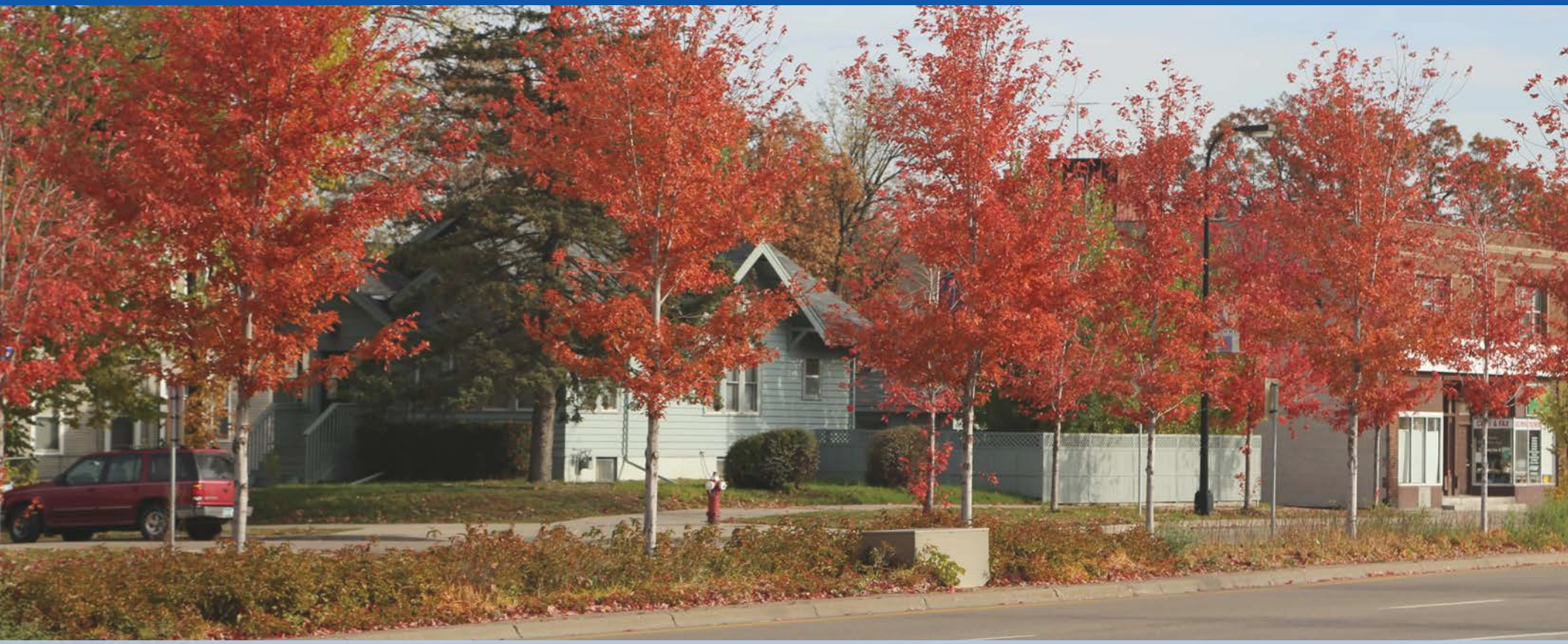
Hennepin County Sustainable Landscape Guidelines
for Successful Plantings

Department of Community Works



Hennepin

Hennepin County Sustainable Landscape Guidelines for Successful Plantings

This guidance document was created by Barr Engineering Co. exclusively for Hennepin County's Department of Community Works to promote successful plantings for sustainable landscapes.

The guidelines are organized as follows:

- Site Selection and Planning
- Vegetation
- Soils
- Water
- Materials Selection
- Human Health and Well Being
- Implementation
- Maintenance
- Education
- References
- Planting List

Department of Community Works

Site Selection and Planning

Conduct an inclusive site selection and design process that will result in lasting, maintainable landscapes.

Design landscapes only to the extent that they can be maintained. Neat and simple designs may be most appropriate.

Whenever possible protect and conserve undisturbed soils and mature trees, such as these mature oaks.

Guideline		Additional Information
1	Support sustainable design with complete long-term funding.	Aspects of planting that are typically insufficiently funded include soil preparation and on-going maintenance.
2	Inform the County Board of site maintenance requirements prior to accepting a landscape design. Appropriate long-term maintenance budget must be assured prior to landscape construction.	Complex landscapes that do not have sufficient budget for maintenance can end up looking ugly and negatively influence the County's reputation.
3	Identify reliable partnerships to support planting projects. Clearly identify duties and hold partners accountable for these duties.	The goal is to establish and maintain landscape plantings long into the future.
4	Conduct the site design process so that County staff provides direction to the project architect and landscape architect before they begin designing. Staff review must occur regularly throughout the design process.	County staff can provide insights into the County's needs that will make for a better final product and more efficient use of budget.
5	Conduct an assessment of site conditions and natural resources prior to design. Protect and conserve undisturbed soils, trees, and native plant communities wherever possible.	Understanding the natural attributes of a site can allow for their protection and the possibility of expanding upon ecological qualities.
6	Assess whether cultural, historic and archaeological resources exist. Minimize averse effect to these resources.	Once lost, valuable site resources can rarely be restored.
7	Identify existing invasive or noxious plant species and plan for their removal pursuant to the County's Integrated Pest Management Plan.	Invasive plants will degrade both native plant communities and designed plantings if left unchecked. They can be costly to remove.

A Landscape Design Intention Statement should include: Philosophy of the approach (such as a place of respite or a clean and beautiful transition from the parking lot), primary constraints (such as underground utilities or existing trees), project goals, and any details needed for maintenance or repair.

Incorporate stormwater bioretention basins where possible, such as along parking lots to enhance ecological function by capturing stormwater for the benefit of plants, local streams and groundwater.

Guideline		Additional Information
8	Construction limits should be included on all plan sets and enforced throughout construction.	Protecting existing trees and soil results in long-lived plantings and reduces maintenance and replacement budgets. Penalties for violated construction or disturbance limits should be established.
9	Increase tree canopy wherever feasible.	Trees provide multiple benefits including: reducing energy costs for building cooling, improving the working and living environment, providing habitat and reducing stormwater runoff.
10	Design to enhance ecosystem function through the incorporation of stormwater best management practices (BMPs) where possible.	BMPs reduce stormwater runoff and improve water quality while providing irrigation to the landscape that would otherwise be piped away.
11	Develop a Security Diagram that includes lighting and shows plantings at maturity.	This will aid in the design of plantings that will not grow to cover lights or create hazardous conditions that limit site lines.
12	Write an Intention Statement for each site design to be referred to when future changes and maintenance is required.	Understanding the original intent of a design allows for knowledgeable critique of that approach as future needs evolve.
13	Develop a maintenance plan for each project site during the planning phase.	This focuses the design towards the site's long term success and allows for an understanding of the necessary maintenance budget.

Vegetation

Select site appropriate plants, implement carefully and maintain regularly.

Select the right plant for the right place by considering soil, light, plant height, deicing salts, and water availability.

Choose plant species that will require little or no irrigation after initial establishment.

Guideline		Additional Information
1	Establish a long-term maintenance budget before initiating a planting project.	If such a budget does not exist do not include plantings in the project or scale plantings to be consistent with the maintenance budget available.
2	Consider the level of maintenance available when making plant selection decisions and determining the composition of planting areas.	Intricate planting designs that contain a variety of perennials require a lot of maintenance. Maintenance budgets are often low so simple plantings of shrubs and ornamental grasses may be more appropriate.
3	Do not rely upon volunteers for maintenance. Establish an appropriate budget for staff or contracted professionals to conduct maintenance.	Consider volunteers a bonus if available and qualified.
4	Select the right plant for the right place by taking into consideration conditions of soil, light, water availability and local use of deicing salts. Also select for ultimate plant height and growth habit in order to prevent the need for excessive pruning.	Selecting plants that are not adapted to a site will result in their death or in the need for excessive supplemental water, fertilizer or pesticides to keep them alive. Careful plant selection will result in reduced maintenance.
5	Select species that are low maintenance such as those that form dense masses that prevents weed growth, those that are drought tolerant, or trees and shrubs that are seedless.	Dense, simple plantings do not allow for weed establishment, and non-professional gardeners can tell which plants belong and which are weeds.
6	Choose plant species that will require little or no irrigation after initial establishment. Most plantings will require irrigation (or hand watering) the first three years of establishment.	Choosing appropriate species can eliminate the need for a permanent irrigation system and result in healthier plants through drought periods.

