seasonal attendance peaks.

Guiding Principle Two
Provide greater physical access to the Arboretum.

- Eliminate congestion and the gatehouse bottleneck by expanding the entry road and gatehouse lanes and parking.
- Create alternate west entrance and build connecting roads.
- Promote a decentralization of visitor activities.
- Build new Eastern Loop Road to open up new areas for tree collections and provide internal access to the Red Barn area and Spring Peeper Meadow.

Guiding Principle Three
Ensure a safe and secure arboretum environment for guests, volunteers, staff, exhibits and collections.

- Provide roadway and parking lot lighting in high visitor use areas.
- Pursue opportunities for collaboration with the University of Minnesota Department of Emergency Management.
- Expand surveillance cameras to research areas and Sculpture Garden.
- Install fencing along Arboretum boundaries including West 82nd St, Bavaria Rd. and State Highway 5.
- Link new Arboretum Trails to the Regional Trail network at the new State Highway 5 Underpass at Minnewashta Pkwy. and a future Underpass under State Highway 41.
- Continue to implement wayfinding plan including signage at intersections, you are here maps, and labeling for buildings, gardens and plant collections.
- Create dedicated walking and bicycle trails separated from vehicular roads by planted medians.
- New roads and trails should meet ADA standards including smooth paved surfaces and slopes under 5%.

Guiding Principle Four
Create a clear pedestrian, bicycle and vehicular circulation system with a hierarchy of trails, roads and walks.

- New roads and trails should meet ADA standards including smooth paved surfaces and slopes under 5%.
Planning Challenges
As the Arboretum continues to develop, expanding the current research, outreach and educational opportunities to larger populations, the existing infrastructure will become a limitation.

Key challenges identified in this study by the planning team include:

• Heavy congestion at the main visitor entry and traffic conflict with Highway 5.
• Limited pedestrian and bicycle access.
• Insufficient event parking.
• Congestion along Three Mile Drive.
• Limited access to features and growth areas beyond Three Mile Drive.
• Inadequate maintenance facilities.

Recommended Improvements
The Framework proposes a series of improvements to roads, parking and pedestrian infrastructure and development opportunities concentrated around Three Mile Drive. Circulation improvements are prioritized to address current capacity issues during peak events and allow for future growth by increasing parking and opening new areas to growth. Each of the projects outlined within this report are anticipated to be complete within the next five years.

Circulation
East Gateway and Parking – An expanded main entrance to alleviate congestion on entry drive and Highway 5, connecting visitors to an expanded parking area with additional 300 parking spaces.

West Gateway and Linkage Roadway – A secondary entry, available to the public during peak visitor times and connecting to regional trail and new underpass at Minnewashta Parkway.

Eastern Drive – An extension of Three Mile Drive to the Spring Peeper Meadow will connect visitors and staff to research areas, model landscapes, new gardens and a number of possible development opportunities.

Development
Woodland Performance Center & Gardens - The venue is designed to attract new visitors and activities, providing space for events such as music, theater, education, and ceremonies.

Tree Top Canopy Walk - A non-intrusive walkway with rest areas for visitors to study the variety of plant life within the canopy and to observe birds and other animals up close.

Chinese Garden - Guests to the Chinese Garden will encounter a cultural journey through five primary components of architecture, plants, stone, water and art and literature.

The Farm Garden - This development will update the Arboretum’s iconic Red Barn and provide new space for teaching classrooms and conference facilities. It will demonstrate the latest in green building technology, sustainable landscaping and horticulture, modern farming techniques and interactive gardens showcasing residential and urban food production.

Bee Discovery Center - Will function like a bee hive, efficiently combining research and public educational space to showcase the importance of bees to agriculture and to human nutrition, health and food safety.

Sculpture Garden - Expected to open in the spring of 2013, this garden will showcase a collection of art, taking into account the environment in which the pieces are situated. The garden will support education, large audiences and private events.

Meyers - Deats Conservatory - A new conservatory will revitalize use of the adjacent Snyder Building, engaging visitors with plans of desert, alpine and tropical rainforest climates.

Maintenance Facility - Core facilities are essential to the ongoing operations of the Arboretum. This development will provide office space, greenhouses and storage for staff, equipment and activities. The greenhouse will be a center for growing plants for new and expanding collections.

Additional development opportunities include updates to the Snyder Building, reconstruction of Garden Structures, landscaping at the Learning Center and along the Sorbus Trail, installation of rest stops along Three Mile Drive, enhance fencing in key areas and technology improvements to guide visitors through each exhibit.
University of Minnesota Landscape Arboretum

About this Section

This section describes the various influences, past and present, on the context of the Minnesota Landscape Arboretum.

Topics in this section include the following:

- Role of the Arboretum
- 1998 Master Plan
- Trends and Assumptions
- Recent Improvements
- Site Analysis

Role of the Arboretum

The mission of the Minnesota Landscape Arboretum, as part of the University of Minnesota, is to provide a community and a national resource for horticultural and environmental information, research and public education; to develop and evaluate plants and horticultural practices for cold climates; and to inspire and delight all visitors with quality plants in well designed and maintained displays, collections, model landscapes, and conservation areas.

Research

Internationally renowned for cold-hardy plant research, the University of Minnesota Horticultural Research Center (HRC) at the Arboretum is recognized for research in fruits such as apples, grapes, blueberries and even kiwi; garden and landscape ornamental plants such as azaleas, roses, shrubs, trees, grasses and turf. Plant introductions include apples such as Haralson, Honeycrisp and the new SweeTango; wine grapes such as Marquette, Frontenac, LaCrescent and Frontenac Gris; ornamental plants such as Azalea Light series, Blue Heaven Little Bluemist and new Arboretum rose “Summer Waltz” introduced in 2011; and trees such as Northwood and Autumn Spire red maples, Minnesota Strain Rosebud and Stately Manor Kentucky Coffeetree. Other research programs include low input turf grass evaluation, restoration ecology and rare native plant morphology and propagation.

The Spring Peeper Meadow wetland restoration is one of the Minnesota Landscape Arboretum’s model landscapes. Ongoing research since its restoration in 1996-97 has provided insights into the restoration and establishment process to improve the practice of wetland restoration in the Midwest.

Education

The Arboretum is a place for lifelong learning reaching a wide array of audiences. Educational specialties include:

Adult education and family programs such as guided adventures and summer day camps centering on plants and nature as its focus;

Public policy symposia on clean water and healthy foods in alliance with the Healthy Foods/Healthy Lives Institute at the University of Minnesota, local governments and educational partners;

School programs for children beginning in kindergarten and up through middle school.

Therapeutic horticulture and animal-assisted therapy in alliance with the Center for Spirituality at the University of Minnesota.

Inter-generational plant-based fun and activities every weekend for visitors.

Urban children’s gardens and mentoring initiatives with inner-city neighborhoods in Minneapolis (including the University of Minnesota UROC) and St. Paul; and other seasonal programming.

Statistical Summary FY 2012

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<td>93° 35’ 63’ longitude</td>
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<td>Winter -12 o C (10.4 F)</td>
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Executive Summary

Visitors
Open year-round, the Arboretum is a place for all seasons. In the last year, more than 338,000 visitors made the Arboretum their place to enjoy the gardens and outdoors, connect with nature and discover their particular interests, explore exhibits and displays indoors and out, and engage in activities at their own pace—sometimes solo or coming in pairs or inter-generational groups of four or more.

While many visitors plan their visits during the growing season—especially spring, the fall season and October, in particular, has been the busiest month for visitorship for the past three years. Visitors hail from throughout the Twin Cities metro area, Minnesota, nearly every state in the country and most every continent except Antarctica.

Completed in 2005, the Oswald Visitor Center is a 45,000-square-foot building that serves as a formal entry to the Arboretum and an information hub for the more than a quarter-million people who visit each year. The visitor reception desk, touch-screen kiosks and special exhibits are found within the building’s McQuinn Great Hall.

Other highlights include the 375-seat MacMillan Auditorium; the Wall Education Wing, with two high-tech classrooms and a teaching garden; a large gift store featuring a wide selection of books, toys, clothing, and other unique garden items and gifts; a cafeteria-style restaurant; and the Reedy Gallery, featuring ever-changing art exhibits.

Conservation
A certified member of the international Center for Plant Conservation network since 2011, the Arboretum anchors the upper Midwest in conserving and restoring America’s most rare and threatened native plants. The Arboretum works closely with the MN Dept. of Natural Resources and MN Dept. of Transportation in rescuing and preserving increasingly endangered native species of the Upper Midwest such as the dwarf trout lily, rams’s-head lady’s slipper, showy trillium, cardinal flower and the Minnesota state flower: the showy lady slipper.

At the Arboretum, natural habitats such as the North American prairie, Spring Peeper Meadow wetlands, and the bog and wildflower gardens prove popular with visitors as well as research scientists and horticultural experts.

1998 Master Plan
The 1998 Master Plan provided a conceptual physical master plan incorporating key issues of land acquisition, programmatic needs, circulation and parking preservation of natural areas and visitor experience. Architectural and planning firms Bierbe Becket and Nelson Byrd were contracted to complete the study. The Master Plan document continues to guide the overall growth of the Arboretum today.

The following conclusions of the 1998 Master Plan continue to guide the opportunities contained in this Circulation and Development Framework.

1998 Goals and Objectives:
Visitor Services - Determine the best possible experience for visitors and develop programs and facilities to carry it out. Improve existing or develop new space for enhancement of all aspects of the visitor experience.

Land Acquisition - Identify land needed for short term and long term growth and for the preservation of land and water quality through management of the MLA perimeter, buffer zones and watersheds and the preservation of remnant natural areas.
Circulation - Create and improved visitor access and orientation to the MLA and a workable traffic flow that serves all staff and visitors.

Research - Enhance the visitor's awareness of MLA/HRC research accomplishments and ensure availability of land committed for research.

Gardens and Collections - Provide the necessary space and organization to allow future growth and development of quality gardens and collections, enhancing both the visitor experience and reputation of the MLA as a leading arboretum.

1998 Key Findings:

Many collections are near or have met limits on available land area for further expansion.

Collections with available land area for growth typically lack access or sufficient signage and could benefit from better orientation.

Traffic lights proposed at Minnewashta Parkway and at Highway 41 to reduce vehicle speeds and provide safe crossings.

A new Visitor Center should become the hub of visitor activities.

A significant portion of the visitor experience should be as a pedestrian. Interconnected, accessible walkways should link collections, exhibits and services.

Acquisition of all land within the boundaries of Highway 5, Highway 41, W. 82nd Street and Bavaria Road is critical to protect the watershed around the Arboretum, to maintain the continuity of the environment and to provide land for expansion.

Trends and Assumptions

Through the planning process, several trends were identified which impact growth and development the arboretum. The following are current trends and assumptions surrounding the projects identified in the Circulation and Development Framework.

Increasing Attendance

Named as one of the "Top 10 Places to Smell the Flowers" by USA Today, the Arboretum continues to build awareness as a destination. The Arboretum consistently ranks as one of the top 12 attractions in the metro area as determined by Explore Minnesota. The Arboretum is selected by the American Public Garden Association as one of the featured gardens for National Public Garden Day in May, 2012 and again for 2013.

The Arboretum intends to capitalize on this awareness through investment in new exhibits, facilities and infrastructure to attract more visitors each year.

Although the Arboretum is open year round and visitors may experience beauty, programs and events for every season, visitor numbers continue to peak during the spring bloom and fall color weekends. This causes extreme congestion at the Arboretum entry road, the gatehouse and parking lots. Access to the site is becoming a limiting factor on growth of the Arboretum. Often events such as the Plant Sale and Fall Harvest Sale overlap with private events such as weddings or large conferences.

