University of Minnesota Landscape Arboretum
Circulation Master Plan & Development Opportunities
Damon Farber Associates | 2011
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University of Minnesota Landscape Arboretum

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## Development Opportunities
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Statement

Intent and Goals:
Create a clear pedestrian and vehicular circulation system with a hierarchy of trails, roads and walks.
Ensure the safety of Arboretum guests, volunteers and staff.
Provide greater physical access to the Arboretum.
Maintain the Arboretum’s character and beauty while addressing future program needs.

Objectives:
The objective of this study is to supplement and enhance the circulation plans generated in 1998 and updated 2008. It contains recommendations for a comprehensive pedestrian and vehicular system throughout the Arboretum to updating it’s infrastructure to meet evolving functional needs.

• Improve access from Highway 5 with a linking roadway between an east and west entry. The new entry drive will connect all the core facilities and visitor lots by enhancing the relationship among services, visitor access & egress and new exhibits, gardens and research venues.

• Update and expand parking to meet growing visitor needs and new circulation patterns associated with displays and facilities for an expanded Arboretum.

• Expand Three Mile Drive for greater access and safety. Develop a new drive to access western and eastern additions and to connect research areas, model landscapes, new developments and collections/exhibits.

• Enhance the pedestrian experience by connecting to surrounding communities.
Existing Conditions

Parking and accessibility is a significant challenge for the Arboretum and the true impetus for this study.

This section diagrams information gathered through field observation, surveys, current studies and previous site mapping. Both natural and man made aspects were located and studied including roadways, parking, structures, exhibits and gardens, pathways and trails, topography, hydrology and storm water, view and vistas, micro climate, soils, stainability and resource management practices.

Future developmental opportunities include consideration of expanded parking, abandonment of a portion of three mile drive and conversion to an expanded pedestrian experience, realignment of Three Mile Drive to reduce congestion, the strategic relocation and/or addition of a number of new display gardens and exhibit areas, consideration of revenue generating venues, concessions and rest rooms, new exhibits, research expansion.

Current Parking Estimate

<table>
<thead>
<tr>
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<th>Description</th>
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<tr>
<td>1.</td>
<td>Learning Center</td>
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<td>3 Bus</td>
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<td>2.</td>
<td>Rain Garden Lot</td>
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<td>3.</td>
<td>Main Parking Lot</td>
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<td>Staff Lot</td>
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<td>Three Mile Drive</td>
<td>204 Spaces</td>
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<tr>
<td>Total</td>
<td>Number Spaces</td>
<td>625 Lot Spaces</td>
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<td></td>
<td></td>
<td>54 Road Spaces</td>
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<tr>
<td></td>
<td></td>
<td>10 Bus Spaces</td>
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</tbody>
</table>
Constraints and Opportunities
University of Minnesota Landscape Arboretum

- **a** current east entrance to Arboretum; heavy congestion and traffic conflict with Hwy 5
- **b** lack of pedestrian or bicycle access from surrounding community or regional trails
- **c** limited parking for large events
- **d** pedestrian/vehicular conflicts along parkway
- **e** conflicts/safety issues between roadways and display garden circulation; lacks definition of user type
- **f** limited road width. conflict between pedestrians, bicycles and cars
- **g** limited shoulder parking along Three mile drive
- **h** unclear secondary entrance to Three mile drive
- **i** potential ingress/egress to arboretum property and Hwy 5
- **j** no visitor access to west arboretum property
- **k** main gate: future issues with pedestrian and bicycle traffic
- **l** no access to study areas
- **m** property circulation restricted by wildlife fence
- **n** barn entrance/access separate from rest of circulation system
- **o** service access to study areas & wetland
- **p** private residence access roads
- **q** limited access to service yard and research area
- **r** overflow parking opportunities
- **s** future trail underpass connections to regional trail
Parking Improvements and Expanded Roadway System

University of Minnesota Landscape Arboretum

Future Improvements and New Added Parking Space

- East gate: 93 spaces
- Main parking lot expansion: 147 spaces
- Rain garden lot expansion: 147 spaces
- New connector bypass road: 135 spaces
- East-west linkage road: 135 spaces
- Roundabout: 135 spaces
- West gate: 135 spaces
- West performance center lot: 135 spaces
- Bike/pedestrian trail: 135 spaces