Select low-maintenance species that form dense masses, such as this low bush honeysuckle (in the foreground).

When choosing plants that attract wildlife, it's important to consider location, so that wildlife is not drawn to areas it doesn't belong.

Guideline		Additional Information
7	Select plant species for disease and insect resistance.	This will limit the need for pesticides and fertilizers.
8	Prioritize trees for plantings.	Shrubs and perennials require a higher level of maintenance than is typically available.
9	Select a diversity of tree species. Focus on drought tolerant trees unless wet site conditions exist.	Tree diseases such as Dutch elm disease and emerald ash borer teach us to plant many species on one site to prevent the death of all trees when and epidemic effects a tree species.
10	Restore native plant communities on large sites when sufficient maintenance budget is available. This is a long-term commitment.	Prairie and woodland plantings are an environmentally sound alternative to large lawns.
11	Specify plants that attract wildlife (especially birds, bees, butterflies and other beneficial insects) where appropriate.	Specify plants that do not attract wildlife where wildlife does not belong, such as along busy streets.
12	In special situations plant for food production, particularly fruit trees.	Plan for the maintenance and harvest of food produced in the landscape when planning a food producing landscape. Designate a responsible group.
13	Consider the soil volume available for trees when designing. Do not over plant in areas of limited soil volume such as in narrow boulevards or parking lot islands.	Different species of trees require different soil volumes to reach maturity. A good soil volume target is 1,000 cubic feet of soil per tree.
14	Select salt tolerant species including salt tolerant turf grasses near walkways and paved areas that require snow removal.	Several new turf blends have been developed that have excellent salt tolerance.

Soils

Protect un-impacted soils and regenerate degraded soils to increase the long-term survival of plants.

Plan for soil amendment or replacement for areas where plantings are to occur. Decompacting soils after construction projects is critical to plant success.

Guideline		Additional Information
1	Test existing topsoil for proper pH, percent organic matter, and soil nutrients prior to planting to determine if amendments or total soil replacement is necessary.	If replacement topsoil is necessary, conduct testing to assure quality.
2	Topsoil shall be amended to contain a minimum percent decomposed organic matter as follows: – For sandy soils: 2% – For loams: 3% – For clay: 5%	Soil organic matter is a critical component for plant growth. It holds soil moisture, releases nutrients and supports soil microbes.
3	Identify 'No Planting Zones' for projects sites where plant success will be limited because appropriate soil conditions cannot be achieved.	Be realistic about soil conditions that make plant failure likely. If budget is not available to import new soil or amend existing soils a choice not to plant makes sense.
4	Plan for soil amendment or new soil import for areas where plantings are to occur.	The best time to amend soils is at the time of construction.
5	After construction soils should be loosened with a spading machine to a depth of 18 inches to less than 1400 kPa (200 psi). It is best to incorporate organic matter at the time of soil loosening.	Soil loosening allows for plant essential water and oxygen to enter the soil. It is a fairly simple procedure when done just after construction with a hydraulic spade, but very difficult to achieve later after plantings have been implemented.
6	Never work wet soils.	This readily compacts soils and smearing seals the surface.

Soils amendments should be fully decomposed and meet MN DOT standard specifications.

Guideline		Additional Information
7	Soils amendments should be fully decomposed and meet MN DOT standard specifications.	Undecomposed soil amendments consume oxygen and nitrogen through microbial activity and result in plant death.
8	Soil amendments should be locally sourced to avoid long transport distances.	Peat moss should not be specified as a soil amendment because its harvest destroys a native plant community.
9	After planting (including lawns) it is critical to keep heavy equipment off the green space to prevent soil compaction.	Soil compaction is a primary obstacle to plant success on developed sites.
10	Planting beds should never have open soils after they are planted. Apply organic mulch such as non-dyed shredded hardwood to keep the ground continually covered.	Mulch prevents weed growth, holds soil moisture, keeps soil temperatures down and releases nutrients as it decomposes.
11	Consider the use of structural soils in dense urban areas where trees are to be grown in situations with 90% - 100% impervious surface such as in parking lots and plazas.	Structural soils support heavy pavement while allowing trees to root into soils beneath.

Water

Conserve water in landscapes through progressive stormwater management techniques, stormwater capture and use, and through limited irrigation.

Where feasible, capture stormwater for use as irrigation.

Design stormwater BMPs to be landscape amenities such as this parking lot rainwater garden whose trees will shade the parking lot.

Guideline		Additional Information
1	Choose stormwater best management practices (BMPs) as the first choice in stormwater management. Capture and infiltrate as much stormwater on site as possible.	BMPs have many advantages over traditional stormwater management techniques. For example, BMPs can infiltrate stormwater into the ground reducing the volume runoff.
2	Disperse stormwater BMPs throughout sites. Avoid concentrating stormwater treatment in one area of a site.	Treat water where it lands to avoid large treatment facilities that cannot infiltrate stormwater, and that accumulate large quantities of sediment.
3	Design stormwater BMPs to be landscape amenities and to simultaneously serve other purposes such as places to plant trees that will shade a parking lot.	Stormwater features should be multi-functional.
4	Capture stormwater for use as a source of irrigation water in ponds or cisterns if feasible, economically reasonable and maintainable.	Regulating agencies may require these systems to extensively treat stormwater prior to their use as irrigation, and they require regular maintenance.
5	When site planning, preserve vegetation where possible to prevent erosion and reduce stormwater runoff.	Sites can be thoughtfully designed to reduce the amount of hard surface that sheds stormwater. Valuable pre-existing vegetation can be designated for preservation to reduce runoff.
6	Design plantings with drought tolerant species to avoid the need for regular irrigation.	To conserve irrigation water.

Allow turf to go dormant in summer to reduce the need for irrigation.

Drought-tolerant species such as sedums are ideal for green roofs.

Guideline		Additional Information
7	Plan to irrigate plantings for the first three years while they become established then reduce or eliminate irrigation.	Many established plantings (after the first three years) in urban areas may require some irrigation during times of severe drought.
8	Irrigation system technology is improving. Include rain sensors or soil moisture sensors with all irrigation systems.	Use drip irrigation systems where appropriate.
9	Establish a regular irrigation system maintenance schedule.	This will reduce the amount of wasted water and prevent the death of plants.
10	Plant drought tolerant turf grass species.	Drought (and salt) tolerant turf seed and sod is available that will reduce irrigation needs and increase turf survival during drought.
11	Allow turf to go dormant in summer to reduce the need for irrigation.	Turf grasses naturally go dormant in the heat of summer. Golden lawns are not dead. During extreme drought, however, light sprinkling once every few weeks may be necessary to prevent the turf from dying.

Materials Selection

Choose durable, regionally-sourced materials to increase landscape longevity.

Mulch, compost, and soil should be sourced regionally. Importing these materials from other parts of the country is wasteful.

Guideline		Additional Information
1	Specify regionally sourced materials (especially mulch and soil amendments) when available to reduce shipping distances and support the local economy.	Cypress mulch should never be used. It is harvested from native plant communities in the southern U.S.
2	Choose materials that are durable and adaptable to changing conditions such as seasonal alterations of wet/dry and hot/cold, and climate change.	Durable materials are long lasting and have a smaller carbon footprint than materials that need frequent replacement.
3	Use salvaged materials from site when appropriate.	This avoids the negative environmental impacts from the creation and transport of new materials.

Human Health and Well-Being

Design sites to promote safety, conserve resources and eliminate sources of pollution.

Design safe walkways and parking lots; consider sight distances and mature plant heights along roadways.

