

CITY OF NOVI

LANDSCAPE DESIGN MANUAL

(Adopted by City Council Resolution dated 8-25-03) – revised Jun 5, 2017

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NOTE:

In addition to this Landscape Design Manual and Section 5.5 of the Zoning Ordinance, issues related to landscaping are also addressed in the following sections of the Novi Code of Ordinances. Please consult these for other possible impacts on a project.

(Note: the following list is provided as an aid and does not guarantee that other ordinances may not have an impact on landscaping):

ZONING ORDINANCE:

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<u>Ordinance Section #</u>	<u>Title/Relevant Section</u>
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12 Article V, 12-275	Wetland and Watercourse Protection
29	Soil – including Sedimentation Control
36	Waterways
37	Woodlands Protection

SUPPLEMENTAL REQUIREMENTS AND PROCEDURES

The following Supplemental Requirements and Procedures shall apply to any landscape plan required under Section 5.5 of the City of Novi Zoning Ordinance. In the event of inconsistency between the provisions of that ordinance, or any other ordinance of the City, and these supplemental requirements and procedures, the ordinance provisions shall prevail.

1. Landscape Screening/Buffer Requirements

a. Residential Adjacent to Non-Residential

(1) Berm Requirements.

- (a) The berm shall be landscaped and maintained in a clean, orderly, and growing condition, considering seasonal circumstances.
- (b) The berm must be planted with a combination of trees, shrubs, sod or other evergreen ground covers.
- (c) A minimum opacity shall be provided and maintained at 80% winter opacity and 90% summer opacity at the required height within 2 years of installation. This level of opacity shall be provided wherever screening is called for in this ordinance. Opacity includes an intermittent visual obstruction height of 20 feet, as well as the required screening capacity. (See Obscuring Earth Berm Diagrams in this section for examples of landscaping layouts that provide the required opacity.) The intermittent screening does not have to provide 80-90% opacity above 6 feet, but it should have at least 50% summer opacity.
- (d) Landscaping shall provide the required opacity primarily by using a dense planting of evergreen trees or shrubs. Spacing of the plant materials shall be in accordance with the Plant Material Spacing Chart below and the attached illustrations. Groupings of canopy deciduous trees, subcanopy trees and/or shrubs that provide similar opacity as the illustrations may also be used to provide screening, especially for the intermittent obstruction. As an example, densely-branched deciduous plant material two (2) or more layers deep and/or evergreen plant material may be used to achieve the required opacity.
- (e) The berm and landscaping materials shall be irrigated with an underground watering system or have an operational hose bibb within 100 feet of the landscaping.
- (f) The required minimum and maximum distances between proposed plant materials within this Section for screening and landscape purposes are as follows or as determined by the City Landscape Architect or City Forester based upon accepted principles not specified in the chart:

(Recommended distances are dependent on species' mature sizes and their size within 2 years of planting to attain opacity requirements. Recommended maximum spacing distances do not apply to other landscape requirements such as street tree spacing, greenbelt buffering, woodland replacement trees or foundation plantings).

Table 1.a.(1)(f): Plant Material Spacing Relationship Chart for Landscape Purposes

Plant Material Types Spacing (on-center)		TO					
		Large Evergreen Tree	Narrow Upright Evergreen	Deciduous Canopy Tree*	Deciduous Subcanopy Tree*	Large Shrub	Small Shrub
FROM	Large Evergreen Tree	Min. 15 ft Max. 25 ft	Min. 12 ft	Min. 20 ft	Min. 15 ft	Min. 15 ft	Min. 10 ft
	Narrow Upright Evergreen	Min. 10 ft Max. 15 ft	Min. 2.5 ft Max. 10 ft	Min. 15 ft	Min. 10 ft	Min. 5 ft	Min. 3-5 ft
	Deciduous Canopy Tree*	Min. 20 ft	Min. 15 ft.	Min. 20 ft	Min. 15 ft	Min. 5-7 ft	Min. 3-5 ft
	Deciduous Subcanopy Tree*	Min. 15 ft	Min. 10 ft	Min. 15 ft	Min. 10 ft	Min. 5-7 ft	Min. 3-5 ft
	Large Shrub (6-15+' tall)	Min. 15 ft	Min. 5-7 ft	Min. 5-7 ft	Min. 5-7 ft	Min. 5 ft Max. 10 ft	Min. 3 ft Max. 6 ft
	Small Shrub (0-5.9' tall)	Min. 10 ft	Min. 3-5 ft	Min. 3-5 ft	Min. 3-5 ft.	Min. 3-5 ft	Min. 3 ft Max. 6 ft

* Fastigate/columnar trees may require closer spacing to achieve required opacity.

- (g) Berms shall be constructed of loam soils with a 6" top layer of topsoil and shall be free of construction materials and debris. Where possible, they shall be undulating in height, and they shall always maintain at least the minimum height required in Zoning Section 5.5.3.A.ii.
- b. Developments Adjacent to Public Rights of Way
- (1) Berm Requirements
 - (a) Berms are to vary in height and width
 - (b) The minimum height specified in Zoning Section 5.5.3.B.ii.f should always be met by the berm, with variations in height taller than the minimum.

- (2) Plant Material Location Spacing
 - (a) In order to assist emergency vehicle location of a property, create view channels to business address at a 20-40 degree angle for approaching vehicles from both directions of traffic
 - (b) The base of any permitted display platform must be totally screened by shrubs at least 2 feet in height.
 - (c) Shopping Centers and sites adjacent to freeways or other major corridors are highly visible. Therefore, a strong emphasis shall be placed on the design of landscaping that achieves substantial aesthetic enhancement, and a diminution of paving and parking views along these corridors.

2. Subdivision Planting Requirements

- a. Single-family platted subdivisions or residential site condominiums.
 - (1) Street Tree Spacing. Trees shall be provided in front of each residential lot in the area between the sidewalk and the curb as described in the Charts below:
 - i. Minimum planting area widths:

Table 3.a.(1) Recommended Tree Sizes for ROW areas

Tree Species Type	Lawn width (curb to sidewalk)
Small Tree (Deciduous Subcanopy)	4-6 feet
Medium Tree (Deciduous Subcanopy and Canopy)	6-8 feet
Large Tree (Deciduous Canopy)	>8 feet

- ii. Minimum planting area widths:

Table 3.a.(2) Recommended Tree Spacing for ROW areas

Tree Species Type	Tree Height	Distance between trees (on average)
Small Tree (Deciduous Subcanopy)	Up to 20'	Min. 20'
Medium Tree (Deciduous Canopy and Subcanopy)	20-40'	Min.30'
Large Tree (Deciduous Canopy)	>40	Min. 35'

- (2) Street Tree Location. Large street trees shall be planted in front of each lot in the right-of-way in accordance with the following standards for large deciduous canopy trees (smaller trees should use the maximum distance guidelines in the table above to calculate the number of trees required):

Table 3.a.(3) Street Tree Requirements for Single Family Residential Lots

Lineal Frontage	Trees Required*
<70 feet	1 tree
> or =70 feet	2 trees
> or =105 feet	3 trees
> or =140 feet	4 trees
> or =175 feet	5 trees

* If space allows, more than the minimum may be planted on a lot.

- (a) Corner lots shall have trees planted along both streets in accordance with the above requirements for each frontage, provided that trees are not planted within the 25 foot corner clearance zone (Section 5.9)
- (b) Trees shall not be planted closer than 10 feet from any driveway.
- (c) Distances between trees and curbs or sidewalks shall be:
 - 1. At least (4) feet for deciduous canopy and subcanopy trees.
 - 2. At least 5 feet for shrubs behind curbs with angled or perpendicular parking
- (d) If subcanopy trees are to be used as street trees for tight plantings areas and under utility lines, only use species/varieties which can be attractively pruned per city standards (a minimum ground clearance of 14 feet on the street side and 10 feet on the non-street side).
- (e) No deciduous canopy tree, subcanopy tree or evergreen tree shall be planted closer than 15 lateral feet from any overhead utility wire, or closer than 10 lateral feet from any fire hydrant, catch basin or manhole. Effort should also be made to keep all trees at least 5 feet away from underground utility lines.

(3) Island and Boulevard Planting.

- (a) A mixture of shrubs, groundcover, perennials, and/or ornamental grasses, as well as canopy and sub-canopy trees, is to be provided.
- (b) Maintenance of such areas shall be the responsibility of the subdivision association.
- (c) At least 75% of the area shall be landscaped with a combination of canopy and subcanopy trees, shrubs, groundcovers, perennials, annuals, and/or bulbs. The remaining 25% of area can be lawn if desired.
- (d) Refer to Zoning Ordinance Section 5.9 for corner clearance requirements for boulevards.

b. Non-Residential Subdivisions

Interior streets to the Industrial Subdivision shall be landscaped per each lot as they are built upon as follows (Note: These planting requirements are in place of those in Zoning Section 5.5.3.B except for along public rights-of-way):

- (1) 1 deciduous canopy or one large evergreen tree per 35 linear feet of street frontage is required. Evergreen trees shall be no closer than 20 feet from the street. At least 1 tree per 50 linear feet shall be planted as a street tree.
- (2) 1 subcanopy tree and 2 shrubs per 40 feet of total linear frontage along the street are required (these shrubs are in addition to the parking lot screening requirement).
- (3) Massing of ornamental grasses, perennials, and/or annuals and bulbs is required for 10% of total linear footage adjacent to the street. Use of them is especially encouraged at entry points or to highlight significant design. (Also reference Section 5.9 corner clearance).
- (4) In addition to the above, evergreen shrubs are required to provide screening of parking areas only. Shrubs are to be at least 30" in height at planting, 3 feet tall at maturity and/or maintained at a minimum height of 3 feet. A minimum opacity shall be provided and maintained at 80% during winter and 90% percent during summer within 2 years of acceptance by the city. This applies to all sections of parking visible from the street(s).
- (5) An undulating berm with a minimum height of 36" may be used in place of the evergreen hedge to screen the parking lot. However, if the berm is found to be lower than 36", an evergreen hedge will be required to provide the required screening.
- (6) The width of the access drive can be deducted from the frontage in calculating the above landscape requirements.