Total New Visitor Parking: 510 spaces
Total Existing Parking: 625 spaces
Potential overflow Parking: 460 spaces
The current easterly 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 garden 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 guest 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.
East Gateway
University of Minnesota Landscape Arboretum

1. East entry gatehouse section

- New bypass road to parking
- New entry focal point
- Member card lane
- New gate house
- To visitor center

2. East entry gatehouse plan

- Member card reader
- New bypass road to parking
- Member lane w/ cardreader
- New entry focal point
- Member card lane
- New gate house
- To visitor center
The proposed 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.

There is projected to be a controlled traffic signal where the new western road intersects with Hwy 5. 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 a concert or wedding or fair at the proposed Woodlands Performance Center.

Resurfacing of the currently deteriorating west connector road to a proposed roundabout and 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.

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.
East-West Linkage Roadway

University of Minnesota Landscape Arboretum

**Typical Drive/Bike/Pedestrian Trail Section**

24’

Two way drive

10’

Planted median

10’

Shared pedestrian bike/walk trail

**East-West Linkage Road Plan**
Most of the Arboretum’s facilities, exhibits and activities are concentrated around the visitor center and along the three mile drive. The objective of this vision is to suggest opportunities for reducing pedestrian / automobile conflict and to promote a decentralization of visitor activities.

Recommended improvements are organized into site specific projects for the purposes of identifying design and construction opportunities. 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. The expansion of the Three Mile Drive into a Collections Drive will allow for increased visitor access to a significantly larger area within the core of the Arboretum and reduce conflict.

A new 1.9 mile Eastern drive will be added with an adjacent combined walk and bike path will provide access to the Arboretum’s Eastern property, the Red Barn and Spring Peeper Meadow. A new 1.2 mile gravel Western drive will provide access to the Arboretum’s western addition and existing Research Facilities.

**key**
- regional vehicular circulation
- potential 82nd street alignment
- entry road (two way)
- new pedestrian trail (includes abandoned portion of 3 mile drive)
- collections drive (expanded 3 mile drive)
- eastern drive
- western drive (gravel surface)
- arboretum limits
The Collections Drive

The expansion of the Three Mile Drive to a Collections Drive relocates the drive from within the display gardens to minimize pedestrian and vehicular conflict. Wood Duck Pond trail below Frog Hollow and the maple syrup house is the preferred alignment for the new Entry to the Collections drive, with little damage to the sugar bush hillside and offering views of the wetlands. It would join the existing road alignment at the overlook to Wood Duck Pond.

The existing Three Mile Drive that leads back to the visitor center at its most Eastern point, would stop at the Azalea and Nut Tree Collections and expand east around Green Heron Bog connecting back to the main entry drive at the Snyder building providing views of the Green Heron Bog, wetlands, and existing collections. The remaining alignment of the existing Three Mile Drive from the Azalea Collection to the Visitor Center and Wood Duck Pond to the Visitor Center would be reduced or resurfaced as a pedestrian route. Arboretum program vehicles, emergency and service vehicles would be allowed, but general use by the public would be prohibited. Bollards or gates could be used to control access.
Eastern Drive

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 decentralizing functions 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 added parking at the Red Barn and a pedestrian only entrance to the Arboretum from this location off County Road 41.

There is a 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.

key
- regional vehicular circulation
- potential 82nd street alignment
- entry roads
- pedestrian trail
- collections drive
- eastern addition
- western addition
- arboretum limits
Western Drive

The new Western Drive will initially not be paved. Rather it will be graded and surfaced with a permeable gravel to improve access to the research areas.

It will connect existing exhibits, research areas, model landscapes, collections and new development opportunities to the paved Arboretum Circulation System.

The new Western Drive will program specific to research and education as key attractions. The Western Drive will initially be a one-way system and will accommodate combined pedestrian, bicycle and automobile movements.