Design spaces for social interaction and quiet reflection, such as this "outdoor room."

Guideline		Additional Information
1	Incorporate safety and security measures in site design such as considering sight distances along roadways and specifying low growing plants along building entrances to eliminate hiding opportunities.	
2	Design safe walkways and parking lots for safe car/ pedestrian intersection.	Permeable pavers, for example, reduce winter ice accumulation reducing pedestrian slipping and reduce salt applications. Salts wash into natural water bodies where they are destructive to life.
3	Trees and shrubs should not disrupt original lighting schemes.	Plant trees away from lamp posts where they can eventually grow above.
4	Design for snow storage. Plan for snow storage adjacent to walks and drives. Have snow melt drain away from walkways.	Prevent the need to truck snow off site. This will reduce fuel consumption.
5	Select plant species for disease and insect resistance to limit the use of pesticides and fertilizers.	Follow the Hennepin County integrated Pest Management (IPM) Policy.
6	Place plantings to shade buildings and parking lots in order to minimize building air conditioning and to reduce the urban heat island effect.	Trees have multiple benefits when they are thoughtfully placed.

Implementation

Practice and verify responsible landscape construction practices in order to ensure the longevity and health of plantings.

Routine inspections during planting provides opportunities for directing crews and preventing problems such as planting too deeply or supplying the wrong plants.

Guideline		Additional Information
1	Develop performance specifications for proper soils preparation, planting, mulching and maintenance.	Specifications serve as contract language in Agreements with planting contractors which hold them accountable for the work specified.
2	Clearly communicate best practices expectations to the planting contractor. This is communicated within specifications but should also be communicated in pre-bid and pre-construction meetings.	Direct conversations with the workers on-site and directions in the field are most effective in achieving correct planting technique.
3	Provide regular site inspections to verify proper soil preparation and planting practices.	Good timing of inspections prevents improper work.
4	Provide regular site inspections during the planting process to ensure proper erosion control methods are installed and maintained.	
5	Modify contractor payment schedules to incentivize appropriate maintenance through the plant establishment period.	Creation of a separate maintenance Agreement just after planting may be the most effective contracting method in achieving appropriate maintenance. This also allows the general contractor to close out the project after plantings are complete.
6	Consider a post-construction rest period of up to one year before installing vegetation to allow for soil stabilization and better selection and oversight of the landscape contractor through a direct contract with Hennepin County.	This provides time for a more careful process.

Maintenance

Properly and regularly maintain plantings.

Maintain plantings from the start to reduce the amount of weeding needed in the future.

Guideline		Additional Information
1	Provide adequate maintenance budget for each site.	If adequate budget is not available reduce the extent of plantings to accommodate the level of maintenance available.
2	Develop a consistent site record keeping system to understand maintenance history.	
3	Clearly define maintenance tasks and expectations required of maintenance contractors during the contract maintenance period.	
4	Create individual maintenance plans for each site.	Each site will have slightly different maintenance needs as identified in the Landscape Intention Statement.
5	Establish a plant replacement cycle.	For example, foundation planting typically last about fifteen years. At that point they usually need replacement.
6	Maintain plantings from the start, just after they are planted.	Once weeds establish they can be very difficult to eliminate. Plucking them when they are small prevents a larger weeding effort in the future.
7	If necessary contract maintenance services outside Hennepin County staff for high profile or difficult sites.	Professional services contracts with professional landscape maintenance contractors can be cost effective with proper oversight.

The County's IPM approach to maintenance describes the appropriate, judicial use of pesticides.

Guideline		Additional Information
8	Provide proper maintenance training to staff and to project partners such as garden clubs, Boy Scouts or Sentence-to-Serve crews.	
9	Use the Integrated Pest Management (IPM) approach to pesticide application in order to effectively and sustainably limit insects and disease.	IPM doesn't preclude the use of pesticides. It makes their use (if needed) more effective and minimizes environmental exposure.
10	Use winter salt best management practices to reduce pavement salt application.	All deicers have negative impacts on plants and soil, and in natural waterbodies to which it can be deposited. Careful (educated) use of deicers is important.
11	Evaluate and document site performance in order to improve the site and to learn for future projects.	

Education

Promote landscape sustainability through education and awareness.

Incorporate educational signage where appropriate to promote landscape sustainability awareness.

Guideline		Additional Information
1	Develop installation and maintenance training programs.	
2	Attend winter pavement management workshops to reduce landscape salt use.	
3	Promote landscape sustainability awareness through marketing campaigns, online resources, educational signage, and community stewardship programs.	Teach about the many benefits of plantings (especially trees); environmental, health, economic).
4	Educate the public about the aesthetic of sustainable landscapes in an attempt to manage expectations.	Sustainable landscapes may look a bit messy because of a lock of pesticides. Also, brown grass in summer as a result of conscious effort to reduce water usage is a good thing

References

American National Standards Institute: American Standard for Nursery Stock, ANSI Z60.102014
http://americanhort.org/documents/ANSI_Nursery_Stock_Standards_AmericanHort_2014.pdf

Buildings, Benchmarks, and Beyond (B3) Guidelines: Site and Water
http://www.b3mn.org/guidelines/index.html

GreenLITES (NYSDOT) Project Design Certification Program
http://www.dot.ny.gov/programs/greenlites/operations-cert

Guidance for Federal Agencies on Sustainable Practices for Designed Landscapes, Council on Environmental Quality
http://www.whitehouse.gov/sites/default/files/microsites/ceq/recommend actions on sustainable landscaping practices.pdf

Hennepin County Public Works/Transportation Dept. Urban Landscape/Streetscape Guidelines, 1995

Hennepin County Integrated Vegetation and Pest Management Policy Guidelines/Environmental Services Dept., 2002

Leadership in Energy and Environmental Design (LEED)
http://www.usgbc.org/leed

Minnesota Department of Transportation Plant Selector Program
http://www.dot.state.mn.us/roadsides/plantselector/

MnDOT Spec Book/ MN Department of Transportation, 2016 Edition
http://www.dot.state.mn.us/pre-letting/spec/

Minnesota's Invasive Species Best Management Practices for Transportation and Utility Rights-of Way/Minnesota Invasive Species Advisory Council, Draft 2015
http://www.mda.state.mn.us/misac

Minnesota's Urban & Community Forest Best Management Practices for Preventing the Introduction, Establishment, and Spread of Invasive Species, MN Invasive Species Advisory Council, 2015
http://files.dnr.state.mn.us/natural_resources/invasives/terrestrialplants/is-bmp.pdf

Minnesota Stormwater Best Management Practices Manual/MN Pollution Control Agency
http://pca.state.mn.us/water/stormwater/stormwater-manual.html

The Sustainable Sites Initiative (SITES) v2 Rating System
http://www.sustainablesites.org

Plant List

Preferred List: *These species have been determined to be most appropriate for planting on Hennepin County properties. They have been chosen because they typically are not messy, they are tolerant of soils that occasionally dry out, and they are not aggressive spreaders. Use these species as first choices when selecting for Hennepin County projects.*