3. Detention and Retention Basin Landscaping Requirements

- a. Clusters of large native shrubs in a dense planting shall be planted at and above the high water elevation of the basin. Clusters shall cover 70-75% of the basin rim area at the high water elevation.
- b. At least three different native shrub species shall be used. Shrubs are to have a dense structure from top to bottom. Straight species are preferred. Dwarf cultivars with mature heights less than 5 feet do not fulfill the size requirement.
- c. The bottom and sides of the basin(s) below the above-mentioned shrubs shall be planted with a mix of native grasses, sedges and wildflowers. Allow grass to grow to 10 to 14" tall along sides and bottom of basin to discourage use by waterfowl. The application of fertilizer and pesticides on grass areas in the basin shall be limited to the initial establishment of the groundcover.
- d. Grass species that go dormant in winter are suggested.
- e. Contact the City's wetland consultant when specifying basin seed mix. The seed mix(es)' species composition and cover crop(s) should be included on the landscape plan, as well as clear indications of where each mix should be applied. A plan for the successful establishment and maintenance of the groundcover should also be included on the landscape plan.

- f. Utilize anti-waterfowl devices while establishing plantings, such as string matrix or string edge or other approved method.

4. Tree species diversity (includes canopy, subcanopy and evergreen trees).

In order to avoid landscape disasters like the Dutch elm disease and Emerald Ash Borer infestations, where overplanting of a single type of tree (elm, ash) resulted in large scale tree replacements, a diversity of tree species is to be used for all projects requiring site plan approval.

- a. If there are less than 200 trees proposed, not more than 25% of the proposed tree plantings shall be of one genus and not more than 15% shall be of a single species.
- b. If there are 200 or more trees proposed, not more than 15% percent of the tree plantings shall be of one genus and not more than 10% shall be of a single species.
- c. Variations from these percentages shall be at the discretion of the City Forester or Landscape Architect. (See Novi Street Tree List).
- d. The breakdown of the species and genera used shall be added to the plant list in a format similar to that shown in the table below:

Table 5.d: Sample Species Breakdowns

Symbol	Scientific Name	Common Name	Size	Qty	Genus %	Species %
AL	Amelanchier laevis	Serviceberry	6-7' ht	20	12%	12%
AR	Acer rubrum	Red Maple	2.5" cal.	25	15%	15%
CA	Cornus alternifolia	Pagoda Dogwood	6-7' ht	20	18%	12%
CF	Cornus florida	Flowering Dogwood	1.75" cal.	10		6%
MS	Malus 'Snowdrift'	Snowdrift Flowering Crabapple	1.75" cal.	5	3%	3%
PO	Platanus occidentalis	Sycamore	2.5" cal.	25	15%	15%
PS	Pinus strobus	Eastern White Pine	6-7' ht	10	6%	6%
QB	Quercus bicolor	Swamp White Oak	2.5" cal.	10	21%	6%
QR	Quercus rubra	Red Oak	2.5" cal.	25		15%
UA	Ulmus americana 'Princeton'	Princeton American Elm	2.5" cal.	15	9%	9%
Total				165	100%	100%

- e. Woodland tree replacement species shall have roughly the same percentage of composition as the native trees removed in order to maintain some semblance of the impacted woodland (except in the cases of elm, ash or other species which are known to have major survivability issues due to environmental factors). Native maples may be used as substitutes for boxelders, and varieties of native elm species shown to have better resistance to Dutch elm disease than the straight species are allowed as replacements for elms.

The counts of woodland replacement trees should not be included in the breakdown described above (items a-d).

- f. While shrubs are not subject to the requirements above, efforts toward using a diversity of shrub species should also be used for the same reasons described above.

5. Parking Area Landscaping Requirements

- a. Landscape designs shall utilize native plant materials which enhance infiltration of storm water. Designs to lessen runoff are preferred. Wherever possible, designs should utilize vegetated swales, weirs and basins within and around the parking areas to create an attractive storm water system that promotes storm water infiltration.
- b. Parking area landscaping materials within parking lot islands shall be maintained to not exceed 3 feet in height above adjacent paving for clear sight distance within the parking islands.
- c. Evergreen trees are not allowed in any parking islands unless the applicant can demonstrate that all clear sight distances shall be maintained and a note in a form approved by the City Attorney is added on the final approved site plan stating that the City of Novi is not responsible for any accidents caused by the lack of clear sight distance
- d. All landscaping shall be maintained in a green and growing condition, seasonal conditions considered.
- e. Salt-tolerant plants material native to the state of Michigan are preferred, where applicable.
- f. Name, type and number of groundcover plants (including seed or sod) proposed on islands are to be specified on the landscape plan.
- g. Parking area islands may not utilize mulch as the only groundcover. It is only allowed in association with trees or shrubs planted within an island (the ring of mulch around a tree, or within and around shrub beds).

6. Transformers/Utility Boxes/Irrigation Control Boxes

All transformer and utility boxes shall be screened from public view in an attractive manner, but shall allow safe access to said facilities.

- a. Size of plant materials at installation shall be of a height equal to the transformer, utility box or irrigation control box.
- b. Screening plant material shall be evergreen or densely-branched deciduous shrubs.
- c. A minimum of 2 feet separation is required between the structure and the full growth potential of plant material at maturity.
- d. Groundcover is allowed up to the transformer pad, if it is kept below 4" in height.
- e. Doors of transformers must be accessible. No plant materials are to be placed within 8 feet of the front of the doors but the doors shall be screened from view.
- f. A detail of transformer screen plantings and locations of all transformers must be provided with the landscape plans.

- g. Safety is the first priority when screening transformers and utility boxes. If plantings are above 2 feet in height, they cannot be placed in the corner clearance (refer to Section 5.9).
- h. A solid fence may be approved if warranted by safety or site limitations.

7. **Dumpsters/Trash Containers** – Required screening for Dumpsters/Trash Containers is described in Chapter 21-145 and Zoning Ordinance Section 4.19.2.f. No additional landscaping is required.

8. **Landscape Plan Requirements**

A landscape plan shall be submitted for any new commercial or residential development and any addition to an existing building that is equal or greater than a 25% increase in the overall square footage of the building or 400 square feet, whichever is less. An owner of a single-family home site shall not be required to comply with the provisions of this section.

The landscape plan shall contain the following information:

- a. Name, address and telephone number of the owner and developer or association.
- b. Name, address and telephone number of the Registered or Licensed Landscape Architect who created the design or is responsible for its accuracy and adherence to city standards.
- c. A legal description or boundary line survey of the site on which the work is to be performed.
- d. Project Name and address.
- e. A plan of the site at a scale that matches other plans and is legible with proper north indication. In addition, for reviewing purposes, the landscape plan shall be submitted in a scale not to exceed 1"=20' for detailed areas, 1"=60' for large areas. Variations from this scale requirement may be approved by the City Landscape Architect as long as the different scale provides sufficient detail, legibility and ease of use for evaluation. This plan should include:
 - (1) Proposed topography at a maximum of 2 foot contour intervals, extending at least 50 feet beyond the site boundary. For berm, wall areas and steep topography, contour intervals shall be shown at 1 foot.
 - (2) Location, type and size of all existing plant materials showing those materials to be saved, to be moved and to be removed.
 - (a) If there is no existing vegetation, the plan shall so state in a note on the plan.
 - (b) If the site includes regulated woodlands or wetlands, the plan shall so state and identify the locations of regulated natural resources with the appropriate boundary determinations, the regulated trees 8" d.b.h. and greater in all identified locations and the tree protection fence locations. (Tree protection fence locations should also be provided on Removal/Demolition and Grading Plans)

- (c) Trees in woodlands or other areas at least 50 feet away from construction that will not be impacted do not need to be identified individuals, but the cover of those areas should be generally noted (e.g. dense woodland, open, scrub/shrub, wetland). All trees 8" dbh or greater within 50 feet of construction should be included in the tree survey.
- (d) See Woodlands Protection Ordinance, Chapter 37 and Wetlands Protection Ordinance, Chapter 12 for additional plan requirements.
- (3) Location, type and size of all proposed plant materials. For Preliminary and Final Site Plan submittals, plants shall be indicated with actual plant material names or symbols linked to a plant list.
- (4) Locations of all existing and proposed buildings, easements, parking spaces, vehicular use areas, proposed ground sign locations, flagpole locations, public rights-of-way, existing and proposed overhead and underground utilities, including the locations of hydrants, utility boxes and trash receptacles. Dimensions shall be shown from overhead utility poles.
- (5) Corner Clearance Zones at driveways and road intersections. (See Section 5.9).
- (6) An indication of area(s) clear of trees or shrubs for snow depositing areas in winter.
- (7) All plantings shall have unique labeling to indicate the requirement they are intended to satisfy (i.e. interior parking, parking perimeter, woodland replacement, right-of-way greenbelt, street trees, foundation planting, etc.)
- f. Parking lot landscaping calculations, including interior and perimeter requirements, should include the amount required and the amount provided – include labels in square feet for all landscape areas intended to satisfy landscape requirements.
- g. Right-of-way greenbelt, street tree, foundation and other landscaping calculation requirements, including the amount required and the amount provided – include labels in square feet for all landscape areas intended to satisfy landscape requirements.
- h. Zoning districts of the proposed site and adjacent properties.
- i. The seal of a Registered or Licensed Landscape Architect responsible for the plans (on Final Site Plans and Stamping Sets).
- j. Miss Dig contact information on all sheets.
- k. A planting schedule for all proposed landscape materials showing the quantity of materials for each species, botanical and common names of plant materials, caliper sizes or container sizes, height of material where applicable, root type balled and burlapped or potted), type and amount of mulch.
- l. Planting details for evergreen trees, deciduous trees, multi-stem trees, tree guys, shrubs, and perennials/ground covers, as applicable to the plan. (See typical City of Novi Tree Planting Details).
- m. When berms are included on the plans, a representative berm cross-section including slope, height and width, construction of loam with 6" top layer of topsoil, type of ground cover, and labeled contour lines. Show where overhead utility lines exist or