Evolving communications

Insights from visitor research over the past four years have indicated an interest or preference in exploring on their own but with "semi-guided" experiences.

With the trend of mobile device applications and Quick-Read codes as options to connect with others in sharing their experience at the Arboretum, there is a demand for more visitor-friendly and mobile-accessible tour information. While the Arboretum offers one and two-
hour tour brochures as well as guided walks and tram tours, there is increased demand by families or groups of friends, for more ‘experience itineraries’ that are categorized by physical activity and in the form of particular trails or routes, specific gardens or places, and special interests. The role that way-finding and informational and interpretive signage is extremely important for these self-guided visits.

**Metropolitan Growth**

The west metro area continues to see population growth and increased development, even as other areas in the Twin Cities experience decline. A nearby community, Eden Prairie, was again cited by Money Magazine as the third most livable community in the United States, with the close proximity of the Arboretum as a competitive advantage. As formerly agricultural land is converted to housing, manufacturing or retail usage, the presence of the Arboretum and its natural woodlands and garden features serve as an in-town escape from stress and respite for renewal and re-energizing.

Development opportunities are planned to ensure future visitors and members have access to connect with nature and experience an active lifestyle. Projects encourage an interest in wellness and support the fresh, locally grown foods movement.

**Responsible use of financial resources**

Donor support while strong continues to be increasingly challenging in an uncertain economy. As friends and benefactors experience economic pressures, giving is often reduced or prioritized to a few primary interests. Arboretum membership, while increasing in revenue for the last three years fell short by 3% of double-digit financial targets established for FY 2011.

**Continued on-site research**

Horticultural research and plant introductions and discovery support the University of Minnesota initiatives of research. Ongoing research is expected to continue while new Arboretum research programs will focus on woody plant breeding and conservation of rare and threatened plants in the upper Midwest.

Current and future research sites will likely be at the HRC or within the Arboretum tree and shrub collections around the 3-Mile Drive. These areas have existing roads which could use improvement but are beyond the scope of this plan.

Conservation research could take place in native forests and wetlands anywhere at the Arboretum. Most of these projects would not be accessible to the public but as we build up populations of rare, threatened and endangered plants we would introduce these plants into accessible areas such as the Woodland Wildflower Garden, Bennet-Johnson Prairie and Spring Peeper Meadow.

**Events**

Events, exhibits and related programming are designed to engage visitors in nature and the outdoors, typically paired with seasonal themes such as spring blooms, summer gardens, fall color, winter trails (hiking, snowshoe and cross-country skiing) and holiday celebration and memories. A variety of displays are featured in indoor art galleries, designated spaces and the Andersen Horticultural Library.

**Recent Improvements**

This section provides a summary of projects that have been completed since the 1998 Master Plan.

**Learning Center Building Expansion**

The Marion Andrus Learning Center provides space to fulfill the Arboretum’s ongoing mission to educate and entertain Minnesota’s families. Recent
improvements to this facility include three new classrooms, a greenhouse expansion, a new teacher resource room, the harvest kitchen.

Ensuring activities directed toward children, the learning center also added model schoolyard gardens, a nature play area and a green play yard.

Oswald Visitor Center
Completed in 2005, the visitor center provides a new formal entry and first stop for guests of the Arboretum. The Great Hall includes a reception desk and information kiosks for orientation.

Additional features include an expanded gift store, a cafeteria-style restaurant, a 375 seat auditorium, an art gallery and two classrooms. The visitor center is connected by an enclosed skyway to the historic Snyder building.

Snyder Building
Named for the Arboretum’s first director, Leon C. Snyder, the facility first opened in 1974.

Recent improvements have focused on protecting and restoring the exterior building envelope. Exterior doors and windows have been replaced with energy efficient solutions. The roof was replaced, improving insulation and ventilation.

Inside the building, the elevator was modernized to meet state codes and a craftroom was redesigned for additional office space.

Gardens and Collections
One of the Arboretum’s newest gardens is the Maze Garden. This collection of over 1600 shrub specimens, contains 11 genera and 14 species and cultivars and is nestled into the pine collection across from the lindens.

The Johanna Frerichs Garden for Wildlife is a working laboratory designed to demonstrate the most effective ways to attract birds, insects, mammals to the backyard by providing food, shelter, and a reproductive habitat.

Model lakeshore restoration projects showcase efforts to protect water quality through the reintroduction of native plant species.

Land Acquisitions
Focusing on maintaining a quality environment and preserving critical bio-habitat while providing room for growth, the Arboretum has made substantial progress towards acquiring control of the lands within Highway 5, Highway 41, W. 82nd Street and Bavaria Road. At the time of the 1998 Master Plan, the Arboretum encompassed 920 acres. Today, the arboretum controls 1157 acres, an increase in land area of more than 25%.

Circulation and Parking
- Rain Garden Parking Lots
- Run-off Model Parking Lots
- New Bog Boardwalk and Wildlife Viewing Platform
- Completed Several Sections of Pedestrian Pathways
- Sorbus Hill Pathways and Steps
- New Roads and Sidewalks to Learning Center

Site Utility Improvements
- City Water Loop Installation
- Upgraded Utility Installations
- Geothermal Well Field Installation

Monument Signage and Landscaping
Located at the Highway 41 and Arboretum Boulevard (Hwy 5) intersection, a new grand entry sign now greets visitors and increases of the Arboretum to all passers by.
Facilities

Oswald Visitor Center
Dahlberg Welcoming Terrace
Keating Terrace
Newton Dining Terrace
Sweatt Entry Terrace
Wall Teaching Garden and Classrooms
Wright Terrace Gardens
Garden for Wildlife
Restaurant
Gift Shop
Restrooms
Reception Desk and Information Center
Special Exhibits
375 Seat MacMillan Auditorium
Wall Education Wing
Reddy Gallery Art Exhibit
Snyder Building
Meeting, Reception & Conference
Anderson Horticultural Library
Meyers –Deats Conservatory
Office and Administration Building
Marion Andrus Learning Center
Sally Pegues Oswald - A Growing Place For Kids
Berens Cabin
Red Barn
Frog Hollow
Syrup Evaporator House
Margot Picnic Shelters and Ordway Picnic Shelter
Horticultural Research Center
Apple House / Summer House
Greenhouse
Lath Structure

Display & Specialty Gardens

Annual Garden
Dahlias Trial Garden
Daylily and Chrysanthemum Walk
Dwarf Conifer Collection and Waterfall Garden
Entrance Garden
Fern Walk
Green Roof
Hedge Collection
Home Demonstration Gardens
Hosta Glade
Iris Garden
Japanese Garden
Lilac Collection and Garden
Lily and Dahlia Collection
Maze Garden
Ornamental Grass Collection
Peony Walk
Perennial Garden
Rain Gardens
Rose Gardens
Sensory Garden
Shade Tree Exhibit
Terrace Garden
Woodland-Azalea Garden
Bruinink Viewing Area
Edible Pathway (Jaffray)
Pine Walk
Bickson Walk

Native Areas

The Prairie
Spring Peeper Meadow
The Bog Area
Wildflower Garden

Shrubs

Azalea Collection
Shrub Walk
Hydrangea Collection
Lilac Collection
Miscellaneous Shrub Collection
Pea Shrub Collection
Potentilla Collection
Rhododendron Garden
Spirea Collection
Viburnum Collection
Weigela Collection

Programs & Activities

Final Walk at Green Heron Trail
Guided Walks and Tours
Sculptural Exhibits
Yoga in the Garden
Bush Break 5K
Gala Dinner
Toast and Taste
One Roofing
School Programs
Education Programs

Research and Development

Fruit Breeding
Woody Landscape Plant Breeding and Genetics
Wetland Restoration
Prairie Restoration
Bee and Native Pollinator Research
Native Plant Conservation
Cold Storage Seed Bank

Existing Facilities, Exhibits, Displays and Collections

Fall 2012
Section 2 OVERVIEW
University of Minnesota Landscape Arboretum

Site Analysis

The following illustrations highlight the existing features of the Minnesota Landscape Arboretum related to vehicular circulation, parking, pedestrian and bicycle circulation and areas for growth.

The illustrations present information gathered through field observations, site surveys, review of current studies and previous site mapping. Both natural and built aspects were located and studied including roadways, parking areas, structures, exhibits and gardens, pathways and trails, topography, hydrology and storm water, view and vistas, micro climate, soils, sustainability and resource management practices.

Vehicular Circulation

Vehicular traffic provides the primary means of transportation for the majority of visits to the arboretum. While opportunities for pedestrian and bicycles are improving, these options are unlikely to have a substantial impact on the need for additional parking to accommodate growth. The nearest public transit stop, operated by Southwest Transit, is located at the intersection of Highway 41 and W 82nd Street.

Defining the Arboretum’s Northern and Eastern edges, Highway 5 (Arboretum Boulevard) and Highway 41 provide primary circulation around the Arboretum property. Addressing capacity and safety concerns, Highway 5 was recently improved by MnDOT. A 4 mile stretch of road from Highway 41 to Victoria was resurfaced while new turn lanes were installed and a new underpass at Minnewashta Parkway, connecting to the Arboretum was completed.

W. 82nd Street, bordering much of the Southern edge of Arboretum, has been identified for a future extension of County Road 18. This project would build out the road infrastructure along full length of the Arboretum property. The approximate alignment of County Road 18 is identified on the following diagrams. Road improvements in this area are expected to facilitate access to the Red Barn / Farm Garden site.

Pedestrian and Bicycle Circulation

Pedestrian and bicycle access to the arboretum is improving. As demand for alternative means of transportation has increased among visitors and in the surrounding communities. The recent completion of a non-motorized transportation underpass at Minnewashta Parkway and Highway 5 is the first stage in connecting proposed regional trails across the arboretum grounds. Future trails are planned to provide safe access west of Minnewasta Parkway to Victoria and beyond while another link in the trail network is planned to connect to the arboretum at a Highway 41 underpass and travel east to Eden Prairie. An existing trail through Chaska meets the arboretum near Spring Peeper Meadow.

Key Constraints and Opportunities:

- Heavy congestion at the main visitor entry and traffic conflict with Highway 5.
- Limited pedestrian and bicycle access.
- Insufficient event parking.
- Congestion along Three Mile Drive.
- Limited access to features and growth areas beyond Three Mile Drive.
- Inadequate maintenance facilities.
**Vehicular Circulation and Parking - Existing**

**Parking Inventory**

- **Total**: 792

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Pedestrian and Bicycle Circulation - Existing
Frame

University of Minnesota Landscape Arboretum

About this Section
This section describes the Circulation and Development Framework's overall organizational structure. Key infrastructure investments and development opportunities are identified to facilitate decision making and fund raising efforts. The Framework section is divided into themes of Circulation Improvements and Development Opportunities.

Topics in this section include the following:
• East Gateway and Parking
• West Gateway and Linkage Roadway
• Eastern Drive
• Woodland Performance Center and Gardens
• Tree Top Canopy Walk
• Chinese Garden
• The Farm Garden
• Bee Discovery Center
• Sculpture Garden
• Meyers-Deats Conservatory Expansion
• Maintenance Area

Summary
The public gardens and research facilities at the Landscape Arboretum are a statewide resource and national attraction designed to inspire ideas for visitors. With 32 display and specialty gardens, 48 plant collections and more than 5,000 plant species and varieties, the Arboretum has become one of the premier horticultural field laboratories and public display areas in the country. From its interactive displays of Minnesota's natural environment to the scores of plant labels designed to allow visitors to replicate favorite gardens at home, the Arboretum is a kinetic wellspring of education, research and inspiration.

This study identifies a number of new experiential development opportunities within the Arboretum that have the potential to increase visitation and generate new revenue. They are intended to create new and exciting outdoor spaces that build upon the Arboretum's vision to decentralize its venues and to be a world class destination.