Maintenance and service will continue to use the Collection Drive and new Western Drive and Eastern Drive to access all the exhibits and collections within the Arboretum.

key
- regional vehicular circulation
- potential 82nd street alignment
- entry roads
- pedestrian trail
- collections drive
- eastern drive
- western drive
- arboretum limits
### Existing Facilities, Exhibits, Displays & Collections

#### Facilities
- Oswald Visitor Center
- Dahlberg Welcoming Terrace
- Keating Terrace
- Newton Dining Terrace
- Sweat Entry Terrace
- Wall Teaching Garden and Classrooms
- Wright Terrace Gardens
- Wildflower Garden
- Garden for Wildlife
- Restaurant
- Gift Shop
- Restrooms
- Reception Desk and Information Center
- Special Exhibits
- 375 Seat MacMillan Auditorium
- Wall Education Wing
- Reedy Gallery Art Exhibit
- Snyder Building
- Meeting, Reception & Conference
- Anderson Horticultural Library
- Myers – Deats Conservatory
- Office and Administration Building
- Marion Andrus Learning Center and the Sally Pegues Oswald - A Growing Place For Kids
- Berens Cabin
- Red Barn
- Frog Hollow

#### Display & Specialty Gardens
- Shade Tree Exhibit
- Terrace Garden
- Woodland-Azalea Garden

#### Native Areas
- The Prairie
- Spring Peeper Meadow
- The Bog Area

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

#### Trees
- Arborvitae Collection
- Ash Collection
- Birch Collection
- Buckeye Collection
- Corktree Collection
- Crabapple Collection
- Elm Collection
- Hawthorn Collection

#### Programs & Activities
- Guided Walks and Tours
- Sculptural Exhibits
- Yoga in the Garden
- 5K Walk / Run (Lifetime Fitness)
- Fundraiser Dinner
- Food and Wine Sampling Event
- Orienteering
- School Programs
- Education Programs

#### Research and Development
- Fruit Breeding
- Woody Landscapes Plant Breeding and Genetics
- Wetland Restoration
- Prairie Restoration
- Bee and Honey Pollinator Research
The Arboretum features 1,137 acres of magnificent gardens, model landscapes, and natural areas from woodlands and wetlands to prairie with extensive collections of northern-hardy plants. This beautiful public garden and research facility is 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 seven primary development opportunities identified that are priorities for implementation and expansion and have the potential to be constructed within the relatively near future. These are illustrated through conceptual diagrams, precedent imagery and preliminary programmatic lists. A number of additional exhibits and displays are identified for future consideration.

The primary development opportunities include the Woodland Performance Center and Gardens, Tree Top Canopy Walk, Chinese Garden, Children’s Adventure Garden, Red Barn Eco-Farm and Gardens, Research Road, and the Sculpture Garden.

Additional development opportunities include expansion to the Deuts Conservatory, development of the existing pathways into Wellness Walks and Fitness Trails, a Veterans Memorial Garden, Seasonal Garden, Spring Peep Wetland Restoration and Research Center, a Pollinator Garden and Interpretive facility, a Seed Museum, and possibly a Regional Dog Park and Competition Facility and a new joint use County and Arboretum Maintenance Facility.
Exhibits and Venues

- Woodland Performance Center and Gardens
- Tree Top Canopy Walk
- Chinese Garden
- Children’s Adventure Garden
- Red Barn Eco Demonstration Farm and Gardens
- Regional Dog Park
- Research Road Displays and Exhibits
- Sculpture Garden
- Deats Conservatory Expansion
- Wellness Walk and Fitness Trails
- Veterans Memorial Garden
- Seasonal Garden
- Spring Peeper Wetland Restoration and Research Center
- Greenroof Garden
- Pollinator Garden
- Seed Museum Bank
- Maintenance Area
- Formal Garden

This plan illustrates possible locations within the Arboretum for the development opportunities that are listed above. 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 ongoing discussions with staff, sponsors and volunteers.
Woodland Performance Center & Gardens
University of Minnesota Landscape Arboretum

key plan

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 first phase of implementation is slated to accommodate seating for 500 people with approximately 270 parking spaces. Future improvements may include a stage, 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.

construction cost $6 million
University of Minnesota Landscape Arboretum

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
- Performance bandshell Structure
- Restrooms, pavilion
- Concession & Maintenance
- Building, pavilion
- Entry kiosk
- Pond overlook pavilion
- Parking
- Service and infrastructure

Possible Events
- Concerts
- Theater & dance
- Plays
- Musicals
- Lectures/seminars
- Casual gatherings
- Weddings
- Leisure/relaxation
- Movie nights
- Seasonal celebrations
A number of very different sites were considered before the Red Barn 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 accessibility, utilities and proximity to ancillary structures.