Perennial Flowers:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Aruncus 'Misty Lace'	Aruncus 'Misty Lace'	○	◑		💧	💧	💧	1-1.5 ft	1-1.5 ft	Tough Plant, Pollinator species
Big Leaf Aster Ⓝ	Aster macrophyllus		◑	●		💧	💧	1 ft	1-2 ft	Shade tolerant ground cover
Japanese Painted Fern	Athyrium niponicum var. pictum		◑	●		💧	💧	1-1.5 ft	1.5-2 ft	Many other nice cultivars
Blue Wild Indigo	Baptisia australis	○	◑		💧	💧	💧	3-4 ft	3-4 ft	Shrub-like form
Pink Turtlehead 'Hot Lips'	Chelone obliqua 'Hot Lips'	○	◑		💧	💧		2-3.5 ft	1.5-3 ft	Nice rain garden plant
Barrenwort	Epimedium spp.		◑	●		💧	💧	1 ft	1-2 ft	Many nice cultivars that are drought tolerant
Big Root Geranium	Geranium Macrorrhizum	○	◑			💧	💧	1 ft	1.5-2 ft	Dry shade plant, Fragrant foliage
Daylily Cultivars	Hemerocallis spp.	○	◑	●		💧	💧	1-3 ft	1-3 ft	Good Cultivars: 'Strawberry Candy'; 'Chicago Apache'; 'Charles Johnson'; Many others
Hosta Cultivars	Hosta spp.		◑	●		💧	💧	1-2 ft	1-3 ft	Best Cultivars: 'Royal Standard'; 'Gold Standard'; Many others
Sedum 'Autumn Joy'	Hylotelephium 'Herbstfreude' ('Autumn Joy')	○	◑			💧	💧	1.5-2 ft	1.5-2 ft	Great pollinator species
Rough Blazing Star Ⓝ	Liatris aspera	○	◑			💧	💧	2-4 ft	.5 ft	Excellent pollinator species
Starry Solomon's Plume Ⓝ	Maianthemum stellatum	○	◑	●		💧	💧	1-2 ft	1-2 ft	Great dry shade groundcover
Ostrich Fern Ⓝ	Matteuccia struthiopteris	○	◑	●	💧	💧		3-6 ft	3-5 ft	Aggressively fills an area
Wild Bergamot Ⓝ	Monarda fistulosa spp.	○	◑		💧	💧	💧	4 ft	2-3 ft	Many nice cultivars such as: 'Raspberry Wine'
Peony	Paeonia	○	◑			💧	💧	3 ft	3 ft	Many nice cultivars such as: 'Festiva Maxima'; 'Sarah Bernhardt'
Variegated Japanese Solomon's Seal	Polygonatum odoratum var. pluriflorum Variegatum	○	◑	●		💧	💧	1-4 ft	1-3 ft	Tough and showy dry shade plant


Chelone obliqua 'Hot Lips' (Pink Turtlehead)


Hosta spp.


Baptisia australis (Wild Blue Indigo)

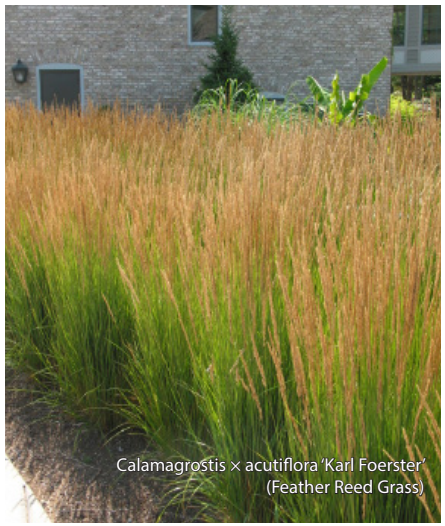
*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Preferred List: *These species have been determined to be most appropriate for planting on Hennepin County properties. They have been chosen because they typically are not messy, they are tolerant of soils that occasionally dry out, and they are not aggressive spreaders. Use these species as first choices when selecting for Hennepin County projects.*

Grasses and Grass-Like Plants:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Blue Grama Grass Ⓝ	Bouteloua gracilis	○				💧	💧	1 ft	1 ft	Soils must be sandy
Feather Reed Grass 'Karl Foerster'	Calamagrostis × acutiflora 'Karl Foerster'	○	◑		💧	💧	💧	3-5 ft	2-3 ft	Grows well in wide range of conditions, Stands through winter
Blue Zinger Glaucous Sedge	Carex flacca 'Blue Zinger'		◑	●	💧	💧	💧	1-1.5 ft	1-2 ft	Grows well in wide range of conditions, nice blue foliage
Palm Sedge Ⓝ	Carex muskingumensis	○	◑		💧	💧		1-2 ft	1-2 ft	Preferred Cultivar: 'Oehme', Excellent rain garden species
Silver Plume Grass	Miscanthus sinensis	○	◑		💧	💧	💧	4-6 ft	3-6 ft	Preferred Cultivar: 'Malepartus', Many other nice cultivars
Switch Grass Ⓝ	Panicum virginicum	○	◑		💧	💧	💧	4-5 ft	1.5-2 ft	Preferred Cultivar: 'Heavy Metal', Many other nice cultivars
Little Bluestem Ⓝ	Schizachyrium scoparium	○				💧	💧	2-4 ft	1.5-2 ft	Preferred Cultivar: 'Blue Heaven', Stands upright throughout winter
Prairie Cordgrass Ⓝ	Spartina pectinata	○	◑		💧	💧		4-6 ft	2-4 ft	Aggressively spreads, for natural areas
Frost Grass	Spodiopogon sibiricus	○	◑		💧	💧		3-5 ft	1.5-2 ft	Durable and ling lived
Prairie Dropseed Ⓝ	Sporobolus heterolepis	○	◑			💧	💧	2-3 ft	2-3 ft	Preferred Cultivar: 'Tara', Well behaved, Showy native


Calamagrostis × acutiflora 'Karl Foerster' (Feather Reed Grass)


Panicum virginicum (Switch Grass)


Carex muskingumensis 'Oehme' (Palm Sedge)

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Preferred List: *These species have been determined to be most appropriate for planting on Hennepin County properties. They have been chosen because they typically are not messy, they are tolerant of soils that occasionally dry out, and they are not aggressive spreaders. Use these species as first choices when selecting for Hennepin County projects.*

Shrubs:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Regent Serviceberry	Amelanchier alnifolia 'Regent'	○	◑	●		💧	💧	4-6 ft	4-8 ft	Fruit edible for birds and people
Glossy Black Chokeberry Ⓝ	Aronia melanocarpa	○	◑			💧		4-6 ft	4-6 ft	Best Cultivars: 'Autumn Magic', 'Morton', 'Viking'
Pagoda Dogwood Ⓝ	Cornus alternifolia	○	◑	●		💧		15-25 ft	20-30 ft	Beautiful native understory tree
Grey Dogwood Ⓝ	Cornus racemosa	○	◑		💧	💧	💧	10-15 ft	10-15 ft	Adapts to a wide range of conditions, Spreads by rhizome
Muskingum Grey Dogwood	Cornus racemosa 'Muszam'	○	◑			💧		3 ft	5 ft	Low growing and slowly spreading, Good for massing
Redtwig Dogwood Ⓝ	Cornus stolonifera	○	◑		💧	💧		6-10 ft	6-10 ft	Good for natural area, Excellent for massing, Best if cut back to 6" every 5 years
Lowbush Honeysuckle Ⓝ	Diervilla lonicera	○	◑	●		💧	💧	2-3 ft	2-4 ft	Excellent for massing
Annabelle Hydrangea	Hydrangea 'Annabelle'	○	◑			💧		3-5 ft	3-5 ft	Great for massing, Winter interest
Winterberry 'Red Sprite'	Ilex verticillata 'Red Sprite'	○	◑	●	💧	💧		5-7 ft	5-7 ft	Must plant with male 'Jim Dandy'
Mint Julep Juniper	Juniper chinensis 'Mint Julep'	○				💧	💧	5 ft	5-8 ft	Beautiful deep green foliage year round
Calgary Carpet Juniper	Juniperus sabina 'Monna'	○	◑			💧	💧	1 ft	5-8 ft	Beautiful deep green foliage year round
Mockorange	Philadelphus spp.	○	◑			💧		5-6 ft	3-4 ft	Good Cultivars: 'Blizzard', 'Snowbelle', 'Aureus'
Ninebark Ⓝ	Physocarpus opulifolius	○	◑			💧	💧	5-10 ft	5-10 ft	Good Cultivars: 'Diabolo', 'Dart's Gold', 'Center Glow'


Hydrangea 'Annabelle'


Rhus aromatica (Fragrant Sumac)

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Preferred List: *These species have been determined to be most appropriate for planting on Hennepin County properties. They have been chosen because they typically are not messy, they are tolerant of soils that occasionally dry out, and they are not aggressive spreaders. Use these species as first choices when selecting for Hennepin County projects.*