There are eight primary development opportunities identified as priorities for implementation and expansion which have the potential to be constructed within the relatively near future. These are illustrated through conceptual diagrams, precedent imagery and preliminary programmatic lists.

Additional development opportunities identified for future consideration include the Snyder Building update, Garden Structures Rebuild, Learning Center Landscape, Sorbus Trail Steps and Landscaping, Circulation Rest Stops along Three Mile Drive, Safety and Security Fencing and Technology Improvements.
The Arboretum Foundation Board of Trustees voted in December of 2011 to establish Circulation and Parking improvements as a priority for implementation over the next five years. Improving the capacity to move visitors through the gate and providing sufficient parking during high turnout events are essential first steps to increasing attendance.

Most of the Arboretum’s facilities, exhibits and activities are concentrated around the visitor center and along the three mile drive. The expansion of accessibility by auto, bicycle and pedestrians, in conjunction with the decentralization of venues, allows for flexibility of implementation as funds become available.

A new entrance drive with two points of entry / egress will move more people through the Arboretum in a safer and less confusing manner.

A new 1.9 mile Eastern drive will be added with an adjacent combined walk and bike path. The expanded road network will provide access to the Arboretum’s Eastern property, the Red Barn and Spring Peeper Meadow.
Circulation Improvements

Legend
- Entry Drive
- Three Mile & Service Drives
- Eastern Drive
- Woodchip Pedestrian Paths
- Paved Pedestrian Paths
- New Pedestrian Path
- Parking Lot

Parking Inventory

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<td>Eastern Drive</td>
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Entry Drive, East Gateway, West Gateway, Eastern Drive, Section 3 Framework
The current east entry will be upgraded from Hwy 5 to the East Gate house. This will facilitate a safer vehicular access to the Arboretum with two entry lanes and one exit lane. There will be a designated members only lane with card reader and a new gate house located in the center landscaped island.

There will be a new access road to the parking lots located north of the existing Lilac collection which will remain as a point of focus for visitors. This new road will alleviate traffic congestion, connect visitors to the north side of the parking area and connect the east entry road to the Learning Center and new western entry. It will also allow direct access to the visitor parking lots while still maintaining the current entry drive to accommodate existing drop off at the Visitor Center and Snyder Building as it currently exists.

A new seasonal entry sign and display will be located just to the west of the new eastern entry gate at the intersection created by the new north parking access road and the existing entry drive.

The main parking lot will be expanded to reflect the character of the existing lot. It will be reconfigured to allow guests to walk through the middle of it for easier pedestrian access to the Visitor Center and the exhibits.

Expansion of the rain garden parking will remove the knoll and provide additional parking that is environmentally sensitive. The parking will connect directly with the north parking entry road and the main entry circulation drive.
University of Minnesota Landscape Arboretum

10' bike & walking trail
10' exit lane
21' planted median
10' visitor entry lane one
13' gatehouse
10' visitor entry lane two
10' planted median
14' member lane w/ card reader

East entry gatehouse section

new bypass road to parking
signage and display
member card lane
new gate house
to visitor center

East entry gatehouse plan
The new regional bike trail which enters the Arboretum at the corner of Hwy 5 and Hwy 41 will meander through the property to the east entry gate. From there, the trail will continue west along the new access road and rain garden parking area following the east-west connector road to the west entry, Hwy 5 and the proposed MnDOT bike trail underpass.

Entry will be controlled for events with a gate house and gate structure. The West gate is intended primarily as an exit unless there are major events such as an outdoor performance or wedding or fair at the proposed Woodlands Performance Center.

Resurfacing of the currently deteriorating west connector road to a new west entry gate will provide a means of access/egress from either the east or west, depending upon what activities are programmed by the Arboretum. A raised curb will separate vehicular traffic on the roadway from bike/pedestrian traffic on the bike path.

Overflow parking can be provided in the new west parking areas as well as in unpaved overflow lots when the primary lots are filled and for special program events.

Construction Cost $1,375,000
University of Minnesota Landscape Arboretum

Typical drive/bike/pedestrian trail section

East-west linkage road plan
A new Eastern Drive will connect existing crab apple and shade tree plots, the Red Barn and spring peeper uplands to the main entry drive. Each of these areas could serve as locations for expanding collections and amenities.

This new Eastern Drive will connect existing exhibits from the current core of the Arboretum’s collections with research areas, model landscapes, new gardens and a number of possible development opportunities.

By placing functions away from the current organization of gardens, displays and exhibits, visitors will be able to enjoy a greater variety of experiences, views and activities. The Red Barn, with its separate entrance, may take on a significantly greater function including concessions, rest rooms and programmed activities. There will be additional parking at the Red Barn.

There is a Carver County proposal to upgrade 82nd Street to a Parkway character along the southern periphery of the Arboretum. This may reduce congestion on Hwy 5 and allow for greater access from Hwy 41 to the west.

Construction Cost $850,000
Development Opportunities
University of Minnesota Landscape Arboretum

This plan illustrates possible locations within the Arboretum for the development opportunities that are listed below. A number of these opportunities have multiple locations identified. Since a master plan, by definition, is a flexible and evolving document, the final locations will be decided as part of on-going discussions with staff, sponsors and volunteers.

The pages that follow provide narrative descriptions and graphic representations of development opportunities that have been identified by the Minnesota Landscape Arboretum.
Development Opportunities
The Woodland Performance Center and Gardens is a flexible outdoor venue within the Arboretum on the edge of Wood Duck Pond. It is designed to host events such as music, theater, education, and ceremonies. The facility would also contain gardens and planted terraces. The Center is slated to accommodate seating for 500 people with approximately 270 parking spaces. Future improvements may include a band shell, additional seating, parking, concessions and rest rooms. The performance center will be ADA accessible.

The intent is that the gardens and seating bowl will be nestled into the landscape such that significant, existing trees are saved and storm water management techniques are employed to incorporate sustainable design tenets.

Primary access to the performance center will be from the proposed West Entry. The term entry is used in conjunction with the venue, but access at this controlled intersection is intended to occur only when performance events are planned. Otherwise, it acts primarily as an exit from the east district parking. This new exit for the Arboretum will reduce congestion at the core of the campus.

Site lines, noise reduction, acoustical priorities and sun orientation have been considered in the siting of both public and internal aspects the facility. Pedestrian connections and service to existing roads, walkways and support buildings have been identified that will link the stage area with facilities to the east.
Key Features
- Outdoor Amphitheater with seating for 500+
- Stage for nature-based programming, story telling, presentation and demonstrations, picnics, graduation ceremonies, field trip orientations
- Interpretive signage for visiting public

Performance Area
- Terraced seating for 500+
- Stage
- Steps
- Gardens
  - Terraced gardens
  - Entry plaza gardens
  - Stage gardens
- Scenic backdrop
- Natural setting
- Hillside overlook
- Trails and walkways, with connection to existing Arboretum trails, exhibits, displays & facilities

Facilities
- Restrooms and pavilion
- Concession & maintenance
- Building, pavilion
- Entry kiosk
- Pond overlook pavilion
- Parking
- Service and infrastructure

Possible Events
- Lectures/seminars
- Casual gatherings
- Concerts
- Theater & dance
- Plays
- Musicals
- Weddings
- Leisure/relaxation
- Movie nights
- Seasonal celebrations

Education Audiences
- Adult class participants, especially plein-air programming (e.g. painting, photography)
- Orientation for visiting groups
- Summer day camps
- School field trips

(Note: The Woodland Performance Center will always require an inclement weather backup or alternate rain date.)
A number of very different sites were considered before the Wood Duck Pond location was selected as the most appropriate site at which the Tree Top Canopy Walk might be located. Factors included views, topography, vegetative cover, vehicular and services access, parking, pedestrian walkways, utilities and power, and proximity to ancillary structures.

There are layers of animal life in the forest, and they differ from one layer to another. Tree varieties, too, differ from each other and can be identified via their bark, buds, flowers, leaves, and shapes. From the ground into the canopy, a walkway will feature non-intrusive spaces to study these differences and to observe birds and other animals up close. The pathway will be heated, preventing snow and ice build-up, for year-round visiting. Above the treetops, visitors will have a broad overview of the Arboretum's ecosystems: woodlands, marshes, ponds, prairie, collections and gardens. Visitors will learn concepts like seasonal bird migration, study the evolving forest, and learn to identify trees and other woodland plants. Viewing the forest from ground to treetop will give visitors a unique perspective on the Arboretum, its changes throughout the year, and the varied, fascinating ways plants and animals have adapted to living at different elevations.
Key Features
- Habitat-sensitive, non-intrusive bird blinds, listening devices, feeder stations, binocular stations
- Space for camera tripods and easels
- Heated pathway
- Side platforms for groups
- Interpretive signage on history, biomes, plants, animals for all visitors

Education Audiences
- Adult education classes
- Children’s camps and field trips
- Birders
- Painters
- Photographers

Facilities
- Canopy walkways
- Elevated steel platforms
- Rope netting play area suspended 50’ above ground between trees and platforms
- Birds nest interpretive area
- Interpretive panels
- Story of tree and wildlife in the canopy
- Arboretum overlook projecting out from the canopy with views of the arboretum and regional lake
- Gateway/entry pavilion
- Pathways and trails linking the arboretum trail network
- Restrooms
- Concessions
- Interpretive opportunities

Sustainable Design
- Sustainable/recycled materials
- Tree protection/engineering
- Lightweight structure
- Prefabricated and moveable structure

Events/Activities
- Education
- Formal and informal learning
- Field trips
- Guided tours
- Recreational opportunities (play areas)
- Photography
- Resting place
- Rental Venue
The Chinese Garden will be a respite, a refuge, respectful of the balance between man and nature and responsive to the landscape, view, and vistas that will define it. In a Chinese Garden there are many subtleties, but the five primary representative components include architecture, plants, stone, water, and art and literature. A truly successful garden will never give the appearance of having been structured.

The Chinese Garden will attempt to imitate nature in a manner that avoids all strict geometrical layouts that would remind us of man’s ordering hand. Rather, characteristics of freedom and irregularity will take precedence.

As one passes through the traditional Chinese entry pavilion, into the courtyard, through a moon gate and into a gallery visitors will experience landscape through twisting pathways leading to a Reception Pavilion. Guests to the Chinese Garden will encounter a journey into a culture most non-Asians can only imagine.

The Chinese Garden interprets the transition from the outside world to a tranquil and harmonious environment. The garden becomes a sequence of sensory qualities as we move from veranda to walking gallery to pavilion to courtyards. The aspect of space based upon solidness and voidness or Yin’ Yang.

There is an elegance and simplicity, a subtlety as we celebrate our four seasons, experience the integration of site and structure, appreciate intimate views and long borrowed vistas, contemplate art and enjoy the serenity of the central lake with its sacred rocks.
**Educational Programming**
- Opportunities to learn about Chinese approaches to art, gardening, medicine (with many healing plants), cooking, literature, and other nature-inspired cultural issues
- Interpretive signage for visiting public
- Opportunities for children to learn about the elements of a traditional Chinese garden and what they signify: architecture, plants, stone, water, and the arts and literature
- Opportunities for art-education programming in collaboration with the Minneapolis Institute of Arts and its Chinese collections curator

**Education Audiences**
- Adult/youth art education class participants
- Art practitioners, students and patrons
- Children’s field trips

**Structures**
- Reception pavilion
- Gateways structure
- Covered walkways
- Pavilions
- Teahouse
- Food service
- Scholars house
- Garden wall
- Bridges

**Landscape**
- Trees, shrubs, and perennials
- Sculptural Rock
- Art/Scuplture
- Stream
- Waterfall
- Decorative paving
- Courtyards
- Fish pond
- Lake
- Stone paths
- Gravel paths
- Parking, concessions and restroom facilities

**Events**
- Traditional ceremonies
- Meetings
- Lectures, seminars & educational sessions
- Guided walks/tours
- Chinese gardening classes
- Weddings/receptions
- School trips
- Cooking and writing classes
- Fund raising events
- Seasonal celebrations
The Red Barn represents an important component of the rural Minnesota homestead and is an iconic structure on the University of Minnesota Arboretum’s property. It can become a 21st century hub around which future interactive exhibits and experiential opportunities occur.