The Tree Top Canopy Walk is a fully accessible walk that will offer visitors of all ages the opportunity to experience what it is like to move through the canopy of mature woodland forest. Taking advantage of the four distinct seasons we celebrate in Minnesota, a lookout will offer unique views and spectacular vistas over the Collection Drive valley to the west and long vistas to Lake Minnewashta to the north. The design is exciting and sustainable, utilizing beautiful materials, offering remarkable and memorable experiences and will be an economic generator to help support many of the Arboretum’s activities and needs.
University of Minnesota Landscape Arboretum

Facilities
- Canopy walk 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 aboretum and regional lake
- Gateway/entry pavilion
- Pathways and trails linking the arboretum trail network

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

Facilities
- Restrooms
- Concessions
- Interpretive opportunities
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/ Yan.

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.

construction cost $6 Million
University of Minnesota Landscape Arboretum

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

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

Events
- Traditional ceremonies
- Meetings
- Lectures, seminars & educational sessions
- Guided walks/tours
- Chinese gardening classes
- Weddings/receptions
- School trips
- Cooking classes
- Writing classes
- Fund raising events
- Seasonal celebrations
The Children’s Adventure Garden is a place where imagination lives, curiosity grows and youngsters flourish. Visitors will splash through streams, climb giant acorns, slide down tree roots, explore, learn, and play among trees and gardens. They will experience, discover, explore, pretend, search, and observe. Children from pre-school through pre-teen will learn about plants, nature and sustainability through hands-on activities and will be introduced to the relationship of plants with nature in fun and innovative ways.

The Children’s Garden is a wonderland that engages young people and families in learning about nature through play. Visitors of all ages will enjoy year-round activities and programs that present seasonal highlights in the gardens.

Aspects of recreation, interpretation and propagation will be the theme in this experiential environment. As the eastern district becomes more developed, perhaps using the Red Barn and its physical touchstone, it may take on a focus geared toward creative learning through participation with, and in, the surrounding ecosystem.

cost $10 million
University of Minnesota Landscape Arboretum

Discovery/Adventure Garden
- Entry Plaza - orientation, gathering, events
- Curiosity garden
- Zoom, bloom and sprout exhibits
- Ponds, streams, fountains, water
- Gardens
- Music
- Growing plants
- Sculpture
- Stories, Book garden
- Classroom
- Play Store
- Trees/tree house/tree trunk and roots
- Fallen tree/tree seeds
- Pollination garden
- Secret garden
- Adventure play
- Cave
- Wetland/dock/pier
- Fort/tree fort
- Water play/control/runnel
- Windmill
- Grassy meadow
- Play structures
- Oversized plants/flower
  - Giant vegetable patch
  - Flower village
- Shade forest/sun protection
- Tower
- Sand play areas
- Interpretive graphics
- Web walk
- Activity stations/resource chests
- Rest rooms and shelters
- Parking and service
- Drop in activities and programs
- Extension of Learning Center
  - Bird walks
  - Garden explorations
  - Insects
  - Wetland, prairie, woodlands,
- Planting Stations - Planting seeds, growing minds
  - Multiple stations with multiple activities
- Adventure backpacks
- Hands on garden activities
- Parties/seasonal events
- Painting/art classes
- Natural systems education

- Parking and service
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The Red Barn represents an important component of the rural Minnesota homestead. The Red Barn is an iconic structure on the University of Minnesota Arboretum’s property. It can become a 21st century hub around which all 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 farmslead can become an Suburban Ecology Center with displays and exhibits for the 21st century.

Teaching classrooms, inside and out, conference facilities, rest rooms, concessions and access to the Tree Canopy Walk can make this a vibrant and freestanding facility that can be used year round as jumping off point for visitors, school groups, and tours. Although only accessible by vehicles form its own visitor entrance of Hwy 41, it will be accessible from within the arboretum by both pedestrian and cyclist.