- are planned, and the required setback of 15 feet from the edge of the utility or 20 feet from the closest pole for canopy trees. (See Berm Cross-Section Diagram).
- n. Wall detail(s), when applicable, with notes indicating materials, height and type of construction and footings. Wall calculations for any walls greater than 3 ½ feet in height must be provided by a design or structural engineer.
 - o. Fencing details
 - p. A note indicating the proposed estimated planting dates (should be between March 15 and November 15).
 - q. A statement of intent to install and guarantee the plant materials for 2 years from the date of acceptance and maintain all such landscaped areas in accordance with the requirements of this ordinance.
 - r. A note indicating that the plants should be Upper Midwest/Great Lakes grown.
 - s. The soil type(s) on site as determined by the Soils Survey of Oakland County, Michigan published by the United States Department of Agriculture Soils Conservation Service. This may be included on other sheets in the set, but in that case a note indicating where they information can be found should be included on the Landscape Plan.
 - t. If an area is landscaped with plant species that do not require irrigation, no permanent irrigation system is required, but the plants must be watered as necessary until they are established with a temporary system, hose(s) or portable water tanks. The property's landscape must be maintained per the approved final site plan in perpetuity, per Zoning Ordinance Section 5.5.7, including replacement of all dead or failing plant material within three (3) months of its discovery, or the next appropriate growing period, whichever comes first.
 - u. An itemized cost estimate for all new plantings, mulch, seed and sod contained on the planting plan should be part of the Final Site Plans. The costs for this compilation should use the Community Development Fees standard costs on the Community Development website, not estimates, unless there is no comparable standard cost, in which case estimates are acceptable.
 - v. A plan for the successful establishment and maintenance of any native seed mixes.
 - w. Other information or data as may be required in other sections of this ordinance, and additional information or data as reasonably required by the Planning Commission.

9. Plant Material Requirements

- a. General Conditions / Plant Requirements.

Wherever in this Ordinance landscaping plantings are required, such landscape plantings shall be subject to the following conditions:

- (1) For all plant materials, native plants are to be the first choice. The source should be local or of the North Midwest America/Great Lakes region.
- (2) All plant materials shall be northern nursery grown, No. 1 grade, and installed according to accepted planting procedures. All plant materials shall meet current American Association of Nurserymen Standards. They shall be planted

according to City of Novi Planting Details and specifications. The City shall have the right to inspect the plant materials prior to planting and to reject any plant materials deemed not to meet the standards of this ordinance.

- (3) The selection, spacing, and sizing of plant materials shall depend on the use to which the plantings are to be placed. A mixture of plant materials (evergreen and deciduous trees and shrubs) and plant species is required in all landscape plans as a protective measure against disease and insect infestation. Plant materials used together in groupings for screening shall meet the on-center spacing requirements as set forth in this Section 1.f.
- (4) Plant materials, except lawn, ground covers or creeping vine type plantings, shall be located at least 4 feet from the property line, as measured to the trunk of deciduous canopy or subcanopy trees, or to the mature dripline of shrubs and evergreens.
- (5) Where plant materials are placed in 2 or more rows for screening, plantings shall be staggered from row to row.
- (6) All trees shall have a central leader and a radial branching structure. Park grade trees are not acceptable. All trees shall be balled and burlapped (B & B).
- (7) Any deciduous canopy trees with branches that might tend to develop into "V" crotches shall be subordinated so as not to become dominant branches.
- (8) Miss Dig must be notified to locate all underground utilities before planting begins.

b. Plant Materials.

For suggested plant materials and information by categories of Native, Interest, Woodlands Replacement, Canopy, Street Tree, Growing Conditions, and Nurseries, see separate Suggested Plant Materials List (Part VI). This list is not to be considered all inclusive of acceptable plant materials and may be amended periodically.

(1) Existing Plant Material

- (a) Existing plant material is to be preserved as a first priority. Refer to Chapter 37, Woodlands Preservation Ordinance or Chapter 12, Wetlands and Watercourse Ordinance, for specific standards regarding preservation of these natural resources.
- (b) In instances where existing healthy plant material is proposed to be saved on a site prior to its development and is *not* regulated by Chapter 37, Woodlands Preservation Ordinance, or Chapter 12, Wetlands and Watercourse Ordinance, the applicant may apply to adjust the application of the landscape standards to allow such plant material to substitute for planting if such an adjustment is in keeping with, and will preserve, the intent of this Section.
- (c) For approval of substitution, the existing preserved plant material shall be of high quality as determined by the City. Trees listed as Prohibited Plantings, and materials required to be preserved under Chapter 12, Article

V, and under Chapter 37 of the Ordinance Code, will not receive credit under this provision.

- (d) All removals shall be clearly marked as to be removed with an X or R on the tree symbol on the plan view, and on the accompanying tree chart/list (show as Saved or Removed). The tree labels for existing trees 8 inches dbh and larger to remain should appear on the Landscape Plan (plan view).
- (e) Protective fencing and preservation techniques will be required for all vegetation to be saved where there is a chance that construction activities could damage it. The location of tree protection fencing and the City Protection Fencing Detail are to be shown on the Demolition/Removal Plan and Grading plans. Large masses of protected vegetation should be labeled “To be saved” on the Landscape Plan and on the Demolition/Removal Plan and Grading Plan.
- (f) Landscape credit for preserved canopy trees, which do not fall within a regulated Wetland or Woodland may be used to fulfill woodland replacement credits that may be required. These replacements shall be at the following rate:

Table 7.b.(1)(f): Landscape Tree Credit Chart

Diameter of Trunk of Preserved Tree*	= Number of Tree Credits
36” or greater caliper	7 trees
>29 to 36” caliper	6 trees
>23 to 29” caliper	5 trees
>17 to 23” caliper	4 trees
>12 to 17” caliper	3 trees
>7 to 12” caliper	2 trees
3 to 7” caliper	1 tree

* The tree trunk diameter measurement shall be rounded off to the nearest whole inch at a height of four and one-half (4.5) feet above the natural grade. (Diameter at Breast Height, D.B.H.)

- (g) Existing trees may also be used to fulfill some or all of the required street tree, greenbelt or parking lot perimeter plantings, at a 1 for 1 basis. In cases such as these, a tree may be used to fulfill both this requirement and the Landscape Tree Credit shown above.

(2) Proposed Plant Material

(a) Plant Sizes.

i. The minimum sizes are as follows:

Table 7.b.(2)(a).i – Minimum plant sizes by application

Planted Material Types	Canopy Deciduous Trees	Large Evergreen Trees	Subcanopy Deciduous Trees (4)	Upright Evergreens	Large Shrubs (5)	Small Shrubs (6)	Perennials, Ornamental Grasses
R-O-W Plantings (4)	2.5" cal.	8' ht.	2" cal.	6' ht.	36-42" ht.	18-24" ht.	1 gal. cont.
Street Trees (4)	2.5" cal.	n/a	2" cal.	n/a	n/a	n/a	n/a
Woodland Replacement Trees (2)	2.5" cal.	6' @ 3:2 Ratio	(3)	(3)	(3)	(3)	(3)
All other	3" cal.	7' ht.	2.5" cal.	6' ht.	36" ht.	24" ht.	1 gal. cont.

Footnotes:

- (1) The City Landscape Architect may permit smaller sizes upon receipt and review of sufficient documentation that required minimum sizes are not readily available.
- (2) Refer to Chapter 37-8 for acceptable species.
- (3) Refer to Chapter 37-8.c for use of this plant type for replacement credits.
- (4) Shall also apply to private road easements or other equivalent.
- (5) Multi-stem trees are to be eight to ten (8-10) foot minimum height.
- (6) Spreading or horizontal shrubs are to be eighteen (18) inch width minimum.

n/a: not allowed

ii. To encourage a mixture of sizes, additional landscape credit can be given for larger sized canopy trees, deciduous and evergreen as follows for Right-of-Way Greenbelt trees and Parking Lot Perimeter trees. Upsizing credit is not allowed for woodland replacement trees, street trees or interior parking lot trees.

Size	Total Tree Credits *
Large Evergreen Trees	
8' height	1.0
> 8' to 10' height	1.25
>10' to 12' height	1.5
>12' to 14' height	2.0
>14' height	2.5
Canopy Deciduous Trees	
3" caliper	1.0
>3" to 3.5" caliper	1.25
>3.5" to 4.5" caliper	1.5

>4.5” to 5” caliper	1.75
>5” caliper	2.0

* Where greater than minimum size listed in chart above (7.b.(2)(a).i).