It is imagined that this updated existing facility and new eco-friendly facilities will demonstrate the latest in green building technology, sustainable landscaping and horticulture, modern farming techniques and interactive gardens showcasing residential and urban food production. As a venue, the traditional farmstead can become a Suburban Ecology Center with displays and exhibits for the 21st century.

Teaching classrooms, inside and out, conference facilities, rest rooms and concessions can make this a vibrant and freestanding facility able to be used year round as a jumping off point for visitors, school groups and tours. An interpretive kiosk at the top of the hill near the parking area and entrance will provide an overview of the mission of The Red Barn as well as showcase current events.

The Farm Garden
People, Plants, and Quality of Life
Facilities
- A living farm, a sustainable agricultural center, a retail nursery, and a multi-functional/rental facility. Parking, concessions, and restrooms will be needed at this site.
- Barn Store
  - Fresh produce
  - Honey and wax products
  - Flowers and flower arrangements
  - Gifts, books and souvenirs
  - Gardening equipment and tools
  - Sandwiches, salads, snacks and beverages
  - Restrooms
- Meeting space, event space, outdoor classroom, adventure playground
- Farm house
- Ecological principles of sustainable living
  - Alternative power sources, solar, wind, geothermal
  - Green building materials
  - Residential composting
  - Water conservation
  - Recycling
  - Water treatment
  - Free range chickens
  - Honey production

Parking/Access and Infrastructure
- 100 space minimum capacity

Demonstration Gardens
- Vegetables and fruit crops suitable for residential and urban gardening
- Perennials and annuals for cutting and display

Events
- Planting and harvesting crops
- Seasonal holidays and celebrations
- Educational sessions
- School field trips
- Corporate events, team building
- Cooking demonstrations and classes
- Weddings and receptions
- Gardens and facility tours
- Educational sessions on gardening

Bee Discovery Center
- Nature based therapy

Section 3 FRAMEWORK
The Arboretum's Farm Garden project will realize a vision, long dreamed of, to put all the Arboretum elements together into a unique facility: research station, education programs, seasonal beauty, horticultural training, foods for good health, animal husbandry, creative opportunities, and a wide variety of nature-based therapies. In addition, all programming components for specific audiences, all features will include interpretive signage for the visiting public.

**Key Features**

- Research demonstration plantings
- Annual and perennial food production gardens & demonstration areas, with emerging plant production techniques
- Indoor/outdoor kitchen teaching facility
- Food preservation center
- Animal barn for urban/suburban animal husbandry and nature-based therapy
- Creativity space for art and interpretation
- Bee center – apiary with pollinator gardens
- Dog trail
- Staff space for maintenance and research

The Farm Garden will feature large-scale plantings that demonstrate best practices, latest growing techniques, and healthy food preparation and conservation. Top photo of Longwood Gardens by Sandy Tanck. Left, produce and photo by Tim Kenny.
RESEARCH DEMONSTRATION PLANTINGS | apples, grapes, prunes and small fruits

THE UNIVERSITY OF MINNESOTA Horticultural Research Station at the Arboretum has introduced many well-known fruit-bearing plants for Minnesota. The farm garden will showcase a living exhibit – a ‘Hall of Fame’ for these plants. From doctoral students and elementary students to casual visitors, everyone will have the chance to watch food growing through all seasons of the life cycle, gain new skills in food production techniques, enjoy samplings of fruit as each cultivar ripens, and understand more deeply the connection between plants, place, and ourselves.

Each grouping of fruit-bearing plant will have interpretive signage that includes yield per tree, diseases and insects, spacing, hardiness, and vigor. The site will be easy to access on foot from a classroom and include space to gather around the plants for hands-on instruction.

Key Features
A four-seasons, living laboratory of fruit producing plants, to see in one visit, at one place. Plant collections and interpretive signage demonstrate locally grown-and-harvested concept.

Education Audiences
- Adult students, all visitors
This State-of-the-Art Garden will integrate educational and horticultural programming into a public demonstration site, giving Arboretum gardening staff the opportunity to demonstrate their considerable skills and the most up-to-date practices for growing food in a small, local setting.

Participants in gardener-apprentice programs will have the chance to work side by side with staff and learn to mix soil, water, wash pots, harvest, process, care for plants, fix lunch from the garden, take produce home. This garden will also enable nature-based therapeutic staff to offer similar hands-on programs to various client groups seeking therapeutic and vocational rehabilitation.

This garden will be large enough to plant and harvest significant quantities of produce, teach a wide range of planting methods, and cater to specific interests like growing hops and brewing beer. Numerous social service agencies have expressed interest in partnering with the Arboretum on this garden.

**Key Features**
- Demonstrates best practices to grow food plants at home/community/school/business; seed-saving as history
- Best plants to grow in Minnesota

**Education Audiences**
- Nature-based therapy programs
- Work-rehab participants
- Gardener apprentices
- All visitors

University of Minnesota Landscape Arboretum

The Farm Garden

**Food Production Garden | best growing practices and demonstration area**
ONE DOESN'T NEED a large yard to grow food. Many new state-of-the-art devices exist to help people grow food plants in all manner of small spaces. Vegetables and fruits alike can be grown in urban settings so that neighbors and passers-by don’t even notice the utilitarian nature of the plantings. Small plots, pots, walls and balconies can be beautiful and well designed as well as functional.

This section of the food production garden will feature the latest in vertical walls, moveable planters, pop-up gardens, edible fencing, grow-bags and the like and demonstration best places and practices for using them at home or in a community setting. Small-space, season-extending, high-tunnel models will also be used and displayed.

**Key Features**
- Vertical walls
- Moveable planters
- Pop-up gardens
- Edible fences/lines
- Gro-bags and the like
- Interpretive signage

**Education Audiences**
- Horticulture and custom classes
- All visitors
THE NEW INDOOR-OUTDOOR teaching kitchen will give Arboretum staff the ability to grow, prepare, serve and preserve food in the same location on Arboretum grounds. Targeted for a site near the beloved old Red Barn, staff will be able to harvest food and prepare it for visitors the same day. You just can’t get it fresher than that!

From cooking classes to corporate team-building events, guests will have the opportunity to make wine, prepare a harvest meal and learn the science behind the healthful benefits of plants. Arboretum staff can offer samples of fresh, locally grown food at a tomato festival, corn feed, grape stomp or fall beer fest.

The kitchen will be accessible to cars, wheelchairs, pedestrians and schoolbuses. It will operate year-round, seat 50 adults easily and offer clear views of the demonstration gardens. The indoor and outdoor facilities will make it possible to bake, braise or barbecue the freshest produce according to the season.

**Key Features**
- Commercial-grade stoves and dishwashers
- Canning equipment
- Composting system
- Dining/demonstration/teaching/outdoor cooking areas

**Education Audiences**
- Adult class participants
- Corporate groups
- Visitors to events
- Beekeepers
AN INCUBATOR KITCHEN is a licensed, commercial grade facility that individuals and groups can rent to develop a food product that will meet official food safety standards. Small-scale entrepreneurs can gain access to spaces and equipment not otherwise available; local bee keepers in particular will benefit from the honey extractor. Families will be able to celebrate a commemorative event by preserving generous quantities of fresh fruits or vegetables, facilitated by an expert.

In addition, the Arboretum will use this facility to develop its own honey retail sales operation, similar to the existing maple syrup and fruit preserves production facility. This operation offers educational programs in addition to sales of Arboretum-grown and -produced food products. Further, participants in the Urban Garden Youth Employment program can develop new food product ideas in a dedicated facility that is connected to gardens and classrooms.

**Key Features**
- Access to the commercial kitchen
- Food preservation area with honey extractor
- Conveyor belt for food production

**Education Audiences**
- Small-scale and start-up food producers: caterers, growers, manufacturers
- CityFresh program participants
- Honeybee keepers
- Adult class participants
THERAPISTS AROUND THE WORLD are observing profound benefits for patients who interact with animals in a guided setting – including the Arboretum’s Nature-Based Therapeutics (NBT) staff. Taking advantage of our expansive acreage, our NBT staff plan to incorporate animals as “co-therapists” into therapeutic programming at the proposed farm garden at the Arboretum. The animal barn will be in close proximity to the gardens and kitchen, where it makes sense to include it – horses, chickens, dogs and cats belong on a farm! These animals will, of course, be highly trained to interact with people, especially with the sensitive individuals and groups who are clients of the Arboretum’s NBT programs.

**Key Features**

- Animal barn to house an assortment of horses, chickens, rabbits, dogs and cats

**Education Audiences**

1) Nature-Based Therapeutics for patient groups with a wide range of issues, including:

- Veterans and others with PTSD
- Parkinson’s and other disabilities
- Mental health issues
- Occupational and vocational rehabilitation

2) Professionals seeking training in NBT
DOG OWNERS REPORT that concern for their animal’s health gets them out for at least one vigorous walk a day – in other words, the human-animal bond promotes healthful exercise for all concerned! This designated trail addresses a long hoped-for desire on the part of members who are dog owners.

**Key Features**
- For-members-only trail will require a canine membership in the Arboretum

**Audience**
- Member visitors with a member dog
THE ARBORETUM OFFERS a near-perfect setting for anyone interested in creative activity inspired by nature. The Arboretum is not an art center, but it offers a natural attraction to anyone who seeks inspiration and instruction. Further, creative inspiration is often a pathway to advocacy and conservation. The Arboretum has excellent exhibit spaces, but lacks dedicated creative space for adults. In the new facility, photographers, painters, potters, papermakers, writers, and anyone engaged in occupational or vocational therapy will have a dedicated working space for learning and creating, with a water source for a range of media, and ready in-and-out access to gardens and trails through the grounds. The creativity space will connect to the kitchen-demonstration area and make it easier for Nature Based Therapeutics clients and adult education participants – including a large group of amateur photographers – to take classes and easily complete their creative projects.

Key Features
- Studio space to accommodate 30 adults at once
- Expansive, durable work surfaces
- Easy access to a water source and to gardens and grounds

Education Audiences
- Nature-Based Therapeutics clients and contract groups
- Participants in adult education programs
THE FARM GARDEN will not only offer a new site for horticultural research and educational opportunities, but it will also be a state-of-the-art green building that will incorporate the latest energy-conservation, environmentally friendly technology. To develop this building, we will look to the Phipps Conservatory Center for Sustainable Landscapes as a model. In addition to its programming components, our new green building will include:

- Reception area
- Offices for NBT, Adult Ed, beekeepers, head gardener
- Communal work space for up to 6 staff
- Conference room for 10 people
- First aid-respite-adult-care room
- A desk and room for cleaning supplies and storage
- 200 sq.-ft. apartment for overnight animal care, instructor-in-residence, security for special vents
- Work stations for researchers
- Dedicated maintenance building for larger storage and maintenance needs.

**Key Features**
- Indoor-outdoor kitchen
- Incubator kitchen
- Bee center
- Classrooms
- Creativity space
- Interpretive center
- Research area
- Maintenance facilities

**Essential Components of the New Green Farm Garden Project Building**

- Natural day lighting
- Natural ventilation
- Passive solar energy
- Geothermal heating and cooling
- Green roof
- Sustainable building materials
- Building management system
- Permeable paving
- Sustainable landscaping
- Rain gardens and bioswales
- Rainwater harvesting
- Integrative design process
The Bee Discovery Center at the Minnesota Landscape Arboretum will be a unique bee exploration experience. It will function like a beehive, efficiently combining research and public educational space to showcase the importance of bees to agriculture and human nutrition, health, and food safety.