Cost $8-10 million
University of Minnesota Landscape Arboretum

Facilities
• Barn Store
  Fresh produce
  Honey and wax products
  Flowers and flower arrangements
  Gifts, books and souveniers
  Gardening equipment and tools
  Sandwiches, salads, snacks and beverages
  20% to food shelves
  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,
  Bee research and history

Parking/Access and Infrastructure.

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
The Research, Education, Interpretive and Demonstration Sites offer Arboretum visitors a close up look at research being done by the Arboretum staff and its University partners to study husbandry, floriculture and horticulture in-field.

Everything from grasslands study, to pollination to plant pathology can be located and studied according to the best management practices at indigenous selected sites and at proposed facilities, teaching and observation stations, research platforms and in-field classrooms.

Each of the many potential developments, facilities, exhibits and activities which may take place in the western addition are more geared toward education and research than some of the other gardens and displays which may have a greater emphasis on aesthetic and entertainment aspects.

The Western Drive will not be paved and will be geared to scientific endeavors. As a result these facilities may promote guided viewing and interpretation thus limiting unlimited visitor access.

cost $1-2 million each
University of Minnesota Landscape Arboretum

Facilities
- Plant breeding exhibits/research plots
- Bee/honey research and display
- Shelters/teaching pavilions
- Trails and circulation system
- Linkl to research facilities
- Interpretive opportunities
- Study stations
- Prairie station
- Woodland station
- Fruit trees
- Woody plants station
- History of plant research
- Butterflies
- Birds
- Flowers
- Rest rooms
- Parking and service

Events
- University Classes
- School Field Trips
- Education Seminars
- Guided Tours
- Photography
- Nature Watching
- Research
- Classes and Seminars
- Harvesting
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.

cost $2-5 million
University of Minnesota Landscape Arboretum

Facilities

- Permanent art collections
- Traveling art collections
- Studio greenhouse
- Open lawns
- Fountains
- Flower gardens
- Pathway for circulation and viewing
- Seating
- Rest rooms

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
Additional Opportunities
University of Minnesota Landscape Arboretum
Deats Conservatory Expansion

The Deats Conservatory will act as a gathering place throughout the year featuring interactive exhibits, plants and a park with grass and quiet places to sit and read or have a picnic lunch.

Along with gardens the Conservatory might even feature a replica of a Minnesota home, demonstrating how easily grown houseplants can change the indoor environment during winter months. This educational exhibit will address all the conditions of a home from too warm, too dry and of course not enough sun.

The Conservatory will also contain a Tropical Room, which may replace a smaller existing facility, to provide the visitor a look into a tropical rainforest where one can experience the many aspects of a jungle and its residents. Interpretive signage will describe the forest ecology and identify keys to conservation of this valuable resource.

A Work Room will be the place where visitors have a hands on experience potting plants, digging and mixing soil and learning the basics of gardening.

Perhaps one of the more exciting aspects of this possible project is the opportunity to truly experience each of Minnesota’s distinct seasons from the inside, looking out.

Wellness Walk and Fitness Trails

Today is the age of the active American. Health conscious men, women and children are more concerned with physical fitness than ever before. Researchers and educators have created an awareness which spans generations and encompasses all sectors of our nation. Nowhere is this movement more evident than in the growth and popularity of wellness and fitness trails.

Wellness and fitness trails combine scientifically designed exercises with walking or jogging to provide a well-balanced physical fitness routine for the entire body. Individual exercise stations with apparatus are spaced along a walking trail or path. The participant proceeds from one exercise station to the next and performs the exercises illustrated at each station.

Interpretive signage and key planting along the route identify nutritional and homeopathic benefits found in plants and assist in determining the right choices to be made in leading a healthy lifestyle. The wellness and fitness trails can be set up and established along any existing trail or pathway within the arboretum with either one or multiple trails throughout the property.

The Pollinator Garden

Animals can roam about and seek mates with whom to reproduce, but imagine the challenge for a plant, rooted firmly to the ground, to achieve the same end. Pollinators, which include thousands of insect species (bees, tiny wasps, butterflies, beetles, and flies) and other animals (such as hummingbirds and bats), unwittingly move pollen from the male anther of one flower to the female stigma of another as they search for sweet, nourishing nectar and fat- and protein-rich pollen.