Example: a 4” caliper deciduous canopy tree would count as 1.5 required landscape trees. A 13’ high evergreen canopy tree would count as 2 required landscape trees.

The total number of trees required may be reduced through the use of these credits by a maximum of 33% (per category) (i.e. the total number of trees provided must be at least 67% of the total number of trees required based on the standard tree size, per category)

c. Prohibited Plants.

In order to promote native plant species diversity and to prevent the loss of habitat due to the spread of naturalized non-native plant species, the following species will be prohibited in planting plans:

Table 7.c – Prohibited Plants

Botanical Name	Common Name	Plant Type
<i>Acer negundo</i>	Boxelder	Deciduous Subcanopy Tree
<i>Acer platanoides</i>	Norway Maple	Deciduous Canopy Tree
<i>Acer saccharinum</i> **	Silver Maple	Deciduous Canopy Tree
<i>Ailanthus altissima</i>	Tree-Of-Heaven	Deciduous Canopy Tree
<i>Alnus glutinosa</i>	Black Alder	Deciduous Canopy Tree
<i>Berberis spp.</i>	Barberry	Small shrub
<i>Celastrus orbiculatus</i>	Round-Leaved Bittersweet	Vine
<i>Coronilla varia</i>	Crown Vetch	Perennial / Grass
<i>Echinochloa crus-galli</i>	Barnyard Grass	Perennial / Grass
<i>Elaeagnus umbellata</i>	Autumn Olive	Large Shrub
<i>Ginkgo biloba(female)</i>	Ginkgo (female)	Deciduous Canopy Tree
<i>Gypsophila paniculata</i>	Baby's Breath	Perennial / Grass
<i>Hypericum perforatum</i>	Common St. Johns-Wort	Small Shrub
<i>Iris pseudacorus</i>	Water Flag	Perennial / Grass
<i>Ligustrum spp.</i>	Privet	Small shrub
<i>Lonicera japonica</i>	Japanese Honeysuckle	Large Shrub
<i>Lonicera maackii</i>	Amur Honeysuckle	Large Shrub
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	Large Shrub
<i>Lythrum salicaria</i>	Purple Loosestrife	Perennial / Grass
<i>Melilotus alba</i>	White Sweet Clover	Perennial / Grass
<i>Melilotus officinalis</i>	Yellow Sweet Clover	Perennial / Grass

<i>Morus alba</i>	White Mulberry	Deciduous Canopy Tree
<i>Polygonum persicaria</i>	Spotted Lady's Thumb	Perennial / Grass
<i>Populus alba</i>	White Poplar	Deciduous Canopy Tree
<i>Populus deltoides</i>	Eastern Cottonwood	Deciduous Canopy Tree
<i>Populus nigra</i>	Black Poplar	Deciduous Canopy Tree
<i>Populus tremuloides</i>	Quaking Aspen	Deciduous Canopy Tree
<i>Pyrus calleryana</i>	Flowering Pear	Deciduous Canopy Tree
<i>Rhamnus cathartica</i>	Common Buckthorn	Large Shrub
<i>Rhamnus frangula</i>	Glossy Buckthorn	Large Shrub
<i>Rhamnus frangula angustifolia</i>	Narrow-Leaved Glossy Buckthorn	Large Shrub
<i>Ribes americanum</i>	Wild Black Current	Small Shrub
<i>Robinia pseudoacacia</i>	Black Locust	Deciduous Subcanopy Tree
<i>Rosa multiflora</i>	Japanese Rose	Large Shrub
<i>Salix alba</i> **	White Willow	Deciduous Canopy Tree
<i>Salix babylonica</i> **	Weeping Willow	Deciduous Canopy Tree
<i>Salix nigra</i> **	Black Willow	Deciduous Canopy Tree
<i>Ulmus americana</i> *	American Elm	Canopy Deciduous Tree
<i>Ulmus pumila</i>	Siberian Elm	Canopy Deciduous Tree
<i>Vinca minor</i>	Common Periwinkle	Groundcover

* Disease resistant cultivars are acceptable

** Allowed under special circumstances

d. Recommended Trees for Planting Under Overhead Utilities:

Table 7.d – Trees for Under and Near Overhead Utility lines

Botanical Name	Common Name
<i>Acer campestre</i>	Hedge Maple
<i>Acer ginnala</i>	Amur Maple
<i>Acer griseum</i>	Paper Bark Maple
<i>Amelanchier sp.</i>	Serviceberry
<i>Carpinus caroliniana</i>	Musclewood
<i>Cercidiphyllum japonicum</i>	Katsura Tree
<i>Cercis canadensis</i>	Eastern Redbud
<i>Cornus alternifolia</i>	Alternate Leaf Dogwood
<i>Cornus florida</i>	Flowering Dogwood
<i>Cornus kousa</i>	Japanese Dogwood
<i>Cornus mas</i>	Cornelian Cherry Dogwood
<i>Crataegus sp.(thornless)</i>	Hawthorn sp. (thornless)

<i>Magnolia soulangiana</i>	Saucer Magnolia
<i>Malus hybrids</i>	Flowering Crabapple
<i>Syringa reticulata</i>	Japanese Tree Lilac
<i>Viburnum lentago</i>	Nannyberry
<i>Viburnum prunifolium</i>	Blackhaw Viburnum

(Choose varieties with mature heights less than lowest power line if directly below lines)

e. Collected or Transplanted Trees

- (1) All collected trees shall be from on site and inspected by the City. Trees may be rejected for reasons of insect infestation, disease or standards set forth in this ordinance. Such plant material may be rejected either in full or in part.
- (2) All transplanted trees shall conform to standards set forth in Section 9.
- (3) The root ball of any transplanted tree shall measure 1 foot for each inch of trunk diameter measured 12” above the root flare or graft collar.
- (4) If trees are to be stored, they shall be burlapped and heeled in with mulch in a pre-determined area approved by the City.
- (5) The trees shall be provided with a working irrigation system approved by the City to ensure their viability during storage.

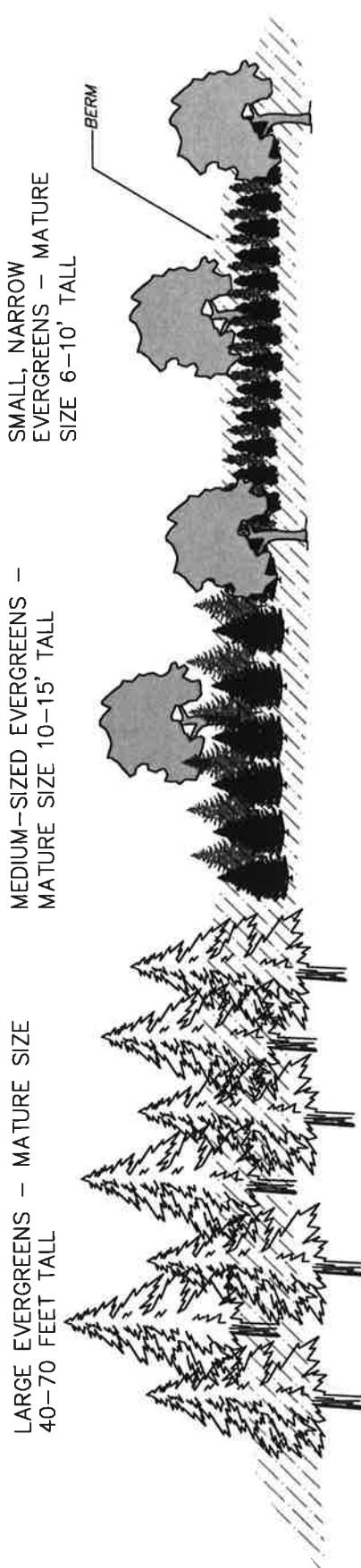
10. Nonliving Durable Material

- a. Mulch for all plantings shall be premium shredded hardwood and shall not be artificially colored. No cypress wood mulch or rubber mulch is to be used.
- b. Trees shall be mulched to a 3 inches overall depth at planting.
- c. Shrubs, groundcovers and perennials shall be mulched to a 2 inches overall depth at planting.
- d. All lawn trees shall be planted with a 4 foot diameter circle of the shredded hardwood bark mulch.
- e. Mulch shall be pulled back 3 inches from the tree trunk in a circle down to the root ball dirt to expose the root collar to air. No “volcano” mulching is allowed at planting or in future applications of mulch.
- f. If a rootball’s dirt is piled up on the trunk, it should be removed to expose the root flare.
- g. For fire safety, shredded hardwood bark is not to be installed adjacent to or within 4 feet of buildings that are constructed of combustible materials. Plantings adjacent to combustible buildings shall be mulched with a non-combustible material typically marketed as landscape mulch. The color of such materials shall be natural and compatible with the building.