Visitors will be invited into a unique destination, the Discovery Center, which will have great potential for capacity building, increasing the university’s reputation as a leader in environmental and agricultural research and education. This will be an exciting new public attraction, providing a portal to explore the tangible benefits of university research.

The Discovery area will include informative exhibits on current research projects. The range of exhibit topics will include:

- Human health benefits derived from bees and bee products (honey, propolis, venom)
- Biology of the fascinating social behaviors of bees
- Ecosystem services provided by bees as key pollinators of our fruits, vegetables, and flowers
- Cultural importance of bees throughout the world and history
- Bees as a portal to sustainable stewardship of our environment

In addition, the Discovery area will be a place for the public to safely experience bees and beekeeping and to appreciate the importance of bee welfare. The Center will contain a large viewing window where school and public tours can view seasonal demonstrations of how honey is harvested and extracted in a food grade facility.

The Center surroundings will be artfully landscaped with bee-pollinated trees, flowers, and gardens. The Center will help our environment. Landscape design will teach how everyone can help to improve habitat and promote bee health and diversity.

The new Bee Discovery Center will be a unique bee-centered experience, connecting research with a public educational space.
Key Features
- Apiary
- Pollinator gardens
- Interpretive center
- Classroom for 40
- Research area

Education Audiences
- Beekeepers
- Honey-making entrepreneurs
- Food producers
- Horticulture class participants
- Visitors interested in the role of bees in horticulture and gardening

Facilities
- Plant breeding exhibits/research plots
- Bee/honey research and display
- Shelters/teaching pavilions
- Trails and circulation system
- Interpretive opportunities
- Study stations
- Fruit trees
- Butterflies
- Birds
- Flowers
- Rest rooms
- Parking and service
- Hummingbirds

Events
- University Classes
- School Field Trips
- Education Seminars
- Guided Tours
- Photography
- Nature Watching
- Research
- Classes and Seminars
- Harvesting
Section 3 FRAMEWORK
Too often art is imagined as a piece unto itself, when the reality is that the environment in which it is situated often plays a significant role in how a particular piece is perceived. It is not enough to simply place a piece of sculpture into the landscape, but rather one must take into account the artist’s thought process in its creation as well as how it was imagined to be displayed.

Does it require a contained space? Should there be vistas beyond it? Does it want to have solid backdrop? Does it want it be viewed through a thicket of woods or be the focal point within a grove of trees? Does it want to sit in a meadow or woodland? Does it deserve to become a point of focus or does it want to be part of a grouping?

A garden designed specifically to house and showcase a collection of art deserves special care and attention from the manner in which it is sited and exhibited to the ongoing need to maintain a piece properly.

The design of a sculpture garden in itself, deserves to be thought of as a work of art, which requires sensitivity to landscape, engineering, orientation, views, lighting, spatial organization and attention to detail.

Open Spring 2013
Educational Programming
- Media and performance programs highlighting relationship of nature and art
- Sculpture “crawl”
- Plein-air painting and drawing classes
- Photography classes
- Curator- and/or docent-led tours of
- Artist visit lectures/presentations on the art and their relationship to nature
- Demonstrations of sculpture technique
- Sculpture-inspired classes in creative and meditative movement and yoga
- Interpretive signage for visiting public

Education Audiences
- Adult and Youth art education program participants
- Corporate and family custom groups
- University of Minnesota community (students, faculty, staff)

Facilities
- Permanent art collections
- Open lawns
- Flower gardens
- Pathway for circulation and viewing
- Seating

Parking/Access (vehicular, service, emergency) and Infrastructure.

Events
- Tours, guided and virtual
- Corporate and private rentals
- Weddings/receptions
- Artist in residence
- Lectures & classes
- Parties/cocktail hours/wine tasting
- Photography
- Fund raising events
- Workshops
- Music

Future Landscaping
The Meyers-Deats Conservatory inspires, facilitates, promotes and engages visitors with an understanding and appreciation of plants, their diversity and the pivotal role they serve in the environments where they are found. The expansion of the Meyers-Deats Conservatory will revitalize the use of the adjacent Snyder Building.

A new Conservatory would be built and would offer a desert climate, alpine climate and tropical rainforest climate. The expanded conservatory would offer year-round attractions and would be used for education programs, weddings and private rentals.

The Conservatory and its collections within would serve as an interactive and multi-sensory museum containing a large diversity of live specimens. The plants in the Conservatory would be displayed in a well designed, visually pleasing manner to promote learning, interest in plants, and awareness of the need for conservation of the world’s rare and endangered plant species. Living plant collections provide opportunities for plant biology teaching and research.
Section 3 FRAMEWORK
Maintenance Facility | development opportunity
The Landscape Arboretum maintenance and plant growth facilities have not expanded to match the growth in areas maintained, number of staff and expanded programs. Much valuable equipment is stored outside and staff offices, lunchroom and meeting space are sub-standard, crowded and deficient in almost every respect.

Infrastructure upgrades are necessary to support staff, equipment and activities, including office space, greenhouses, storage and parking.

A new greenhouse is needed to grow plants that are part of the Center for Plant Conservation, new Arboretum woody plant breeding program, and plants for the newly designated National Pine and Ornamental Grass Collections.

Two unheated metal farm buildings are needed to store equipment and a modern office/lunchroom building is needed to house garden and plant collection staff.
Snyder Building Update
University of Minnesota Landscape Arboretum

The iconic Snyder Building is a valuable and visible building at the Landscape Arboretum. With Arboretum annual attendance of over 340,000 architectural, mechanical and life safety improvements are essential. The Snyder Building houses the U of M Andersen Horticultural Library Special Collection and additional security and environmental temperature and humidity controls are essential. This project will complete accessibility improvements by remodeling restrooms and adding an elevator in library; improve security and energy efficiency by replacing windows, upgrading heating and cooling equipment and replacing incandescent lighting; improve safety by connecting to city water and installing fire sprinklers and provide needed office space by renovating the Craft Room. Critical priorities include restrooms, pavers, furniture and office space within the craft room.

Snyder Building Renovation Costs

- Restroom remodel for ADA
- Office Space in Craft Room
- Furniture
- IT upgrades in Fireplace Room, Tearoom and Auditorium
- Replace floor coverings and window shades
- Replace Windows
- City Water and Fire Sprinklers
- Lighting and HVAC Upgrades

Total $4,000,000

construction and endowment cost | $4 million
Garden Structures Rebuild
University of Minnesota Landscape Arboretum

Some of the Arboretum’s timber frame buildings and garden structures were designed by famed architect Edwin Lundie and were built in the 1960’s. Many other trellises, arbors, fences, decks and water features are over 25 years old. Repairs and renovations will include replacing rotted wood, setting posts above the ground on steel and concrete footings and waterproofing waterfalls and ponds. This is an on-going project that will require regular inspections, scheduled repairs and rebuilding of all types of garden structures.

Garden Structure Renovation Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace rotted timbers in Wilson Rose Garden trellis</td>
<td>150,000</td>
</tr>
<tr>
<td>Replace wood steps and pavement in Home Demonstration Garden</td>
<td>75,000</td>
</tr>
<tr>
<td>Repair and replace garden edging</td>
<td>30,000</td>
</tr>
<tr>
<td>Rebuild wood deck in Pillsbury Shade Tree Exhibit</td>
<td>50,000</td>
</tr>
<tr>
<td>Replace pavement and brick edging in display gardens</td>
<td>245,000</td>
</tr>
<tr>
<td>Complete historic reconstruction of Ordway Shelter</td>
<td>25,000</td>
</tr>
<tr>
<td>Re-set and repair bluestone terraces</td>
<td>125,000</td>
</tr>
<tr>
<td>Waterproof and upgrade water features</td>
<td>100,000</td>
</tr>
<tr>
<td>Replace low voltage lighting in gardens and walkways</td>
<td></td>
</tr>
</tbody>
</table>

Total $1,000,000
The Learning Center Landscape is a place for visitors to learn about gardening and plant science with hands-on workshops. It also a place where visitors can stroll the learning grounds and enjoy the gardens. The landscape surrounding the Learning Center expands the education workspace of the building, allowing educational and social activities to flow from the indoors to the outdoors, as well as providing a scenic overlook for all types of events. The Arboretum’s Learning Center features a “please-touch” greenhouse, weekend family fun programs, children’s day camps and adventures, adult gardening school, cooking classes, botanical arts retreats and more.

Expansion plans include the planting of shade trees and a shade shelter on the south side of the building for children to gather out of the hot sun to receive gardening instructions, take a break from the sun and perhaps to cook on a grill.

Learning Center Landscape
University of Minnesota Landscape Arboretum

cost | $500,000

Section 3 FRAMEWORK
The granite steps and accessible paved walk on the Sorbus Hill were installed in 2008 to provide a pleasant walk from the Visitor Center and central display gardens to the Shrub Rose Garden, Maze Garden and other gardens and plant collections along the southern part of the Three Mile Drive. The complete vision for this area includes planting additional mountain ash trees, hundreds of Northern Lights Azaleas and large drifts of spring bulbs. The bulbs and azaleas will provide a spectacular display in spring and the colored fruit on the Mountain Ash will be beautifully displayed against the yellow and orange leaves of the native sugar maples surrounding the hillside.
An increasing number of visitors are regular walkers on the Arboretum's pedestrian pathways and the Three Mile Drive. Drinking fountains, benches and sheltered structures are needed at several locations along the furthest reaches of the pathway and road so that water is available on warm days and visitors may extend their explorations of the Arboretum gardens, plant collections and restored native plant communities.

**Circulation Rest Stops Along Three Mile Drive**

*University of Minnesota Landscape Arboretum*

Cost | $300,000
By 2013 the Arboretum Sculpture Collection will have grown to over 40 works of art with a value of several million dollars. The Arboretum is also seeking sponsors for visiting artistic exhibitions that could include works by Chihuly, Henry Moore or other prominent artists. The population in the surrounding communities is rapidly growing and there are likely to be more unauthorized people entering the Arboretum through parts of the outer perimeter. Valuable research plant material and tools have been stolen and thefts from vehicles have increased over the past several years. A fence is required to improve security and control access to the Arboretum grounds and research areas.

**Safety and Security Fencing**

*University of Minnesota Landscape Arboretum*

Cost | $1 million
Technology Improvements
University of Minnesota Landscape Arboretum

Smart phones and tablets are commonly used by many Arboretum visitors and interpretation and wayfinding throughout the Arboretum could be greatly improved by extending the wireless network onto the grounds and providing WiFi access to visitors. Webcams could be installed in areas of high seasonal interest including the Flowering Crabapple, Azalea and Tulip collections and apps are available to provide information on plants and programs throughout the Arboretum. New apps can identify plants from a cell phone photo or link to the University of Minnesota Plants Online website.

cost | $500,000
About this Section
This section describes the process for achieving the recommendations and opportunities identified in the Circulation and Development Framework.

Topics in this section include the following:

- Administering the Plan
- Phasing
- Cost Summary

Administering the Plan
Project Development and Approvals
The University maintains a disciplined program for making capital investments and managing its capital resources. Capital Planning and Project Management (CPPM) manages all capital projects, systemwide and regardless of funding source, to ensure compliance with local, state and federal laws, guidelines and regulations.

Capital projects including roads, parking, facilities, trails, exhibits and gardens will be reviewed in consultation with this Framework as well as the 1998 Master Plan.

Project Funding
Projects and contracts with a value of $500,000 or greater must have 100 percent of the funds required to complete the project in the appropriate plant fund; or a signed finance agreement with University Budget and Finance.