The amazing diversity of flowers results in large part from their fascinating adaptations that have evolved to lure pollinators. After all, every aspect of a flower, from the designs on its petals to the timing of its blooming, is vital to the process! In this unique alliance, flowers become fertilized and capable of producing seeds, and everybody wins. But, what’s it to us? For starters, one out of every three bites of food we eat is made possible by a pollinator, and 80 percent of all flowering plants rely on pollinators for survival. Without them, our gardens and lives would be less fruitful.

Plant scientists are concerned about our role in weakening pollinator/plant relationships. The overuse of pesticides, which often kill beneficial pollinators, is one factor. Another one, particularly serious for migrating pollinators such as monarch butterflies, is land fragmentation that results largely from development. Isolated plants can’t attract a variety of pollinators or visitors frequent enough to sustain the plants and ultimately their partners. By cultivating a garden that attracts these important plant partners, we can provide vital respite in the midst of deserts of buildings and concrete. They can, in turn, set up investigations of animal visitors and their sometimes flashy floral partners, and begin to understand how these threads of life connect.
Additional Opportunities

University of Minnesota Landscape Arboretum
**Veterans Memorial Garden**

Envisioned as a living memorial to Minnesota Veterans, the garden is to honor all men and women in Minnesota who have served their country in time of war. The garden will commemorate the valor of all men and women from the war of Independence to the war on Terrorism that have been a part of this States evolution. A central gathering place, monuments, fountains, pathways and open space will be within a large garden that will bring color, texture and seasonal change to the Memorial.

A place of solemn beauty the garden allows peaceful reflection and will serve as a permanent reminder of the sacrifices made to preserve our freedom.

**Seed Museum**

The Seed Museum Project’s focus is on seed preservation, seeds from heirloom varieties of vegetable herbs and ornamentals that have historical significance for the upper Midwest. Unlike hybrid plants, gardeners can save seeds from heirloom varieties with the assurance that the fruit from each new generation of plants will bear fruit that is similar to the fruit from the past seasons. The Museums seed plant specimens represent a unique resource for the scientific community and society as a whole.

The Museum will provide free, regionally adapted seeds to urban farmers and gardeners. People may apply to obtain seeds if they agree to plant the seeds, nurture the plants, and return some seeds from the next generation at the end of the season. The Seed Museum will help make new connections between environmental and cultural diversity.

The Seed Museum is intended to foster sustainable food systems throughout Minnesota. It will make a necessary resource accessible to a broad group of people, create a new community of urban farmers, and bridge those who grow for fun and those who must grow out of necessity. The Seed Museum will be an extension of the Universities existing research and development programs.

**Seasonal Garden**

One of the most colorful displays in the Arboretum Gardens, and a favorite of repeat visitors will be the Seasonal Garden. The spring gladly welcomes multiple varieties of bulbs, the summer boasts colorful annuals, the fall features chrysanthemums from deep red to sun-drenched yellow and winter will be home to sculpture surrounded by colorful branches and evergreens. Filled with seasonal displays, the garden will offer a delightful garden setting whose beauty changes every three to four months to reflect and complement our unique art and sculpture exhibitions.

The Seasonal garden will be a focal point at the entry to the Arboretum just beyond the east gate and carry into the gate area and entry road as well. The garden can also be host to annual design competitions with the successful designers work being put on display. Laced with color and changing designs, this dramatic garden creates a relaxing ambiance for any special occasion.
Additional Opportunities

University of Minnesota Landscape Arboretum
A dog park would be a regional dog exercise, training and competition facility for dogs of all sizes and breeds. The dog park is a place where people and their dogs can play together. These facilities offer dogs off-leash play areas while their people enjoy the park-like setting. The dog park might accommodate dog exercise and play areas for large dogs, small dogs, old dogs, wet dogs and puppies. Trials and events areas would include an agility course, field trials area, dock dog area, frisbee dog area, and an events open space. Amenities such as rain and sun shelters, water fountains, a pond or lake, seating, waste containers would sit in a well landscaped site with shade trees and gardens with open grass areas and hills and rolling terrain. The facility would be fully fenced space within a maintenance area and possible dog care facility as well. A dog park would be a place to host social gatherings, dog competitions, parties, seminars and demonstrations.