Shrubs:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Fragrant Sumac Ⓝ	Rhus aromatica	○	◑			💧	💧	3-6 ft	5-10 ft	Beautiful fall color
Fragrant Sumac 'Gro-Low'	Rhus aromatica 'Gro-Low'	○	◑			💧	💧	2-3 ft	5-8 ft	Excellent for massing, Drought tolerant
Alpine Currant	Ribes alpinum	○	◑	●		💧		3-6 ft	3-6 ft	Excellent for hedging
Rose	Rosa 'Purple Pavement'	○				💧		4-6 ft	4-6 ft	Many other nice cultivars
Little Princess Spirea	Spiraea japonica	○				💧		1-3 ft	2-4 ft	Tough dwarf spirea
Goldmound Spirea	Spiraea japonica 'Gold Mound'	○				💧	💧	2-3 ft	3-4 ft	Leaves emerge gold in spring, Fade to gold-green mid summer
Snowmound Spirea	Spiraea nipponica 'Snowmound'	○	◑			💧	💧	2-4 ft	2-4 ft	Dwarf shrub, Beautiful spring flowers
White Snowberry	Symphoricarpos albus	○	◑		💧	💧	💧	3-5 ft	3-5 ft	Many nice cultivars
Dwarf Korean Lilac	Syringa meyeri	○				💧	💧	4-5 ft	5-6 ft	Dwarf, Mildew resistants, fragrant
Miss Kim Lilac	Syringa pubescens subsp. patula 'Miss Kim'	○				💧		4-10 ft	5-10 ft	Crimson fall color
Yew	Taxus x media	○	◑	●		💧	💧	2-20 ft	2-12 ft	Tolerates a wide range of conditions, Preferred Cultivar: 'Taunton'
Viburnum Ⓝ	Viburnum dentatum	○	◑			💧		3-5 ft	3-5 ft	Best Cultivar: 'Christom' Blue Muffin
Wayfaring Bush Viburnum	Viburnum lantana	○	◑			💧	💧	7-10 ft	7-10 ft	Preferred Cultivar: 'Mohican'
Highbush Cranberry Ⓝ	Viburnum trilobum	○	◑		💧	💧		8-10 ft	8-10 ft	Preferred Cultivar: 'Wentworth', Winter interest

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Shade trees:

These species have been determined to be most appropriate for planting along Hennepin County roadways without overhead utilities. They have been chosen because they generally they are tolerant of soils that occasionally dry out and receive salt, and they are not aggressive spreaders. Use these species as first choices when selecting for Hennepin County projects.

Common Name	Scientific Name	Family	*Exposure			**Salt Tolerance			Height	Spread	Notes
			Full Sun	Partial Sun	Shade	Tolerant	Moderate	Intolerant			
Manchurian alder	Alnus hirsuta	Betulaceae	○	◑	●			▲	25-40 ft	20-30 ft	one of the most drought tolerant alders
River birch (N)	Betula nigra	Betulaceae	○				▲		30-40 ft	2030 ft	pink-reddish bark, exfoliates to reveal lighter inner bark
Blue beech, American hornbeam (N)	Carpinus caroliniana	Betulaceae		◑	●		▲		25-40 ft	15-40 ft	naturally occurs in dry woodland understory
Chinese catalpa	Catalpa ovata	Bignoniaceae	○	◑			▲		20-30 ft	20-30 ft	tree can be messy when fruits and flowers drop
Northern catalpa	Catalpa speciosa	Bignoniaceae	○				▲		40-60 ft	20-40 ft	tree can be messy when fruits and flowers drop
Hackberry (N)	Celtis occidentalis	Cannabaceae	○	◑			▲		40-60 ft	40-50 ft	weak wood and branch structure
Katsura tree	Cercidphyllum japonicum	Cercidiphyllaceae	○	◑			▲		40-60 ft	20-30 ft	sensative to tough and dry sites
Turkish filbert	Corylus colurna	Betulaceae	○	◑				▲	40-50 ft	15-35 ft	nut producing
Hardy rubber tree	Eucommia ulmoides	Eucommiaceae	○	◑			▲		40-60 ft	30-50 ft	no serious pest problems
Ginkgo	Ginkgo biloba	Ginkgoaceae	○				▲		50-80 ft	40-50 ft	only male trees should be planted
Honey locust (N)	Gleditsia triacanthos	Fabaceae	○			▲			40-70 ft	30-50 ft	request thornless variety
Kentucky coffeetree (N)	Gymonocladus dioicus	Fabaceae	○			▲			60-80 ft	30-50 ft	best cultivars: 'Stately Manor' and 'Espresso'
Tuliptree	Liriodendron tulipifera	Magnoliaceae	○	◑				▲	60-80 ft	35-50 ft	
Blackgum	Nyssa sylvatica	Nyssaceae	○	◑			▲		30-50 ft	20-30 ft	limited use, edge of climate zone, pretty fall colors
American sycamore	Platanus occidentalis	Platanaceae	○	◑			▲		75-100 ft	50-70 ft	
London planetree	Platanus x acerifolia	Platanaceae	○	◑			▲		70-100 ft	65-80 ft	limited use, edge of climate zone
Swamp white oak (N)	Quercus bicolor	Fagaceae	○				▲		50-60 ft	50-60 ft	transplants well, more tolerant of poor drainage
Bur oak (N)	Quercus macrocarpa	Fagaceae	○					▲	50-80 ft	50-80 ft	spreading form, wildlife and insect supporting
Oak hybrids	Quercus spp.	Fagaceae	○				▲		40-60 ft	10-40 ft	columnar, includes prarie stature, heritage, regal prince
Basswood, American linden (N)	Tilia americana	Tilaceae	○	◑				▲	50-80 ft	50-80 ft	suggested cultivars include 'redmond', 'boulevard'
American elm hybrids	Ulmus spp.	Ulmaceae	○				▲		50-70 ft	30-60 ft	suggested cultivars include 'Accolade', 'Frontier', 'New horizon', 'Triumph'
American elm	Ulmus americana	Ulmaceae	○				▲		50-70 ft	30-60 ft	suggested cultivars include 'Jefferson', 'Prarie expedition', 'St. Croix', 'Valley forge'
Zelkova	Zelkova spp.	Ulmaceae	○	◑			▲		50-80 ft	50-75 ft	limited use, edge of climate zone

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
(N) Minnesota native plant species

Plant List

Utility compatible:

These species have been determined to be most appropriate for planting under powerlines along Hennepin County roadways. They have been chosen because they generally will not interfere with utility wires, they are tolerant of soils that occasionally dry out and receive salt, and they are not aggressive spreaders. Use these species as first choices when selecting for Hennepin County projects.

Common Name	Scientific Name	Family	*Exposure			**Salt Tolerance			Height	Spread	Notes
			Full Sun	Partial Sun	Shade	Tolerant	Moderate	Intolerant			
Downy serviceberry	Amelanchier arborea	Rosaceae	○	◑	●		▲		15-25 ft	15-25 ft	
Shadblow serviceberry	Amelanchier canadensis	Rosaceae	○	◑			▲		10-20 ft	10-20 ft	
Allegheny serviceberry, juneberry	Amelanchier laevis	Rosaceae	○	◑				▲	15-25 ft	15-25 ft	
Eastern redbud	Cercis canadensis	Fabaceae	○	◑	●			▲	20-30 ft	25-30 ft	requires a cold-tolerant variety
Cockspur Hawthorn	Crataegus crus-galli var. inermis	Rosaceae	○					▲	20-30 ft	20-35 ft	this variety is thornless
Amur maackia	Maackia amurensis	Fabaceae	○					▲	20-30 ft	20-35 ft	no serious pest/disease problems
Star magnolia	Magnolia stellata	Magnoliaceae	○	◑			▲		15-20 ft	10-15 ft	best planted in a sheltered location
Crabapple spp.	Malus spp.	Rosaceae	○					▲	15-25 ft	15-20 ft	tree commonly produces excessive suckers
Korean Mountain Ash	Sorbus alnifoila	Rosaceae	○					▲	30-40 ft	20-30 ft	short lived species
American Mountain Ash Ⓝ	Sorbus americana	Rosaceae	○				▲		10-30 ft	10-15 ft	
European Mountain Ash	Sorbus aucuparia	Rosaceae	○				▲		20-40 ft	15-25 ft	
Showy Mountain Ash Ⓝ	Sorbus decora	Rosaceae	○					▲	15-30 ft	10-20 ft	showy clusters of white flowers in the spring
Japanese Tree Lilac	Syringa reticulata	Oleaceae	○			▲			20-30 ft	20-30 ft	produces large clusters of small creamy-white, fragrant flowers

European Moutain Ash, Photo credit: Drew Monkman

At a minimum, Hennepin County will follow the "20-10-5 rule" to ensure diversification of the county tree canopy. The "20-10-5 rule" incorporates canopy diversity goals into planning as it requires that no more than 20 percent of one family, 10 percent of one genera, or 5 percent of one species be planted in a given geographic area.