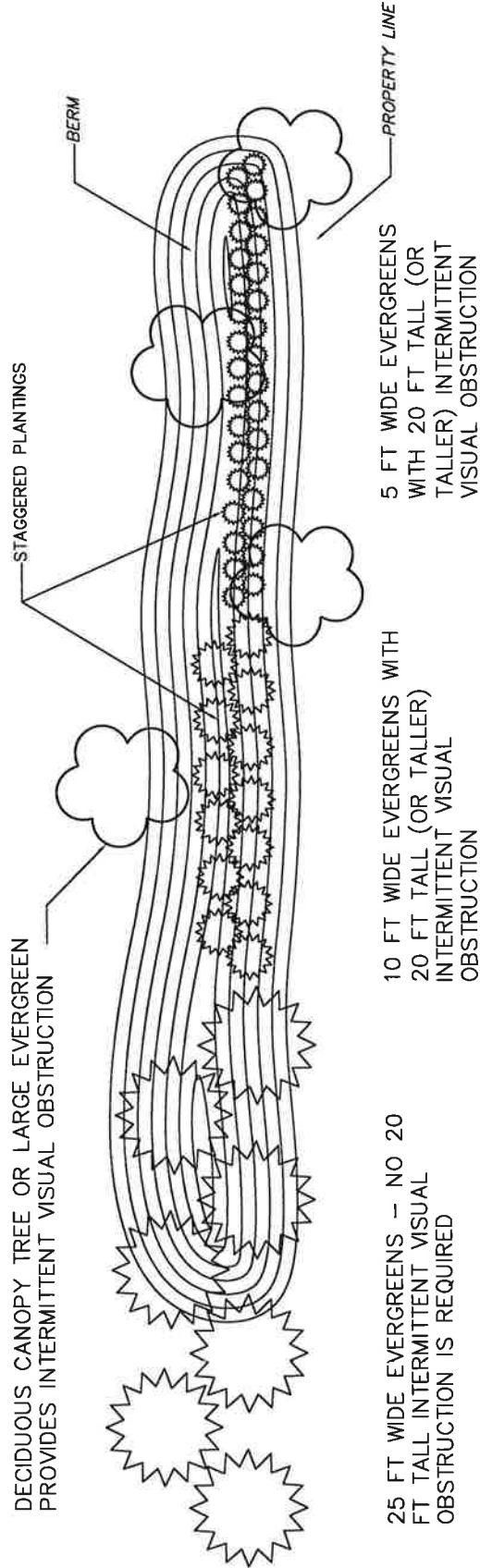
- h. Gravel type mulches are not permitted within or immediately adjacent to paved parking lots or roadways. Approval of type, depth and specific location for gravel mulch is to be approved by the City.
- i. Sphagnum peat/bog peat is harvested from functioning wetlands so it shall not be used for landscape purposes. Compost may be used as an alternative.
- j. Plastic or other artificial replicas of plant material are prohibited.

Part II. Obscuring Earth Berm/Screening Opacity Diagrams

ELEVATION - FROM RESIDENTIAL PROPERTY



PLAN VIEW



OPACITY OBSCURING DIAGRAM - BERM

ELEVATION - FROM RIGHT-OF-WAY



MIN HT 3'

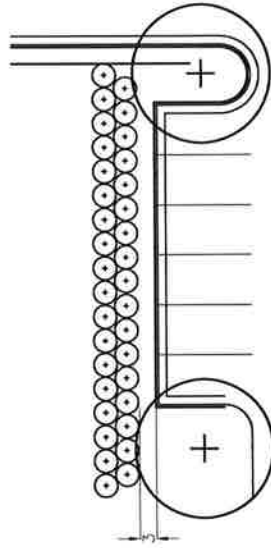
DENSELY-BRANCHED DECIDUOUS SHRUB



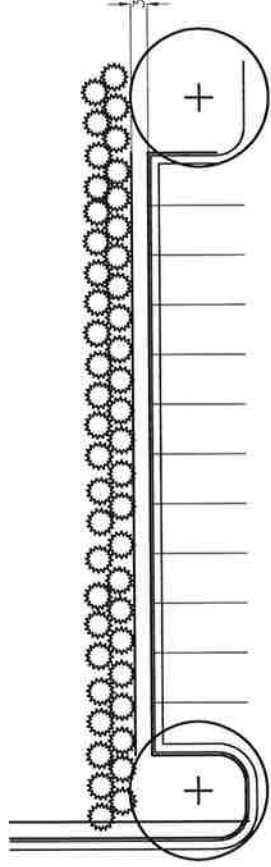
MIN HT 3'

EVERGREEN SHRUB

PLAN VIEW



DENSELY-BRANCHED DECIDUOUS
SHRUB - MIN HT 3'



EVERGREEN SHRUB - MIN HT 3'

OPACITY OBSCURING DIAGRAM - PARKING, NO BERM

(NOTE: DIAGRAM DOES NOT INCLUDE RIGHT-OF-WAY GREENBELT
LANDSCAPING WHICH IS REQUIRED IN ADDITION TO SHRUB
SCREENING)

Part III. Standard Planting Details

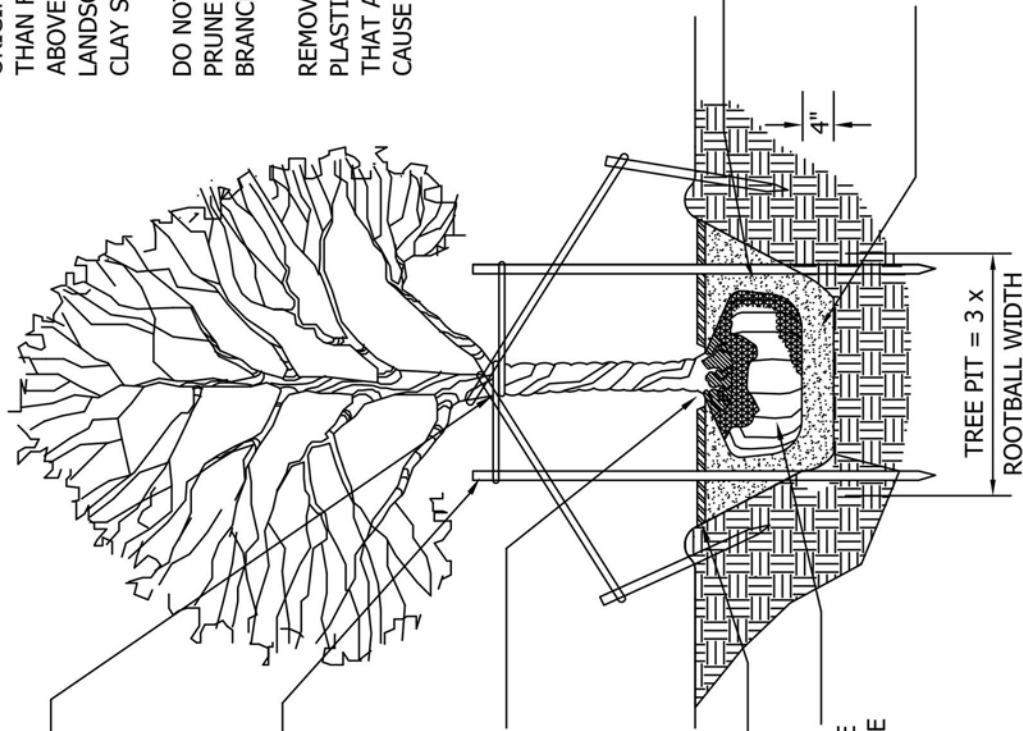
NOTE:
 GUY DECIDUOUS TREES ABOVE
 3" CAL. STAKE DECIDUOUS TREES
 BELOW 3" CAL.

STAKE TREES AT FIRST BRANCH
 USING 2"-3" WIDE BELT-LIKE
 NYLON OR PLASTIC STRAPS.
 ALLOW FOR SOME MINIMAL
 FLEXING OF THE TREE.
 REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES, MIN.
 36" ABOVE GROUND FOR UPRIGHT,
 18" IF ANGLED. DRIVE STAKES A
 MIN. 18" INTO UNDISTURBED
 GROUND OUTSIDE ROOTBALL.
 REMOVE AFTER ONE YEAR.

MULCH 3" DEPTH WITH SHREDDED
 HARDWOOD BARK. NATURAL IN
 COLOR. LEAVE 3" CIRCLE OF BARE
 SOIL AT BASE OF TREE TRUNK TO
 EXPOSE ROOT FLARE.

MOUND EARTH TO FORM SAUCER
 REMOVE ALL NON-BIODEGRADABLE
 MATERIALS COMPLETELY FROM THE
 ROOTBALL. CUT AND REMOVE WIRE
 BASKET AND BURLAP FROM TOP
 HALF OF THE ROOTBALL.



PLANT TREE SO ROOT
 FLARE IS AT OR ABOVE
 SURROUNDING GRADE.
 REMOVE ROOT BALL
 DIRT TO EXPOSE FLARE
 IF NECESSARY AND CUT
 ANY GIRDLING ROOTS.

PLANTING MIXTURE:
 AMEND SOILS PER SITE
 CONDITIONS AND
 REQUIREMENTS OF THE
 PLANT MATERIAL.

SCARIFY PLANTING PIT
 SIDES ONLY.
 RECOMPACT BASE TO
 4" DEPTH.

NOTE:
 TREE SHALL BEAR SAME RELATION
 TO FINISH GRADE AS IT BORE
 ORIGINALLY OR SLIGHTLY HIGHER
 THAN FINISH GRADE UP TO 6"
 ABOVE GRADE, IF DIRECTED BY
 LANDSCAPE ARCHITECT FOR HEAVY
 CLAY SOIL AREAS.

DO NOT PRUNE TERMINAL LEADER.
 PRUNE ONLY DEAD OR BROKEN
 BRANCHES.

REMOVE ALL TAGS, STRING,
 PLASTICS AND OTHER MATERIALS
 THAT ARE UNSIGHTLY OR COULD
 CAUSE GIRDLING.

DECIDUOUS TREE PLANTING DETAIL

Not to scale

NOTE:

GUY EVERGREEN TREES ABOVE 12' HEIGHT. STAKE EVERGREEN TREE BELOW 12' HEIGHT.