Funding for projects will be pursued through a forthcoming Minnesota Landscape Arboretum capital campaign. A task force, organized by the Arboretum in late 2012, will perform an initial review of project proposals to be included in the campaign.

The capital campaign Task Force will apply the following criteria in assessing each proposal:

- Advancement of the Landscape Arboretum Mission
- Capacity of the project to increase attendance and revenue
- Project feasibility
- Fit with the existing Arboretum site, facilities and natural areas
- Creation of new opportunities for expanded education and research

Board of Regents
Campus Master Planning Principles
In 1993, the Board of Regents determined that all campuses of the University of Minnesota should have master plans, and adopted four principles to guide the preparation and implementation of those plans. These principles provide further guidance to master planning initiatives at university field stations, research and outreach centers and all other non-campus sites including the Arboretum.

The regents planning principles are as follows:

1. Create and maintain a distinctive and aspiring vision for the physical development of each campus.
2. Enrich the experience of all who come to campus.
3. Maximize the value of existing physical assets while responding to emerging and changing physical needs.
4. Ensure an inclusive, accountable and timely process for creating and implementing the master plan vision.
Phasing

The development opportunities and circulation improvements described in this framework are assumed to be near-term activities, projected to be completed within the next five years. Certain key projects are identified as priorities to address the most pressing issues today. These improvements, related to parking and circulation, will allow other development opportunities to proceed by increasing the capacity of the arboretum to manage guests and visitors. The remaining development opportunities are intentionally flexible in order and will be pursued individually as capital funding is made available.

The Arboretum Foundation Board of Trustees voted in December 2011 to make Circulation and Parking Improvements the top priority for a future capital campaign. Visitors need to be able to enter the Arboretum safely and efficiently and find a place to park before they can experience the Arboretum’s gardens, grounds, facilities and programs. In addition, proposed new venues including the Woodland Performance Stage and Garden, the Farm Garden and Bee Discovery Center all require access roads, parking and utility infrastructure before they can be developed.

Circulation improvements and projects underway include:
1. East Gateway, Entry Road and Gatehouse
2. Three Mile Drive Rest Stops
3. Bee Discovery Center
4. Maintenance Facilities
5. Snyder Hall Plumbing and Restroom Upgrades.
### University of Minnesota Landscape Arboretum

#### Cost Summary

The following tables identify the costs associated with the development opportunities identified and the costs associated with the development of the circulation master plan. The costs are based on conceptual design and reflect an estimated budget for construction. The estimates are based on precedent projects of similar scale and programming.

<table>
<thead>
<tr>
<th>Circulation and Parking</th>
<th>Development Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Gateway</td>
<td>Woodland Performance Center and Gardens</td>
</tr>
<tr>
<td></td>
<td>TOTAL $375,000</td>
</tr>
<tr>
<td>Main Parking Lot Expansion</td>
<td>Tree Top Canopy Walk</td>
</tr>
<tr>
<td></td>
<td>TOTAL $450,000</td>
</tr>
<tr>
<td>Rain Garden Parking Lot Expansion</td>
<td>Chinese Garden</td>
</tr>
<tr>
<td></td>
<td>TOTAL $125,000</td>
</tr>
<tr>
<td>East West Linkage Road</td>
<td>Bed Barn and Gardens</td>
</tr>
<tr>
<td></td>
<td>TOTAL $500,000</td>
</tr>
<tr>
<td>West Gate Parking</td>
<td>Sculpture Garden</td>
</tr>
<tr>
<td></td>
<td>TOTAL $875,000</td>
</tr>
<tr>
<td>Pedestrian / Bike Trail</td>
<td>Myers-Deats Conservatory Expansion</td>
</tr>
<tr>
<td></td>
<td>TOTAL $250,000</td>
</tr>
<tr>
<td>Eastern Drive</td>
<td>Bee Discovery and Pollinator Center</td>
</tr>
<tr>
<td></td>
<td>TOTAL $850,000</td>
</tr>
<tr>
<td>Circulation and Parking Total</td>
<td>Maintenance Facility</td>
</tr>
<tr>
<td></td>
<td>TOTAL $3,025,000</td>
</tr>
<tr>
<td></td>
<td>Snyder Building Update</td>
</tr>
<tr>
<td></td>
<td>TOTAL $3,000,000</td>
</tr>
<tr>
<td></td>
<td>Garden Structures Rebuild</td>
</tr>
<tr>
<td></td>
<td>TOTAL $4,000,000</td>
</tr>
<tr>
<td></td>
<td>Learning Center Landscaping</td>
</tr>
<tr>
<td></td>
<td>TOTAL $1,000,000</td>
</tr>
<tr>
<td></td>
<td>Bus Stop Landscaping</td>
</tr>
<tr>
<td></td>
<td>TOTAL $800,000</td>
</tr>
<tr>
<td></td>
<td>Circulation Rest Stops Along 3 Mile Drive</td>
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<tr>
<td></td>
<td>TOTAL $300,000</td>
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<tr>
<td></td>
<td>Safety and Security Fencing</td>
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<tr>
<td></td>
<td>TOTAL $1,000,000</td>
</tr>
<tr>
<td></td>
<td>Technology Improvements</td>
</tr>
<tr>
<td></td>
<td>TOTAL $500,000</td>
</tr>
<tr>
<td></td>
<td>Romeo and Juliet Sculpture</td>
</tr>
<tr>
<td></td>
<td>TOTAL $250,000</td>
</tr>
<tr>
<td>Costs include construction and endowment</td>
<td>Development Opportunities Total $44,850,000</td>
</tr>
</tbody>
</table>

Total Estimated Costs: **$48,675,000**
Acknowledgements

University of Minnesota Landscape Arboretum

We would like to gratefully acknowledge the assistance of the following people in the preparation of this document, prepared for the University of Minnesota Landscape Arboretum.

Master Plan Steering Committee
Jon and Susan Campbell
Jim Johnson
Dave Maiser
Jeannine Rivet
Dick Spiegel
Frank Molek
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University of Minnesota CPPM Planning, Space and Architecture
Monique MacKenzie | Director
Ian Baebenroth | Capital Planner

University of Minnesota Landscape Arboretum Staff
Peter Moe | Director of Operations and Research
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Damon Farber | Consultant
Terry Minarik | Senior Associate
Board of Regents Master Plan Policy
(adopted 1993)

• The principle of creating and maintaining a distinctive and aspiring vision for the physical development of each campus;
• The principle of enriching the experience of all who come to the campus;
• The principle of maximizing the value of existing physical assets while responding to emerging/changing physical needs;
• The principle of an inclusive, accountable, and timely process for creating and implementing a master plan vision.
Location Map

Regional Map
Purpose of Master Plan Update

• Express the Arboretum’s unique mission through its physical presence
• Involve the Arboretum community in the update process through discussions, interviews and board input
• Create a flexible plan to guide future development
• Affirm overall goals and objectives of the 1998 Master Plan
• Ensure short term goals fit the long term vision
Guiding Principles

- Maintain the Arboretum’s character and beauty while addressing future program needs and revenue generation
- Provide greater physical access to the Arboretum
- Ensure a safe and secure Arboretum environment for guests, volunteers, staff, exhibits and collections
- Create a clear pedestrian, bicycle and vehicular circulation system with a hierarchy of trails, roads and walks.
1998 Master Plan Key Findings

- Access, signage, and available land limit opportunities to expand collections
- Key entry points should be signalized to improve safety
- A new Visitor Center should become the hub of activities
- Interconnected, accessible walkways should link collections, exhibits, and services
- Acquisition of land within designated boundaries is critical
Trends and Assumptions

• Increasing annual attendance, peak demand in spring and fall seasons
• Evolving communications can support self-guided experience
• Metropolitan growth continues to influence edges
• Donor support remains strong but is increasingly challenged
• On-site research will continue
• Events maintain target levels of visitors throughout the year
Existing:
Vehicular Circulation and Parking
Existing:
Pedestrian and Bicycle Circulation
Key Initiatives:
Circulation Improvements

- **East Gateway and Parking**
  - Move visitors through the gate and providing sufficient parking during high turnout events

- **West Gateway and Linkage Roadway**
  - Move more people through the Arboretum safely by providing a second gatehouse access

- **Eastern Drive**
  - Access to the Red Barn and Spring Peeper Meadow
Key Initiatives:
Circulation Improvements
Key Initiatives:
Development Opportunities

• Woodland Performance Center and Gardens, p.33
• Tree Top Canopy Walk, p.37
• Chinese Garden, p.41
• Bee Discovery Center, p.59
• Sculpture Garden, p.63
• The Farm Garden, p.45
• Meyers-Deats Conservatory Expansion, p.67
• Maintenance Facility Improvements, p.71

* page numbers reference project descriptions in the plan document
Key Initiatives:
Development Opportunities
Maintenance Facility Improvements

- Expansion of support space has not kept pace with growth of programs and collections
- New greenhouse to match existing building
- New 2 story building for offices, maintenance and equipment shop
- Convert existing shop building to tram storage
- Additional parking
Agenda Item: Information Items

☑ review  ☐ review/action  ☐ action  ☐ discussion

Presenters: Vice President Pamela Wheelock

Purpose:

☑ policy  ☐ background/context  ☑ oversight  ☐ strategic positioning

To provide the Board of Regents information regarding the following items:

• Landcare Salt and Sand Storage Building, Twin Cities Campus
• Kolthoff Hall Pedestrian Deck Removal, Twin Cities Campus
• Capital Planning and Project Management Semi-Annual Project Report

Outline of Key Points/Policy Issues:

Landcare Sand and Salt Storage Building, Twin Cities Campus
Kolthoff Pedestrian Deck Removal, Twin Cities Campus

In accordance with Board of Regents Policy: Reservation and Delegation of Authority, Article 1, Section VIII, Subdivision 9, “The Board reserves to itself authority to approve project schematic plans for (a) interior renovations with a value greater than $5,000,000; (b) projects with a value greater than $2,000,000 that have an exterior visual impact; (c) projects that vary from adopted campus master plans or that have a significant visual impact; and (d) projects noted during the annual review of the capital budget.” Neither of these projects rises to the standard of this policy. However, because of their locations, they are presented to the Committee as information items.

Capital Planning and Project Management Semi-Annual Project Report

In accordance with the Board of Regents calendar, the Capital Planning and Project Management Semi-Annual Project Report is presented in the summer and in the winter to provide performance information prior to the consideration of the Annual Capital Improvement Budget and the Six-Year Capital Plan. This report includes projects in process that have been approved in the Capital Improvement Budget and for which the Regents are required to approve the Schematic Plans. The report highlights progress toward and challenges encountered in delivering the project scope of work within the approved budget and schedule.

Background Information:

Information items are intended to provide the Board of Regents with information needed for them to provide their oversight responsibilities.
Salt and Sand Storage Facility

PROJECT INFORMATION

The proposed structure will accommodate salt and sand storage on the Minneapolis campus. This structure is needed because the current location for salt and sand storage is being displaced as the Combined Heat and Power plant remediation gets underway in summer 2013. The chosen location is at the edge of the Athletics District, adjacent to outdoor tennis courts and the currently under construction Minneapolis U of M Bike trail (see graphic next page).

The facility is proposed to be constructed of precast concrete panels, a sloped ‘shed’ roof, and access doors for vehicles to load and unload material. The structure is not insulated or heated, but security and building/site lighting is planned. The project budget is estimated at $1 million. Financial resources are dedicated from Facilities Management Landcare.

The height of the roof at its pinnacle is approximately 28’ tall. Most of the building height is approximately 18’ tall. The variation of texture and color (range of tan and gray) provides some visual interest. The location of access doors on the east and south side of the facility provides additional interest on the two faces of the building most visible from the campus (5th Street edge.)
Site for new building is behind fenced tennis courts. Bike path under construction to the north. Shown below as viewed from 5th Street.