Amur maackia, Photo credit: Star Tribune

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
Ⓝ Minnesota native plant species

Plant List

Preferred List: *These species have been determined to be most appropriate for planting on Hennepin County properties. They have been chosen because they typically are not messy, they are tolerant of soils that occasionally dry out, and they are not aggressive spreaders. Use these species as first choices when selecting for Hennepin County projects.*

Coniferous Trees:

Cedar, Red Ⓝ	Juniperus virginiana	○				💧	💧	40-50 ft	10-15 ft	Tolerates hot and dry sites. Cultivar: 'Canaertii'.
American Larch Ⓝ	Larix laricina	○			💧	💧		40-80 ft	20-40 ft	Great for rain gardens
Japanese Larch	Larix kaempferi	○			💧	💧		50-60 ft	25-40 ft	Most ornamental larch, Needs adequate space
Spruce, Norway	Picea abies	○				💧		60-80 ft	20-40 ft	Needs wind protection; large, showy cones.
Spruce, Black Hills	Picea glauca var. densata	○				💧	💧	30-60 ft	15-25 ft	Better heat and drought tolerance than some other spruces.
Pine, Ponderosa	Pinus ponderosa	○				💧	💧	60-100 ft	40-50 ft	Good heat and drought tolerance
Pine, Red (Norway) Ⓝ	Pinus resinosa	○					💧	60-80 ft	25-40 ft	The Minnesota state tree.
Cedar, White Ⓝ	Thuja occidentalis	○	◑		💧	💧		25-50 ft	10-15 ft	Best cultivars: 'Techny', 'Brandon'.

Vines:

Trumpet Vine	Campsis radicans	○	◑			💧		25-40 ft	5-10 ft	Very aggressive spreader
American Bittersweet	Celastrus scandens	○				💧		15-20 ft	3-6 ft	Woody vine
Virginia creeper and Boston ivy	Parthenocissus quinquefolia; P. tricuspidata	○	◑			💧	💧	30-50 ft	5-10 ft	Vines can become aggressive

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Exception List:

These species can be selected for Hennepin County sites under exceptional circumstances. These species require regular maintenance including regular weeding, watering and fertilizing. These plants are only to be used when the maintenance they require can be provided for the life of the plants.

Perennial Flowers:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Yarrow 'Moonshine'	Achillea 'Moonshine'	○				💧	💧	1-2 ft	.7 - 1 ft	Many other nice cultivars
Blue Fortune Hyssop	Agastache 'Blue Fortune'	○	◑			💧		3-6 ft	1.5-2 ft	Long bloom time
Fragrant Giant Hyssop Ⓝ	Agastache foeniculum	○	◑			💧	💧	2-4 ft	1.5-3 ft	Seeds prolifically, Great for wild areas
Lady's Mantle	Alchemilla mollis	○	◑	●		💧		1-1.5 ft	1-2.5 ft	Beautiful foliage
Allium 'Summer Beauty'	Allium tanguticum 'Summer Beauty'	○	◑			💧	💧	1-1.5 ft	1 ft	Beautiful foliage all season long
Leadplant Ⓝ	Amorpha canescens	○					💧	2-3 ft	2-2.5 ft	Great pollinator species
Amsonia 'Blue Ice'	Amsonia 'Blue Ice'	○	◑			💧	💧	1-1.5 ft	1-1.5 ft	Beautiful foliage and fall color
Blue Star	Amsonia hubrichtii	○	◑			💧	💧	2-3 ft	2-3 ft	Beautiful fall color, Beautiful foliage
Willow Amsonia	Amsonia tabernaemontana	○	◑		💧	💧		2-3 ft	2-3 ft	Will seed, but not aggressively
Canada Anemone Ⓝ	Anemone canadensis	○	◑		💧	💧		1 ft	1-1.5 ft	Spreads aggressively, Great for rain gardens
Wild Columbine Ⓝ	Aquilegia canadensis		◑	●		💧	💧	1-2 ft	1-2 ft	Seeds freely, Great shade plant
Sage 'Valerie Finnis'	Artemisia ludoviciana 'Valerie Finnis'	○				💧	💧	1-2 ft	1-2 ft	Many other nice cultivars
Marsh Milkweed Ⓝ	Asclepias incarnata	○	◑		💧	💧		4 ft	1.5-3 ft	Seeds freely, Monarch host plant
Butterfly Flower Ⓝ	Asclepias tuberosa	○					💧	2-2.5 ft	1-2 ft	Difficult to establish; Must have sandy soil, Monarch host plant
Whorled Milkweed Ⓝ	Asclepias verticillata	○	◑			💧	💧	1-2 ft	1-2 ft	Spreads by rhizome, Monarch host plant
White Wood Aster Ⓝ	Aster divaricatus		◑	●		💧	💧	1.5-2 ft	2 ft	Robust shade plant
Heath Aster 'Blue Star'	Aster ericoides 'Blue Star'	○				💧	💧	1-2 ft	1.5-2 ft	Great pollinator species
Smooth Aster Ⓝ	Aster laevis	○	◑		💧	💧	💧	3-4 ft	2-4 ft	Seeds freely, Beautiful blue flowers
New England Aster Ⓝ	Aster novae-angliae	○			💧	💧		3-5.5 ft	2-3 ft	Seeds freely
Aromatic Aster Ⓝ	Aster oblongifolius	○				💧	💧	2 ft	2 ft	Drought tolerant
Azure Aster Ⓝ	Aster oolentangiensis	○	◑			💧	💧	3 ft	2 ft	Lovely blue aster
Lady Fern Ⓝ	Athyrium filix-femina		◑	●		💧		1-3 ft	1-2 ft	Many other nice cultivars
White Wild Indigo Ⓝ	Baptisia alba	○	◑		💧	💧	💧	3-4 ft	2-4 ft	Legume, Nitrogen fixing
Calamint 'White Cloud'	Calamintha nepeta 'White Cloud'	○				💧	💧	1-2 ft	1-2 ft	Great pollinator species, Long bloom time, drought tolerant
Harebell Ⓝ	Campanula rotundifolia	○	◑			💧	💧	1 ft	.5 ft	Long blooming

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Exception List: *These species can be selected for Hennepin County sites under exceptional circumstances. These species require regular maintenance including regular weeding, watering and fertilizing. These plants are only to be used when the maintenance they require can be provided for the life of the plants.*