STAKE TREES AT FIRST BRANCH USING 2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS. ALLOW FOR SOME MINIMAL FLEXING OF THE TREE. REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES, MIN. 36" ABOVE GROUND FOR UPRIGHT, 18" IF ANGLED. DRIVE STAKES A MIN. 18" INTO UNDISTURBED GROUND OUTSIDE ROOTBALL. REMOVE AFTER ONE YEAR.

MULCH 3" DEPTH WITH SHREDDED HARDWOOD BARK. NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK TO EXPOSE ROOT FLARE.

MOUND EARTH TO FORM SAUCER

REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT AND REMOVE WIRE BASKET AND BURLAP FROM TOP HALF OF THE ROOTBALL.

NOTE:

TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

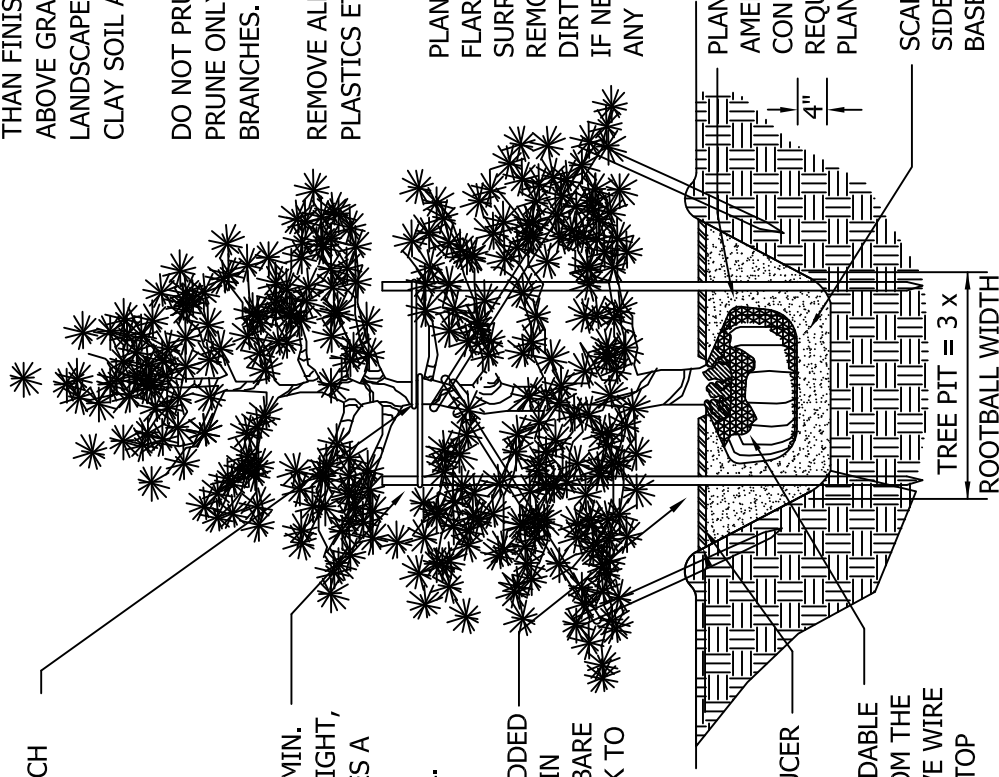
DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.

REMOVE ALL TAGS, STRING, PLASTICS ETC.

PLANT TREE SO ROOT FLARE IS AT OR ABOVE SURROUNDING GRADE. REMOVE ROOT BALL DIRT TO EXPOSE FLARE IF NECESSARY AND CUT ANY GIRDLING ROOTS.

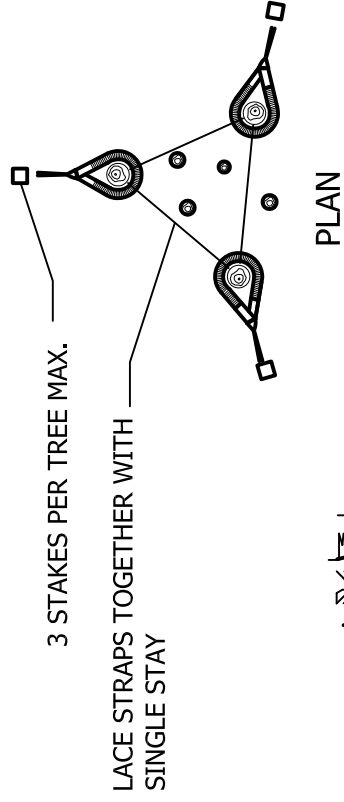
PLANTING MIXTURE: AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

SCARIFY PLANTING PIT SIDES. RECOMPACT BASE TO 4" DEPTH.



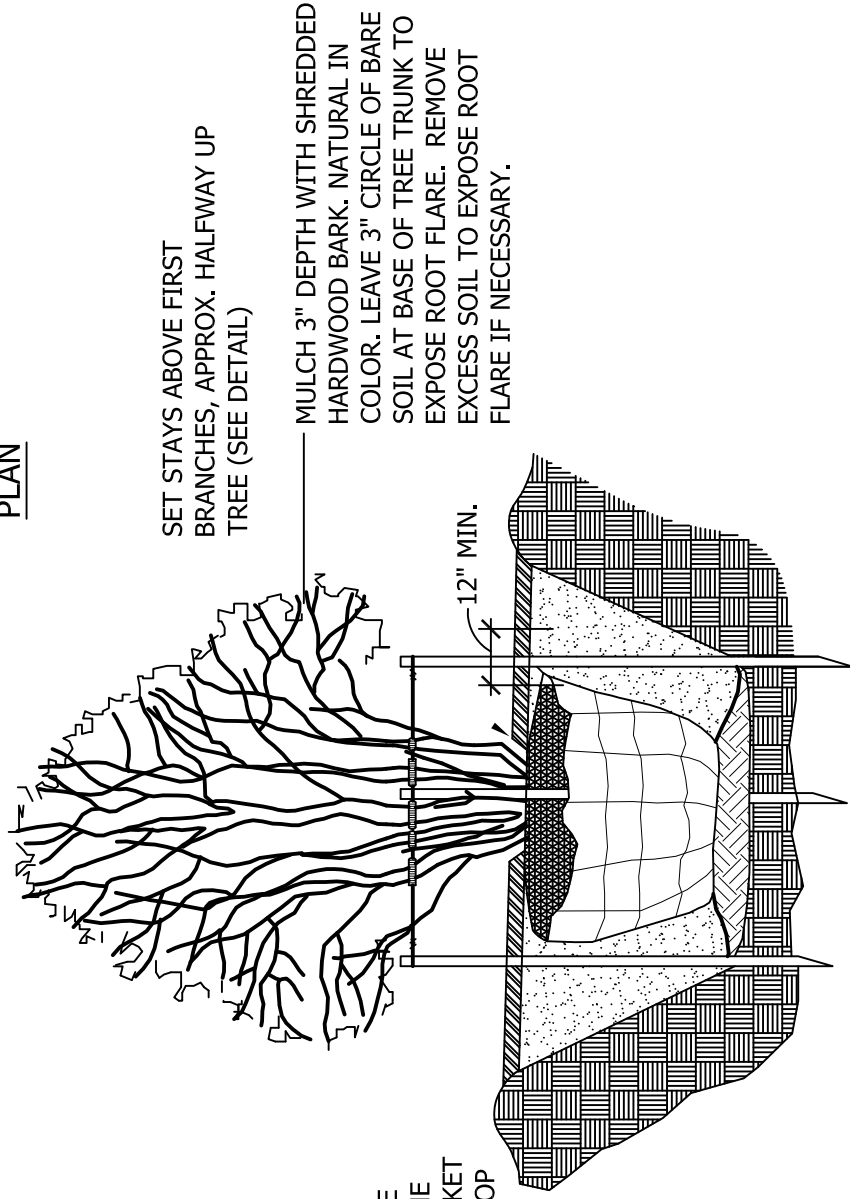
EVERGREEN TREE PLANTING DETAIL

Not to scale



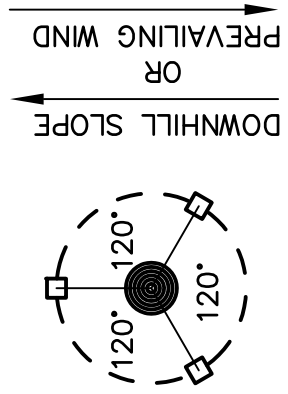
NOTES:

PRUNE AS SPECIFIED
 STAKE 3 LARGEST STEMS, IF TREE
 HAS MORE THAN 3 LEADERS
 SET TREE STAKES VERTICAL AND
 AT SAME HEIGHT.