Present day view of site from 5th Street. Facility would be located behind tennis courts (location of parked excavator.)
Facility site, view on north side of tennis courts looking east.

Context for building architecture and materials: view of Ridder Arena from facility site
Kolthoff Hall Pedestrian Deck Removal

PROJECT INFORMATION

The project involves removal of the existing elevated walkway on the south side of Kolthoff Hall. A 2003 forensic assessment indicated that the bridge structure, built of concrete and reinforced steel, has deteriorated to the point that it needed either a near-total reconstruction estimated at $940,000 (all project costs in 2012 dollars) or a demolition. Deterioration was ascribed to normal wear and tear from weather exposure, trapping of moisture, and use of salt/sand chemicals for de-icing purposes. The cost of demolition of the southern deck and repair of the walkway along the western edge of the building has been estimated at $500,000.

The bridge deck was originally built to convey pedestrian and bike movement along the south face of Kolthoff Hall at the same level of the Washington Avenue bridgehead and the Northrop Mall. Since that time many other changes to Northrop Mall and Washington Avenue have occurred including the opening of the STSS building in 2009. Another critical unresolved access problem between the transit stop on Washington Avenue and Northrop Mall on the north side of Washington was the absence of ADA accessible paths in the immediate vicinity. Getting to the elevated deck through an ADA accessible route from the bus stop required a long circuitous path that stretched back to Church Street or all the way west to Pleasant Street before gaining the elevation to reach the pedestrian level of the bridge.

After careful consideration it was determined that the most advantageous and cost effective design solution was to create a more compact, tiered stair access from Washington Avenue up to the pedestrian level of the Washington Avenue bridge.

- There is limited disruption to current pedestrian traffic using this path to move east-west from Northrop Mall to the bridgehead. Those traveling across campus have the option of using the northern passage between Kolthoff and Smith Hall without creating a time or inconvenience penalty for east-west movement on the north side of Washington. Feasibility studies in 2012 showed adequate space for redirection of current pedestrian traffic (these are the highest users of the deck) along the north and west side of the building.
- Removing the deck allows light to penetrate and supports the vision of Washington Avenue as a pedestrian/transit amenity by opening up space at the ground and overhead for a planted landscape to thrive where there is asphalt and hardscape today.
- Removing the deck restores architectural integrity to Kolthoff Hall’s exterior appearance on Washington Avenue.

Demolition of the structure avoids continued repair and maintenance concerns. It also removes the high concentration of bird roosting that is currently occurring in the space.
View of deck from south side of Washington Avenue, STSS building in background. Trees planted on south side of Washington suggest a similar treatment for the north side of Washington when deck is removed.
Deck creates perception of lurking space and unpleasant walk environment for pedestrian traffic moving along sidewalk between Coffman Union/ Northrop Mall transit stop and STSS building at Washington Avenue bridgehead.

Stairwell at transition between street level and approach up stairs to Washington Ave pedestrian crossing. Undesirable walking environment with concentrated bird roosting overhead. Difficult conditions to create ADA compliant access.
Steel and concrete construction of bridge deck is past its useful life. Spauling and delaminating from trapped moisture is pronounced in some locations.
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<td>Saint Anthony Falls Lab Infrastructure, UMTC</td>
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<td>19</td>
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<td>Center for Magnetic Resonance Research New 3T MRI Magnet, UMTC</td>
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<tr>
<td>Biomedical Facilities – Cancer/Cardiology Research Center, UMTC</td>
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<td>Siebert Field Ballpark Replacement, UMTC</td>
<td>22</td>
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<tr>
<td>Wind to Hydrogen to Ammonia, WCROC</td>
<td>23</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

This semi-annual project report submitted by Capital Planning & Project Management includes projects in process that have been approved in the Capital Budget and for which the Regents are required to approve the Schematic Plans. Once a project is reported as complete it is removed from subsequent reports.

The projects in this report are organized by phase: Projects in Design, Projects in Construction, and Completed Projects. A total of 20 projects are listed: 6 in design, 10 in construction, and 4 have completed.

The full scope of work within Capital Planning & Project Management includes the following project activity:

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Initiation</td>
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<tr>
<td>Pre-Design</td>
<td>18</td>
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<tr>
<td>Design</td>
<td>74</td>
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<tr>
<td>Construction</td>
<td>67</td>
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<td>Substantial Completion</td>
<td>28</td>
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<tr>
<td>Project Closeout</td>
<td>45</td>
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<tr>
<td>Closed since last report</td>
<td>88</td>
</tr>
<tr>
<td><strong>Total Projects</strong></td>
<td><strong>374</strong></td>
</tr>
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</table>
CPPM MEASURES & STRUCTURE

CPPM uses the following performance measures and accepts full accountability for the following:

- Meeting project scope expectations
- Delivering expected quality
- Delivering projects on schedule
- Delivering projects on budget
- Improving process productivity
- Limiting / eliminating legal liabilities
- Promoting targeted business participation
- Support University of Minnesota sustainability initiatives

CPPM Organization:

- CPPM is organized as follows:
  - Planning, Space, & Architecture
  - Project Delivery
  - Business Services
Ambulatory Care Center, UMTC

**Description:** The Ambulatory Care Center Project is located at approximately 910 Essex Street Southeast, on the Twin Cities Minneapolis Campus; four blocks east of the University of Minnesota Medical Center - Fairview Hospital.

The program for the Ambulatory Care Center (ACC) was completed at the end of May 2013. The ACC will be a facility of 330,000.

The program elements include:
- Ambulatory Surgery Center
- Ambulatory Surgery Center
- Comprehensive Cancer Center
- Clinics such as Transplant, Cardiovascular, Medical Specialties, Surgical, Specialties, Orthopedics, Neurosurgery, Neurology, PM&R, Dermatology/Dermatology Surgery, ENT, Ophthalmology
- Ancillary and diagnostic service to support the integration of the care experience and convenience for patients

Clinical spaces will actively support the incorporation of educational and research for transformative team based care, which will enhance the patient experience and the training experience. The program will also include flexible education/conference spaces to train healthcare professionals of tomorrow including medical residents and fellows, pharmacy students, nursing students, and other disciplines.

**Project Executive:** AVP Suzanne Smith
**Project Director:** Richard Johnson
**Project Manager:** Dennis Sachs
**A & E Firm:** Cannon Design with Studio 5 Architects
**Contractor:** McGough Construction

**Budget:** $164,911,000
**Schedule:** January 1, 2016

- Schematic Design estimated start June 2013
- Construction Start estimated December 31, 2013
- Occupancy estimated January 1, 2016
- Project is on schedule and within budget
Biomedical Facilities - Microbiology Research Facility, UMTC

Description: This project will construct the 4th and final building in the Biomedical Facilities Program which is funded 75% by the Minnesota Legislature and 25% the University of Minnesota. The four-story, 74,000 square foot Microbiology facility will be located to the north and connected to the Cancer and Cardiovascular Research Building on ground and first floors. Funding reflects the amount remaining in the original $292 million program.

Project Executives: Sr VP Aaron Friedman, VP Pamela Wheelock, and AVP Suzanne Smith

Project Director: Richard Johnson

Project Manager: Pete Nickel

A & E Firm: BWBR Architects

Contractor: M. A. Mortenson

Budget: $63,600,000

Schedule: Estimated construction start November 2013

- Schematic Design complete
- Construction anticipated to start October, 2013
- Estimated completion date December, 2014
- Project is on schedule and within budget
Projects in Design

Campus Utility Building, UMD

**Description:** The scope of the project includes a new 5,000 gross square foot facility, located on the northwest side of the Duluth Campus off of St. Marie Street. The facility will house an additional 2,000 tons of cooling capacity and enclose an existing pad mounted electrical substation located on site. This first phase of the project will include one new 1,000 ton chiller to meet the campus cooling needs.

**Project Executive:** AVP Suzanne Smith  
**A & E Firms:** Perkins+Will (A) / Dunham Associates (E)  
**Budget:** $4,500,000  
**Schedule:** Construction complete in January 2014  

- Design in process.  
- Construction Manager at Risk selected  
- Project is on schedule and within budget
Projects in Design

Combined Heat and Power, UMTC

**Description:** This project installs new combined heat and power equipment (CHP) in the existing Old Main Utility Building located adjacent to the Mississippi river in the Knoll area. Due to the growth of new University buildings requiring steam service and aging boiler equipment on the Minneapolis campus, the University is at risk for a shortage in firm boiler capacity relative to winter-time peak steam demand beginning in 2014. The CHP equipment represents a two stage configuration; a new natural gas fired turbine will generate electricity for use on the Minneapolis campus and a new heat recovery steam boiler will recover heat from the combustion gases that are discharged from the turbine to generate the required steam capacity. The CHP equipment solution reduces the carbon footprint for the University and represents the best long term sustainable solution from an energy use standpoint. The plant will be designed with space allocation for future installation of a packaged boiler as well as two future steam turbine-driven chillers.

**Project Executive:** AVP Suzanne Smith  
**A & E Firm:** Jacobs Engineering  
**Budget:** $95,881,000  
**Schedule:** February 2016

- Currently in design
- $18M project funding was approved in the FY13 Capital Budget
- Project approved in February, 2013 with a total project funding of $95 Million by FY13 Capital Budget Amendment
- Schematic Plan approved: February, 2013
- Major Equipment Procurement: February, 2013
- Tentative Hazardous Materials Abatement: June, 2013
- Tentative Construction start: Fall 2014 (pending air emissions permit approval).
- Project is on schedule and within budget

**Project Director:** Richard Johnson  
**Project Manager:** Matt Stringfellow  
**Contractor:** Adolfson & Peterson
Projects in Design

Glensheen Water Damage and Cleanup, UMD

**Description:** The Glensheen Historic Estate experienced extensive damage due to severe four-county wide storms on June 19-20, 2012. This project will restore the landscape and built site features to their pre-storm condition. The project is funded with FEMA Public Assistance and insurance reimbursement. Repairs will maximize salvaged material to comply with State Historic Preservation Office requirements.

- Schematic Design approved June 2013
- Project is on schedule and within budget

**Project Executive:** AVP Suzanne Smith  
**Project Managers:** Kevin Ross & Jim Litsheim

**A & E Firm:** Miller-Dunwiddie  
**Contractor:** To Be Determined

**Budget:** $3,412,557

**Schedule:** Estimated construction start July 2013
Projects in Design

**Mechanical Engineering Building Infrastructure Remodel, UMTC**

**Description:** The existing Mechanical Engineering building with 144,733 square feet of area provides office, research, and classroom space for the Department of Mechanical Engineering. Originally constructed in 1948, the building has served the needs of the University without any major infrastructure changes since that time. In order to position itself for the next 50 years, the building needs to be modernized with a comprehensive replacement and upgrade to its central infrastructure systems. The objective of the infrastructure project is to provide these comprehensive system upgrades for the west and north wings of the “Old Mechanical Engineering” building. This project will be funded with HEAPR dollars and constructed in phases based on available funds.

**Project Executive:** AVP Suzanne Smith  
**Project Manager:** Matt Stringfellow  
**A & E Firm:** Architectural Alliance  
**Contractor:** M. A. Mortenson  
**Budget:**  
Phase I: $12,757,609  
Anticipated Future Total: $47,869,561  
**Schedule:**  
Phase I: September 2014  
- $12,700,000 funded in FY13 (Phase 1)  
- Schematic Plan approved May, 2013  
- Tentative Phase I Construction Start: September, 2013  
- Project is on schedule and within budget
Projects in Construction

17th Avenue Residence Hall, UMTC

Description: This project constructs a 227,000 gross square foot building. The building includes a 600 bed residence hall, 350 seat dining facility, 3 Greek Chapter Houses designed to support and enhance the sorority and fraternity experience, and an extension of high pressure steam, electric, and chilled water utility infrastructure.