Perennial Flowers:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Black Cohosh	Cimicifuga racemosa		◑	●		💧		3-6 ft	2-3 ft	Tough shade plant
Purple Prairie Clover (N)	Dalea purpurea	○				💧	💧	2-3 ft	1-1.5 ft	Great pollinator species
Pale purple Coneflower (N)	Echinacea angustifolia	○				💧	💧	1-2 ft	.75-2 ft	Great pollinator species
Purple Coneflower (N)	Echinacea purpurea	○	◑			💧	💧	2-5 ft	2 ft	Seeds freely, but not aggressively
Globe Thistle	Echinops ritro	○	◑			💧	💧	3-4 ft	1-2 ft	Great for dry shade; seeds freely
Joe-Pye Weed (N)	Eupatorium maculatum	○	◑		💧	💧		4-6 ft	3-4 ft	Many other nice cultivars
Boneset (N)	Eupatorium perfoliatum	○	◑		💧	💧		4-6 ft	3-4 ft	Great pollinator species
Wild Geranium (N)	Geranium maculatum	○	◑	●		💧	💧	1.5-2 ft	1 ft	Spreads by rhizome, Clump forming
Geranium 'Biokovo'	Geranium x cantabrigiense Biokovo	○	◑	●		💧	💧	1 ft	1 ft	Tough in dry shade, fragrant
Sneezeweed 'Rubinzwerg'	Helenium 'Rubinzwerg'	○			💧	💧		3 ft	2 ft	Many other nice cultivars
Blue Flag Iris (N)	Iris versicolor	○	◑		💧	💧		2-3 ft	2 ft	Must have evenly moist soil
Cast-Iron Plant	Kalimeris incisa	○	◑			💧	💧	2 ft	1 ft	Long bloom time
Lamium	Lamium maculatum		◑	●		💧	💧	.5-1 ft	2-3 ft	Showy ground cover
Meadow Blazing Star (N)	Liatris ligulistylis	○	◑		💧	💧		4-5 ft	1.5-2 ft	Great monarch food plant
Prairie Blazing Star (N)	Liatris pycnostachya	○			💧	💧		2-5 ft	1.5-2 ft	Great monarch food plant
Blazing Star	Liatris spicata	○				💧		2-4 ft	1 ft	Great monarch food plant
Ligularia 'Desdemona'	Ligularia dentata 'Desdemona'		◑	●	💧	💧		2-3 ft	1-2.5 ft	Tends to wilt in dry conditions, Many other nice cultivars
Tigerlily	Lilium tigrinum	○	◑			💧		4-6 ft	1 ft	Seeds freely, but not aggressively
Great blue Lobelia (N)	Lobelia siphilitica	○	◑			💧	💧	2-3 ft	1-1.5 ft	Great for bees
Solomon's Plume (N)	Maianthemum racemosum		◑	●		💧	💧	2-3 ft	1-2 ft	Tough shade plant
Phlox 'David'	Phlox paniculata	○	◑			💧	💧	2-4 ft	2-3 ft	Long blooming white phlox, Many nice cultivars, Mildew resistant
Prairie Phlox (N)	Phlox pilosa	○	◑			💧	💧	2 ft	.75-1 ft	Rabbit preferred food
Yellow Coneflower (N)	Ratibida pinnata	○				💧	💧	3-4 ft	1-2 ft	Seeds freely, Great for wild areas
Rhubarb	Rheum rhabarbarum	○	◑			💧	💧	2-3.5 ft	2-3 ft	Food producing
Salvia 'Caradonna'	Salvia nemorosa 'Caradonna'	○					💧	1-2 ft	1-2 ft	Many other nice cultivars
Meadow Sage 'May Night'	Salvia x sylvestris 'May Night'	○					💧	1.5-2 ft	1-1.5 ft	Drought tolerant

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
(N) Minnesota native plant species

Plant List

Exception List:

These species can be selected for Hennepin County sites under exceptional circumstances. These species require regular maintenance including regular weeding, watering and fertilizing. These plants are only to be used when the maintenance they require can be provided for the life of the plants.

Perennial Flowers:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Gray Goldenrod Ⓝ	Solidago nemoralis	○	◑		💧	💧	💧	2 ft	1 ft	Great in sandy soils, Great pollinator species
Riddell's Goldenrod Ⓝ	Solidago riddellii	○			💧	💧	💧	3 ft	2 ft	Tolerates wet soil
Goldenrod 'Fireworks'	Solidago rugosa 'Fireworks'	○			💧	💧		2-3 ft	2-3 ft	Late blooming
Showy Goldenrod Ⓝ	Solidago speciosa	○				💧	💧	2-3 ft	2-3 ft	Best in sandy soil, Very showy
Goldenrod 'Golden Fleece'	Solidago sphacelata 'Golden Fleece'	○				💧	💧	1-2 ft	1-2 ft	Great pollinator species
Lamb's Ear 'Big Ears'	Stachys byzantina 'Big Ears'	○				💧	💧	.5-1 ft	1-2 ft	Beautiful foliage texture
Tall Meadow Rue Ⓝ	Thalictrum dasycarpum	○	◑		💧	💧		3-5 ft	3 ft	Seeds freely
Prairie Spiderwort Ⓝ	Tradescantia bracteata	○	◑			💧	💧	2-3 ft	1-2 ft	Goes dormant in late summer
Blue Vervain Ⓝ	Verbena hastata	○			💧	💧		3-6 ft	1-2 ft	Seeds freely, Great for wet areas
Hoary Vervain Ⓝ	Verbena stricta	○	◑			💧	💧	2-4 ft	1-2 ft	Seeds freely, Great for dry areas
Culver's Root Ⓝ	Veronicastrum virginicum	○	◑		💧	💧		4-5 ft	2-3 ft	Pollinator species
Barren Strawberry Ⓝ	Waldsteinia fragarioides	○	◑	●		💧	💧	.5 ft	1-2 ft	Shade ground cover
Golden Alexander Ⓝ	Zizia aurea	○	◑		💧	💧	💧	2-3 ft	2 ft	Seeds aggressively, Great for natural areas

Agastache 'Blue Fortune' (Blue Fortune Hyssop) and Echinacea purpurea (Purple Coneflower)

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Exception List: *These species can be selected for Hennepin County sites under exceptional circumstances. These species require regular maintenance including regular weeding, watering and fertilizing. These plants are only to be used when the maintenance they require can be provided for the life of the plants.*

Grasses and Grass like Plants:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Common Rush Ⓝ	Juncus effusus	○			💧			2-4 ft	2-4 ft	Best used in rain gardens
Tufted Hair Grass Ⓝ	Deschampsia cespitosa	○	◑			💧	💧	2.5-3 ft	2 ft	Greens up early in spring
Fall Blooming Reed Grass	Calamagrostis brachytricha	○			💧	💧		3-4 ft	2-3 ft	Very late blooming
Japanese Forest Grass	Hakonechloa macra		◑	●		💧	💧	1-2 ft	1-2 ft	Great shade tolerant grass
Golden Japanese Forest Grass	Hakonechloa macra 'Aureola'		◑	●		💧		1-2 ft	1-2 ft	Gorgeous foliage
Indian Grass 'Sioux Blue'	Sorghastrum nutans	○	◑			💧	💧	3-5 ft	2-3 ft	Use the native form in natural areas, Seeds freely
Fountain Spray Moor Grass	Molinia caerulea cultivars	○	◑		💧	💧		3-7 ft	1.5-2.5 ft	Prefers even moisture, Many other nice cultivars


Solidago speciosa (Showy Goldenrod)


Calamintha nepeta 'Calamint 'White Cloud')


Hakonechloa macra 'Aureola' (Golden Japanese Forest Grass)


Miscanthus spp. (back)
Eupatorium maculatum 'Little Joe' (Joe-Pye Weed)(middle)

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Exception List: *These species can be selected for Hennepin County sites under exceptional circumstances. These species require regular maintenance including regular weeding, watering and fertilizing. These plants are only to be used when the maintenance they require can be provided for the life of the plants.*