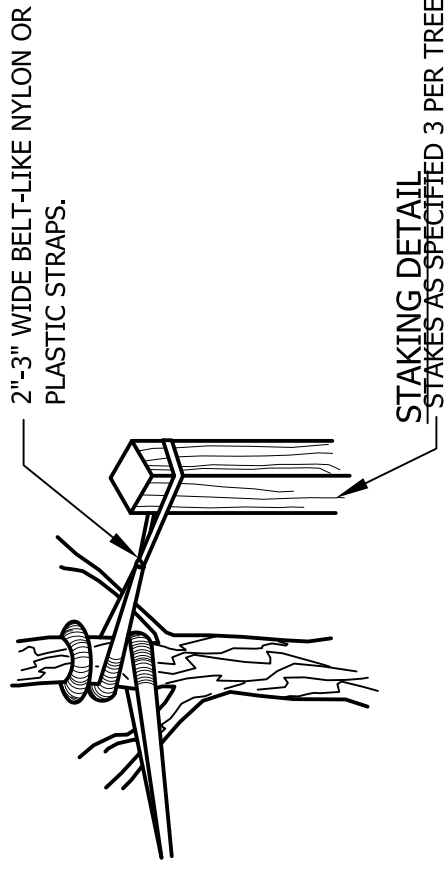
MULTI-STEM TREE PLANTING DETAIL

Not to scale

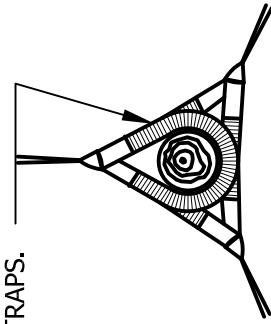


NOTE:
 ORIENT STAKING/GUYING TO PREVAILING WINDS, EXCEPT ON SLOPES GREATER THAN 3:1 ORIENT TO SLOPE.
 USE SAME STAKING/GUYING ORIENTATION FOR ALL PLANTS WITHIN EACH GROUPING OR AREA

STAKING/GUYING LOCATION



2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS.



TREE STAKING DETAIL

Not to scale

NOTE:
 SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

PRUNE ONLY DEAD OR BROKEN BRANCHES.

REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS

SHRUBS PLANTED IN BEDS SHALL HAVE ENTIRE BED MASS EXCAVATED AND BACKFILLED WITH APPROVED PLANT MIX. PLANTS SHALL NOT BE INSTALLED IN INDIVIDUAL HOLES.

SCARIFY PLANTING PIT SIDES. RECOMPACT BASE OF TO 4" DEPTH.

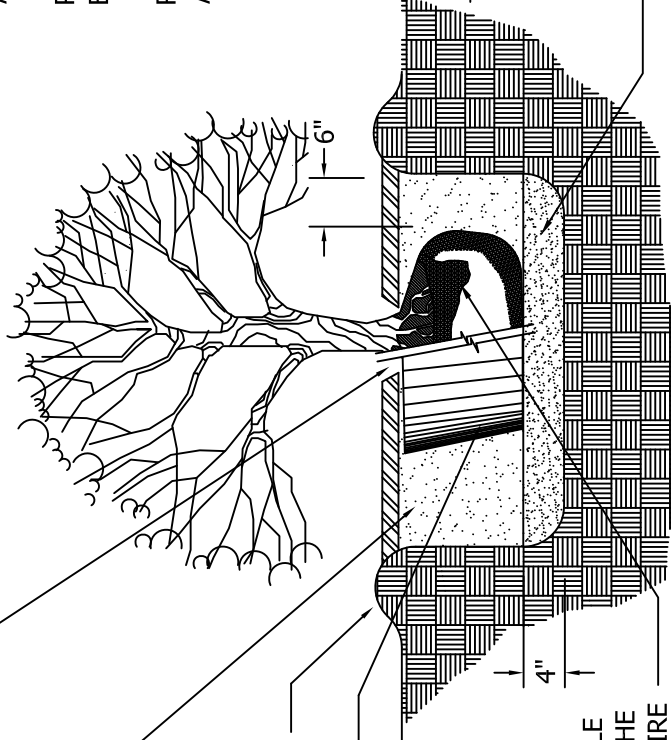
MULCH 2" DEPTH WITH SHREDED HARDWOOD BARK. NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK TO EXPOSE ROOT FLARE.

PLANTING MIXTURE:
 AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

MOUND EARTH TO FORM SAUCER

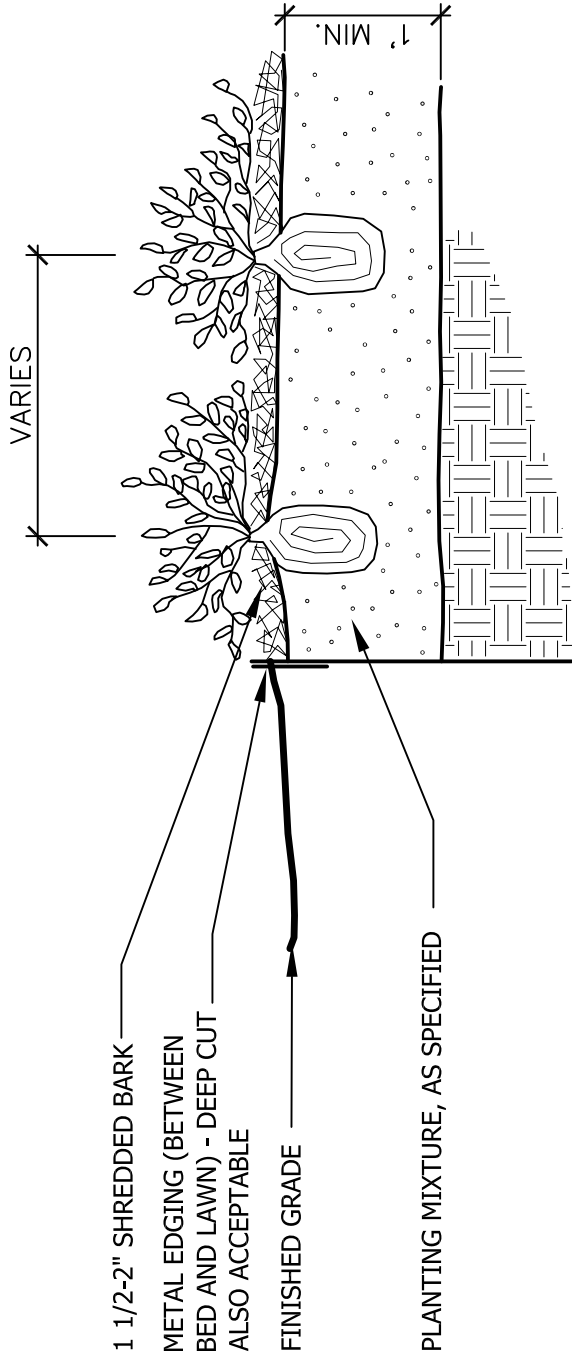
REMOVE COLLAR OF ALL FIBER POTS. POTS SHALL BE CUT TO PROVIDE FOR ROOT GROWTH. REMOVE ALL NONORGANIC CONTAINERS COMPLETELY.

REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT AND REMOVE WIRE BASKET AND BURLAP FROM TOP HALF OF THE ROOTBALL.



SHRUB PLANTING DETAIL

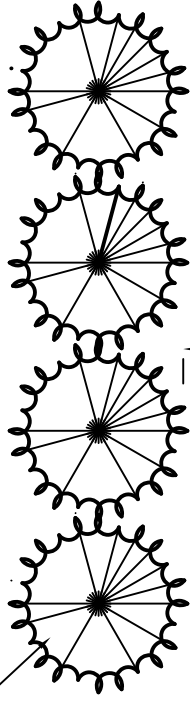
NOT TO SCALE



PERENNIAL PLANTING DETAIL

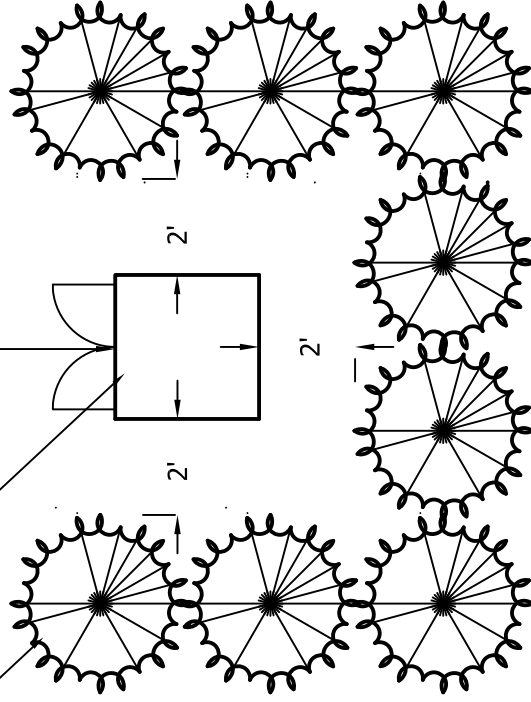
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ROW REQUIRED IF NOT
FACING BUILDING OR
OTHER SCREENING



TRANSFORMER/
IRRIGATION BOX (TYP.)

8'



SHRUB (TYP.)

SHRUBS SHOULD BE
EVERGREEN OR DENSELY
BRANCHED DECIDUOUS,
WITH HEIGHT AT LEAST
EQUAL TO HEIGHT OF
TRANSFORMER/UTILITY BOX.