Project Executive: AVP Suzanne Smith  
A & E Firm: TKDA Architects  
Contractor: M. A. Mortenson  
Project Manager: Kevin Ross  
Budget: $62,500,000  
Schedule: August 2013 (Occupancy)

- Interior finish work including carpet, ceramic tile, paint, ceilings, and food service equipment is underway
- Final site work and landscaping is underway
- Furniture and equipment installation is scheduled for July-August 2013
- Project is on schedule and within budget
Projects in Construction

Amundson Hall Gore Annex, UMTC

**Description:** This project will renovate a portion of the existing structure and construct an addition to Amundson Hall. The additional laboratory and office space will allow the Department of Chemical Engineering and Materials Science to add faculty, grow undergraduate enrollment, and increase the number of doctoral students. The infrastructure upgrades include replacing the original exterior curtain wall and all windows; rebuilding the electrical vault; replacing the emergency generator; life-safety improvements; replace exterior lighting; connecting the entire building to the District chilled water system; and providing a second domestic water service.

**Project Executive:** AVP Suzanne Smith

**A & E Firm:** Perkins+Will

**Budget:** $27,600,000

**Schedule:** Summer 2014

- Currently in Construction
- Excavation for basement, structural footings and foundations, and south curtain wall replacement are in progress
- Utility installation
- Project is on schedule and within budget

**Project Manager:** Paul Oelze

**Contractor:** Kraus Anderson
Projects in Construction

Engine Research Lab Remodeling, UMTC

Description: This project relocates the Engine Testing Laboratory to the south end of the Reuse Center which is currently open warehouse shell space. The new location will provide two engine test cells, control room, engine build room, flow bench room, private office, four workstations, break room, and a unisex toilet room. The south exterior of Reuse Center will be further improved to include fuel storage tanks, cooling tower, electrical transformer, exterior vehicle test cell, and minimal parking.

Project Executive: AVP Suzanne Smith
A & E Firm: Architectural Alliance
Budget: $5,000,000
Schedule: Fall 2013

Project Manager: Paul Oelze
Contractor: McGough Construction

- Currently in Construction, with interior demolition underway
- Project is on schedule and within budget
Green Prairie Living and Learning Community, UMM

Description: The project is a new two-story residence hall and contains 72 beds in 16 quad suites with 4 beds per suite (8 with single bedrooms, 8 with double bedrooms), 4 single bed/private bath units, and 4 single bedrooms, Community Advisor units, as well as 1 area coordinator apartment and a community kitchen. A common lounge will connect the two wings. The residence hall will also contain a study room, student lounges on each floor, laundry room, and two staff offices.

Project Executive: AVP Suzanne Smith  Project Managers: Paul Oelze & Kevin Ross
Budget: $6,900,000  Schedule: August 2013

- Currently in construction
- Building envelope (windows/roof) and interior wall installation are complete
- Exterior brick and stucco, painting, flooring, ceiling tile, lighting, casework and electrical/mechanical systems construction are in progress
- Project is on schedule and within budget
Projects in Construction

Heritage Hall & Academic Classroom, UMC

Description: The project is a 43,000 gross square foot 141 bed residence hall for freshman and sophomore students and an adjoining academic classroom addition. Each building wing includes a common area kitchenette, study, exercise, and laundry room. The project also includes a commons area, study room, vending, and activity room.

Project Executive: AVP Suzanne Smith
A & E Firm: Michael J Burns
Budget: $9,800,000
Schedule: July 2013

- Phase 1 – Residence Hall construction was completed December 2012. Students moved in January 11, 2013
- Phase 2 – Academic classroom under construction to be substantially completed June 2013
- Phase 3 – Classroom technology package and classroom seating installed under separate contract to be completed June 2013
- Phase 4 – Final grading and landscape installed to be complete July 2013
- Project is on schedule and within budget

Project Managers: George Mahowald & Kevin Ross
Contractor: Community Contractors
Projects in Construction

Laboratory/Classroom Facility, Itasca Biological Station & Laboratories

Description: This project constructs an 11,800 square foot laboratory/classroom and demolishes 3 obsolete, energy inefficient buildings. The new building is designed to meet Minnesota B3 requirements and anticipates achieving LEED Gold status through a substantial reduction in energy use.

Project Executive: AVP Suzanne Smith
A & E Firm: Meyer Scherer & Rockcastle
Budget: $6,090,000
Schedule: Winter 2014

• Design documents complete
• Construction start has been delayed due to extreme winter weather conditions, anticipated start in late June, 2013
• Project is on schedule and within budget

Project Managers: George Mahowald & Kevin Ross
Contractor: Kraus Anderson
Northrop Phase II Interior Renovation, UMTC

Description: Northrop will become a pre-eminent Cultural Center that inspires and nourishes the human spirit by creating a +/-2,750-seat hall with excellent acoustics and sightlines, and state-of-the-art technologies to provide the highest quality experience attainable. Northrop will house the University Honors Program, the Institute for Advanced Study, and the Innovation Laboratory.

- Major interior work is underway including drywall and plaster walls, terrazzo flooring and mechanical and electrical systems
- 1st, 2nd, and 3rd floor balconies are in place
- North Addition structure is complete, brick installation to start in June 2013
- Budget amendment for $2,373,000 is requested as part of the FY14 Capital Budget in June, 2013, and will increase the project budget to $88,198,000
- Project is on schedule and within requested amended budget
Projects in Construction

Physics & Nanotechnology Building, UMTC

Description: The project is approximately 144,000 square feet and houses offices and research laboratories for the School of Physics & Astronomy and the Center for Nanostructure Applications. The site is bounded by Civil Engineering to the north, Akerman Hall to the west, Scholars Walk to the south, and Recreation Center to the east. The building will house approximately 200 faculty, post-doctorate, graduate-level, and visiting researchers. The facility includes forty flexible-use research laboratories and a 5,000 net square foot cleanroom laboratory for Nano research designed for Class 100 chip fabrication and Class 1000 bio-Nano work. There is also a 2-story tall high-bay laboratory with overhead rail crane for use in assembling large installations such as satellite payloads.

Project Executive: AVP Suzanne Smith
A & E Firm: Architectural Alliance with Zimmer Gunsul Frasca
Budget: $84,100,000
Schedule: November 2013

Project Manager: Matt Stringfellow
Contractor: M. A. Mortenson

- Project is currently in Construction
- Mechanical and electrical, exterior building envelope, and interior finish construction are in progress
- Project is on schedule and within budget
Projects in Construction

St. Anthony Falls Lab Infrastructure, UMTC

Description: The project will help transform the laboratory into a national shared research facility conducting cutting edge research in the energy/environment nexus, expand its role as major hub for industry/academia collaborations, and strengthen and broaden its educational and outreach missions. Infrastructure renovations will include fire/life safety, ADA upgrades, building structural systems, collaborative meeting space, and updated research and laboratory space to meet current and future science needs.

Project Executive: AVP Suzanne Smith  
A & E Firm: Perkins+Will  
Budget: $15,800,000  
Schedule: September 2013

Project Manager: Scott Everson  
Contractor: McGough

- Currently in construction
- Construction of the exterior elevator shaft, interior fit-out in progress
- Installation of major Mechanical, Electrical, Plumbing systems in progress
- The project start was delayed and spring flooding slowed work for a period of time. These delays, together with unexpected site cleanup costs, may require modifications to both schedule and budget.
- National Science Foundation is requesting additional project information to align current scope with the original grant request and will be visiting the site in June 2013
Projects in Construction

University Recreation Center Expansion, UMTC

**Description:** The expansion includes a 148,000 square foot, four-level addition to the existing south side of the University Recreation Center. The program for the expansion consists of the following components: a two-court gymnasium, fitness and weights area, seven multi-purpose rooms, outdoor recreation center with a climbing wall, locker rooms, jogging track, offices, and miscellaneous spaces. The entry of the building also has a café with an associated serve-and-prep area, public toilets, and a social lounge.

**Project Executive:** AVP Suzanne Smith  
**A & E Firm:** Studio Five Architects  
**Budget:** $59,600,000  
**Schedule:** Summer 2013

- Interior construction is 99% complete
- Final exterior work has started – Landscaping/Scholars Walk restoration
- Furnishings and fitness equipment procurement process is underway
- Occupant move-in will begin July 8, 2013
- Project is on schedule and under budget
Completed Projects

Center for Magnetic Resonance Research New 3T MRI Magnet, UMTC

Description: This project will renovate the existing 1,200 square feet MRPET MRI suite to accommodate the purchase of a new 3.0T MRI.

Project Executive: AVP Suzanne Smith
A & E Firm: RSP Architects
Budget: $2,700,000
Schedule: December 2012

Project Director: Richard Johnson
Project Manager: Kevin Ross
Contractor: M. A. Mortenson

- Project is complete
- Construction was completed on schedule and under budget
Biomedical Facilities – Cancer/Cardiology Research Center, UMTC

Description: This project will provide approximately 280,000 square feet of space for chemistry and biology labs, lab support, and office space to support Cancer and Cardiovascular research. It also includes shared research and public commons on the first level that will house a large vivarium, shared instrumentation spaces, meeting space, and a small food service venue. The project will be connected to the Medical Biosciences Building and the future Microbiology Research Facility.

Project Executives: VP Aaron Friedman, VP Pamela Wheelock, and AVP Suzanne Smith

A & E Firm: Architectural Alliance

Budget: $182,614,000

Schedule: Occupancy July 2013

- Project substantially complete March 2013, commissioning of mechanical systems in progress, estimated completed June 2013
- Researchers scheduled to move July/August 2013
- Project completed on schedule and under budget

Project Director: Richard Johnson

Project Manager: Pete Nickel

Contractor: M. A. Mortenson
Completed Projects

Siebert Field Ballpark Replacement, UMTC

Description: This project replaces Siebert Field with a new ballpark on the existing site. Included is: a seating bowl to accommodate 1,400 spectators on slab-on-grade concrete risers, two entry plazas, seasonal press/concessions and restroom buildings, sunken artificial turf playing surface with adjacent home and visitor bullpens, new home and visitor sunken dugouts, revamped field lightings, and new scoreboard.

Project Executive: AVP Suzanne Smith  Project Manager: Roger Wegner
A & E Firm: DLR Group  Contractor: PCL Construction
Budget: $7,310,883  Schedule: Winter 2012

- Construction completed December 2012
- Certificate of Occupancy issued April 1, 2013
- Project completed on schedule and under budget
Completed Projects

Wind to Hydrogen to Ammonia, West Central Research & Outreach Center, Morris

**Description:** This project constructs a globally unique research and demonstration facility to foster the development of wind, hydrogen, and other renewable energy sources. To store wind energy, electricity is converted to hydrogen by electrolysis of water and stored in compressed gas cylinders. When demand calls, the hydrogen is burned in an internal combustion engine to run a generator. In addition, the hydrogen will be converted into anhydrous ammonia for use as a fertilizer within the local community. The facility will provide researchers opportunities to measure efficiencies and optimized production of anhydrous ammonia.

**Project Executive:** AVP Suzanne Smith

**A & E Firm:** Sebesta Blomberg

**Budget:** $3,782,000

**Schedule:** Winter 2011 – Anhydrous Project

- Hydrogen component of the project operational and complete in 2010
- The research nature of the project caused delays. The anhydrous ammonia custom design-build, research equipment skid was delivered to the site in August, 2012. Pre-startup testing and equipment modifications were completed late fall 2012, and startup/commissioning commenced in late November, 2012. Substantial completion was achieved in April, 2013.
- Construction was completed on schedule and on budget