A roof garden is any garden on the roof of a building. Besides the decorative benefit, roof plantings may provide food, temperature control, hydrological benefits, architectural enhancement, habitats or corridors for wildlife, and recreational opportunities. A roof garden is actually very different from a green roof, although the two terms are often and incorrectly used interchangeably. A roof garden is an area that is generally used for recreation, entertaining, and as an additional outdoor living space for the building’s residents. It may include planters, plants, dining and lounging furniture, outdoor structures such as pergolas and sheds, and automated irrigation and lighting systems. A roof garden reestablishes the relationship between humans and nature that can be lost in urban environments. It is different from a green roof in that the considerations are primarily of an aesthetic or recreational nature, whereas a green roof is usually constructed to cover a large area in the most economical and efficient means possible with an emphasis towards improving the insulation or improving the overall energy efficiency of cooling and heating costs within a building.

The roof garden at the Arboretum could be developed as an extension to the existing Visitor Center, creating both an amenity and an educational tool. The Garden can be used for seminars, events, or just a place of relaxation.

The Landscape Arboretum and Horticultural Research Center both have outdated and inadequate maintenance facilities. Much valuable equipment is stored outside and staff offices, lunchroom and meeting space are sub-standard, crowded and deficient in almost every respect. The Arboretum’s 1998 Master Plan selected several locations for a new, combined Arboretum/HRC maintenance facility with expanded storage for tools, equipment, supplies and improved staff spaces.

In spring 2011 the Arboretum was approached by the City of Victoria about the possibility of building a shared maintenance facility on Arboretum property. The City also needs a new facility and has funding for construction but no suitable sites. The Arboretum has land available and could greatly benefit from a partner to share infrastructure construction and facility operation costs. Both parties could share storage space, mechanic shop equipment, fuel storage, salt/sand storage etc. A location within the city limits of Victoria and roughly centered between the HRC and Arboretum Garden areas would function very well and be cost efficient to operate. Whether a shared maintenance facility could become a reality will take much more discussion before it becomes a reality.
## Costs Summary

### University of Minnesota Landscape Arboretum

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.

#### Development Opportunities

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#### Circulation and Parking

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<td>4835 sqft</td>
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<td>New control gate</td>
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### Western Drive

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<th>Item Description</th>
<th>Quantity</th>
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<th>Total Price</th>
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<tbody>
<tr>
<td>New asphalt roadway with base</td>
<td>149280 sqft</td>
<td>$3</td>
<td>$447,840</td>
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<tr>
<td>New 10' asphalt path with base</td>
<td>36500 sqft</td>
<td>$1.75</td>
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<td>New retaining wall</td>
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### Eastern Drive

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### Roundabout

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<td>New curb &amp; gutter</td>
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<td>New asphalt roadway with base</td>
<td>8500 sqft</td>
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<td>Concrete island curb</td>
<td>1070 sqft</td>
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<td>Island planting</td>
<td>1260 sqft</td>
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<td>Island irrigation</td>
<td>1260 sqft</td>
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University of Minnesota Landscape Arboretum

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Rain Garden Parking Lot Expansion

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<th>Unit Price</th>
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<td>New asphalt roadway with base</td>
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<td>New curb &amp; gutter</td>
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<td>29590 sqft</td>
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<td>Island Irrigation</td>
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Pedestrian / Bike Trail

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<tr>
<td>New 10' asphalt path with base</td>
<td>36500 sqft</td>
<td>$1.75</td>
<td>$63,875</td>
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<tr>
<td>New retaining wall</td>
<td>4500 sqft</td>
<td>$20</td>
<td>$90,000</td>
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<tr>
<td>Regulatory signage</td>
<td>4 ea</td>
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Western Drive

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<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total Price</th>
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<tbody>
<tr>
<td>New asphalt roadway with base</td>
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Eastern Drive

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<td><strong>Total</strong></td>
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Collections Drive

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<td>New asphalt roadway with base</td>
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