Shrubs:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Northern Sun Forsythia	Abeliophyllum distichum	○	◑			💧	💧	4-5 ft	5-6 ft	First shrub to bloom in spring
Boxwood	Buxus spp.	○	◑	●		💧		2-4 ft	2-4 ft	Best Cultivars: 'Wintergreen', 'Northern charm', Nice hedge shrub
American New Jersey Tea Ⓝ	Ceanothus americanus var. pitcheri	○	◑			💧	💧	2-3.5 ft	3 ft	Best in sandy soil
Sweetfern Ⓝ	Comptonia peregrina	○	◑			💧	💧	1-2 ft	2-3 ft	Prefers dry acidic soil
Variegated Dogwood	Cornus alba 'Elegantissima'	○	◑			💧		6-8 ft	4-6 ft	Best if trimmed back to 6" every 5 years
Witch Hazel Ⓝ	Hamamelis virginiana	○	◑	●		💧	💧	15-20 ft	15-20 ft	Fall blooming shrub
Bigleaf Hydrangea	Hydrangea macrophylla	○	◑	●		💧	💧	4-6 ft	4-6 ft	Best Cultivars: 'Blushing Bride', Light-O-Day, Many other nice cultivars
Hydrangea	Hydrangea paniculata	○	◑			💧		8-15 ft	6-12 ft	Best Cultivars: 'Little Lamb', Quick Fire', Limelight'
Rhododendron	Rhododendron spp.	○	◑			💧		3-6 ft	3-6 ft	Prefers acidic soil; Best Cultivars for MN: 'Aglo', 'PJM'
Smooth Sumac Ⓝ	Rhus glabra	○	◑			💧	💧	9-15 ft	9-15 ft	Spreads by rhizome
Staghorn Sumac Ⓝ	Rhus typhina	○	◑			💧	💧	15-25 ft	20-30 ft	Spread by rhizome; Beautiful foliage
Tiger Eyes® Cutleaf Staghorn Sumac	Rhus typhina 'Bailtiger'	○	◑			💧	💧	3-6 ft	3-6 ft	Beautiful golden cutleaf foliage
Carefree Beauty™ Rose	Rosa 'Bucbi'	○				💧	💧	3-5 ft	3-4 ft	Many other nice cultivars
Rugosa Rose	Rosa rugosa	○				💧		4-6 ft	4-6 ft	Many other nice cultivars
Rose	Rosa 'Nearly Wild'	○	◑			💧		2-3 ft	2-3 ft	Many other nice cultivars
Dwarf Blue Leaf Arctic Willow	Salix purpurea 'Nana'	○			💧	💧		4-6 ft	4-6 ft	Best if pruned down to 6" every year in early spring
Bridalwreath Spirea	Spiraea prunifolia	○				💧	💧	4-8 ft	4-8 ft	Old fashioned tried and true
Anthony Waterer Spirea	Spiraea x bumalda	○				💧	💧	3-4 ft	3-4 ft	Will re-bloom if cut back
Grefsheim Spirea	Spiraea x cinerea	○				💧	💧	5-6 ft	5-6 ft	Graceful branching when unclipped
Vanhoutte Spirea	Spiraea x vanhouttei	○	◑			💧	💧	5-8 ft	7-10 ft	Tough shrub
Dwarf Vanhoutte Spirea	Spiraea x vanhouttei meyeriana	○	◑			💧	💧	3-5 ft	5-7 ft	Beautiful spring bloom
Meadow Sweet Ⓝ	Spiraea alba	○	◑		💧	💧		3-4 ft	3-4 ft	Best in rain gardens
Coralberry Ⓝ	Symphoricarpos orbiculatus	○	◑			💧		2-5 ft	4-8 ft	Forms extensive colonies
Coralberry Cultivars	Symphoricarpos x doorenbosii	○	◑	●		💧		3-5 ft	3-5 ft	Winter die back possible, Spreads from the base
Common Purple Lilac & Cultivars	Syringa vulgaris	○	◑			💧	💧	9-15 ft	6-12 ft	Fragrant

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plant List

Exception List: *These species can be selected for Hennepin County sites under exceptional circumstances. These species require regular maintenance including regular weeding, watering and fertilizing. These plants are only to be used when the maintenance they require can be provided for the life of the plants.*

Shrubs:

Common Name	Scientific Name	*Exposure			**Soil Moisture			Height	Spread	Notes
		Full Sun	Partial Sun	Shade	Wet	Medium	Dry			
Blueberry	Vaccinium spp.	○	◑		💧	💧		3-6 ft	2-3 ft	Protect from rabbits; prefers acidic soil; Best Cultivars: 'Northland', 'Polaris'
Arrowwood Viburnum 'Morton'	Viburnum dentatum 'Morton'	○	◑		💧	💧		10-12 ft	10-12 ft	Many other nice cultivars
Blackhaw Viburnum	Viburnum prunifolium	○	◑			💧	💧	12-15 ft	6-12 ft	Cluster of white flowers in early spring
Downy Arrowwood Ⓝ	Viburnum rafinesquianum		◑	●		💧	💧	6-12 ft	6-12 ft	Great for natural areas

Coniferous Trees:

Larch, European	Larix decidua	○			💧	💧		70-75 ft	20-30 ft	Prefers well drained soils
Spruce, black Ⓝ	Picea mariana	○	◑		💧			70-75 ft	20-30 ft	Native to all of Southeast Minnesota.
Spruce, white Ⓝ	Picea glauca	○			💧	💧		40-60 ft	10-20 ft	Native to Blufflands and Anoka Sand Plain. Avoid hot, dry sites.

Vines:

Dutchman's pipe	Aristolochia durior (A. macrophylla)	○	◑			💧		15-20 ft	3-6 ft	Vigorous
Clematis hybrids	Clematis hybrids	○	◑			💧		15-20 ft	3-6 ft	Needs a supporting structure
Dropmore scarlet honeysuckle	Lonicera x brownii'Dropmore Scarlet'	○				💧		10-20 ft	10-20 ft	Heavy bloomer
Wsisteria 'Aunt Dee'	Wisteria macrostachya'Aunt Dee'	○				💧		15-20 ft	15-20 ft	Woody vine

*Ideal exposure: **Full Sun** = >6 hours of daily sunlight, **Partial Sun** = 3 - 6 hours of daily sunlight, **Shade** = <3 hours of daily sunlight
** Soil moisture: **Wet** = Excessively wet in spring and after rain events, **Medium** = average garden soil, **Dry** = excessively well drained
Ⓝ Minnesota native plant species

Plants to Avoid

Avoid List: *These species should not be planted on Hennepin County properties. They are either on the Minnesota Invasive Species List or on the Species of Concern List. They reproduce aggressively and result in the need for added maintenance.*

Perennial Flowers:

Common Name	Scientific Name
Flowering Rush	Butomus umbellatus
European Bellflower	Campanula rapunculoides
Oxeye Daisy	Chrysanthemum leucanthemum
Crown Vetch	Coronilla varia
Queen Ann's Lace	Daucus carota
Grecian Foxglove	Digitalis lanata
Cut-leaved Teasel	Dipsacus laciniatus
Giant Hogweed	Heracleum mantegazzianum
Dame's Rocket	Hesperis matronalis
Yellow Iris	Iris pseudacorus
Dalmatian Toadflax	Linaria dalmatica
Birdsfoot Trefoil	Lotus corniculatus
Moneywort	Lysimachia nummularia
Japanese Knotweed	Polygonum cuspidatum
Giant Knotweed	Polygonum sachalinense
Common Tansy	Tanacetum vulgare
Cow Vetch	Vicia cracca
Hairy Vetch	Vicia villosa

Trees:

Amur Maple	Acer ginnala
Norway Maple	Acer platanoides
Tree of Heaven	Ailanthus altissima
Russian Olive	Elaeagnus angustifolia
Autumn Olive	Elaeagnus umbellata
White/Green Ash	Fraxinus americana/pennsylvanica
Glossy Buckthorn	Rhamnus frangula
Siberian Elm	Ulmus pumila

Grasses:

Common Name	Scientific Name
Japanese Stilt Grass	Microstegium vimineum
Amur Silver Grass	Miscanthus sacchariflorus
Phragmites	Phragmites australis

Shrubs:

Korean Barberry	Berberis koreana
Japanese Barberry	Berberis thunbergii
Siberian Peashrub	Caragana arborescens
Russian Peashrub	Caragana frutex
Winged Euonymus & Cultivars	Euonymus alatus
Cheyenne Privet	Ligustrum vulgare
Golden Vicary Privet	Ligustrum x vicaryi
Honeysuckles	Lonicera spp.
Multiflora Rose	Rosa multiflora
False Spirea	Sorbaria sorbifolia
Summer Glow Tamarisk	Tamarix ramosissima
European High-bush Cranberry	Viburnum opulus L. subsp. Opulus

Vines:

Oriental Bittersweet	Celastrus orbiculatus
Japanese Hops	Humulus japonicus