TRANSFORMER SCREENING DETAIL

Not to scale

PART IV: STREET TREE LIST

Genus	Species - cultivar	Common Name	Native to Michigan?	Size	App Ht	App Spread	Use	Treelawn Size	Overhead Utilities
Acer	buergeranum	Maple, Trident	Not Native	Small	20'	25'	Special Circumstances	4-6 Feet	Under Utility
Acer	campestre	Maple, Hedge	Not Native	Sm./Med.	30'	30'	Recommended	4-8 Feet	
Acer	freemanii	Maple, Freeman	Cultivar - Native	Large	50'	40'	Special Circumstances	>8 Feet	
Acer	ginnala	Maple, Amur	Not Native	Small	20'	20'	Special Circumstances	4-6 Feet	Under Utility
Acer	griseum	Maple, Paperbark	Not Native	Sm./Med.	25'	20'	Special Circumstances	4-6 Feet	Under Utility
Acer	rubrum	Maple, Red	Native	Large	50'	40'	Recommended	>8 Feet	
Acer	rubrum 'Bowhall'	Maple, Red Bowhall	Cultivar - Native	Med./Lg.	40'	15'	Special Circumstances	>8 Feet	
Acer	rubrum 'Sunset'	Maple, Red Sunset	Cultivar - Native	Large.	45'	35'	Recommended	>8 Feet	
Acer	saccharum	Maple, Sugar	Native	Large	60'	40'	Recommended	>8 Feet	
Aesculus	hippocastanum	Horsechestnut	Not Native	Large	80'	35'	Special Circumstances	>10 Feet	
Amelanchier	arborea	Serviceberry	Native	Small	10'	6'	Special Circumstances	4-6 Feet	Under Utility
Amelanchier	x grandifolia 'Autumn Brilliance'	Serviceberry	Cultivar - Native	Medium	20'	20'	Special Circumstances	6-8 Feet	Under Utility
Carpinus	betulus	European Hornbeam	Not Native	Medium	35'	25'	Recommended	6-8 Feet	
Carpinus	caroliniana	American Hornbeam	Native	Medium	25'	25'	Recommended	6-8 Feet	Under Utility
Celtis	occidentalis	Hackberry	Native	Large	55'	45'	Recommended	>8 Feet	
Cercidiphyllum	japonicum	Katsura Tree	Not Native	Med./Lg.	40'	40'	Recommended	>8 Feet	
Chionanthus	retusus	Chinese fringetree	Not Native	Small	20'	20'	Special Circumstances	4-6 Feet	Under Utility
Clasdrastis	lutea	Yellowwood	Not Native	Medium	30'	40'	Special Circumstances	6-8 Feet	
Cornus	kousa	Dogwood, Kousa	Not Native	Sm./Med.	25'	25'	Special Circumstances		Under Utility
Crataegus	crus-galli inermis	Hawthorn, Cockspur Thornless	Cultivar - Native	Sm./Med.	25'	25'	Special Circumstances	4-6 Feet	Under Utility
Crataegus	laevigata 'Superba'	Hawthorn, Crimson Cloud	Cultivar - Not Native	Sm./Med.	25'	18'	Special Circumstances	4-6 Feet	Under Utility

Genus	Species - cultivar	Common Name	Native to Michigan?	Size	App Ht	App Spread	Use	Treelawn Size	Overhead Utilities
Crataegus	phaenopyrum 'Treeform'	Hawthorn, Washington	Cultivar - Not Native	Sm./Med.	25'	20'	Special Circumstances	4-6 Feet	Under Utility
Eucommia	ulmoides	Hardy Rubber tree	Not Native	Large	45'	40'	Special Circumstances	>8 Feet	
Ginkgo	biloba	Ginkgo (Male Only)	Not Native	Large	60'	30'	Recommended	>8 Feet	
Gleditsia	tricanthos	Honeylocust	Native	Medium	35'	35'	Recommended	6-8 Feet	
Gleditsia	tricanthos inermis 'Impcole'	Honeylocust, Imperial	Cultivar - Native	Medium	35'	35'	Recommended	6-8 Feet	
Gleditsia	tricanthos inermis 'Shademaster'	Honeylocust, Shademaster	Cultivar - Native	Large	45'	35'	Recommended	>8 Feet	
Gleditsia	tricanthos inermis 'Skycole'	Honeylocust, Skyline	Cultivar - Native	Large	45'	35'	Recommended	>8 Feet	
Gymnocladus	dioicus	Kentucky Coffeetree	Native	Large	60'	40'	Special Circumstances	>8 Feet	
Koelreuteria	paniculata	Goldenrain-tree	Not Native	Medium	30'	30'	Special Circumstances	6-8 Feet	
Liriodendron	tulipifera	Tuliptree	Native	Large	75'	40'	Recommended	>10 Feet	
Maackia	amurensis	Manchurain maackia	Not Native	Small	20'	20'	Special Circumstances	4-6 Feet	Under Utility
Malus spp.	'Snowdrift' 'White Angel' 'Profusion'	Crabapple	Cultivar - Not Native	Small	20'	20'	Special Circumstances	6-8 Feet	Under Utility - use lg, upright varieties
Nyssa	sylvatica	Black Gum	Native	Medium	35'	20'	Special Circumstances	6-8 Feet	
Ostrya	virginiana	Hophornbeam, American	Native	Medium	35'	25'	Special Circumstances	6-8 Feet	
Phellodendron	amurense 'Macho'	Amur Corktree, Macho	Not Native	Med./Lg.	40'	30'	Recommended	>8 Feet	
Platanus	x acerfolia	London planetree	Cultivar - Not Native	Large	55'	40'	Special Circumstances	>10 Feet	
Quercus	acutissima	Oak, Sawtooth	Not Native	Large	50'	50'	Special Circumstances	>8 Feet	
Quercus	alba	Oak, White	Native	Large	65'	65'	Recommended	>8 Feet	
Quercus	bicolor	Oak, Swamp White	Native	Large	45'	45'	Recommended	>8 Feet	
Quercus	borealis (rubra) Oak	Oak, Northern Red	Native	Large	60'	45'	Recommended	>8 Feet	
Quercus	coccinea	Oak, Scarlet	Native	Large	65'	40'	Recommended	>10 Feet	
Quercus	imbricaria	Oak, Shingle	Native	Large	60'	55'	Special Circumstances	>8 Feet	
Quercus	macrocarpa	Oak, Burr	Native	Large	65'	60'	Recommended	>10 Feet	

Genus	Species - cultivar	Common Name	Native to Michigan?	Size	App Ht	App Spread	Use	Treelawn Size	Overhead Utilities
Quercus	phellos	Oak, Willow	Not Native	Large	50'	35'	Special Circumstances	>8 Feet	
Quercus	robur	Oak, English	Not Native	Large	50'	40'	Special Circumstances	>8 Feet	fastigate/columnar varieties in special
Sophora	japonica	Pagoda Tree	Not Native	Large	45'	35'	Recommended	>8 Feet	
Syringa	reticulata	Japanese Tree Lilac	Not Native	Small	20'	15'	Recommended	4-6 Feet	Under Utility
Tilia	americana	American Basswood	Native	Large	70'	40'	Recommended	>8 Feet	
Tilia	americana 'Redmond'	Linden, Redmond	Cultivar - Native	Medium	35'	25'	Recommended	6-8 Feet	
Tilia	cordata	Linden, Littleleaf	Not Native	Large	50'	35'	Recommended	>8 Feet	
Tilia	euchlora	Linden, Crimean	Not Native	Med./Lg.	40'	35'	Recommended	>8 Feet	
Tilia	tomentosa	Linden, Silver	Not Native	Large	60'	35'	Recommended	>8 Feet	
Ulmus	americana 'New Harmony'	Elm, New Harmony	Cultivar	Large	65'	60'	Special Circumstances	>8 Feet	
Ulmus	americana 'Valley Forge'	Elm, Valley Forge	Cultivar	Large	65'	60'	Special Circumstances	6-8 Feet	
Ulmus	x 'Homestead'	Elm, Homestead	Cultivar - Not Native	Large	55'	35'	Special Circumstances	>8 Feet	
Ulmus	x 'Frontier'	Elm, Frontier	Cultivar - Not Native	Med./Lg.	40'	30'	Special Circumstances	>8 Feet	
Zelkova	serrata 'Green Vase'	Zelkova, Green Vase	Not Native	Large	50'	40'	Special Circumstances	>8 Feet	
Zelkova	serrata 'Village Green'	Zelkova, Village Green	Not Native	Med./Lg.	40'	38'	Special Circumstances	>8 Feet	

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Woodland Replace- ment?	Street Tree Class	Growing Conditions	Nursery Type
DECIDUOUS CANOPY TREES								
<i>Acer nigrum</i>	Black Maple	DC	SU/Fall	NOC	YES		SS	SP
<i>Acer nigrum</i> 'Greencolumn'	Black Maple	DC	SU/Fall	~	YES	SC	SS	CO
<i>Acer platanoides</i>	Norway Maple	DC	SU/Fall	EX	NO		SU	CO
<i>Acer pseudoplatanus</i>	Sycamore Maple	DC	SU/Fall	EX	NO		SU	CO
<i>Acer rubrum</i>	Red Maple	DC	SU/Fall	NOC	YES	RC	SU	CO
<i>Acer rubrum</i> 'Bowhall'	Bowhall Red Maple	DC	SU/Fall	~	YES	RC	SU	CO
<i>Acer rubrum</i> 'Franksred'	Red Sunset Red Maple	DC	SU/Fall	~	YES	RC	SU	CO
<i>Acer rubrum tomentosum</i>	Red Maple	DC	SU/Fall	~	YES		SU	SP
<i>Acer rubrum trilobum</i>	Red Maple	DC	SP/SU/FA	~	YES		SU	SP
<i>Acer saccharum</i>	Sugar Maple	DC	SU/Fall	NOC	YES		SU	CO
<i>Acer saccharum</i> 'Commemoration'	Sugar Maple	DC	SU/Fall	~	YES	RC	SU	CO
<i>Acer saccharum</i> 'Green Mountain'	Sugar Maple	DC	SU/Fall	~	YES	RC	SU	CO
<i>Aesculus glabra</i>	Ohio Buckeye	DC	SU/Fall	NOC	YES		SH	CO
<i>Aesculus hippocastanum</i>	Horsechestnut	DC	Spring/SU	EX	NO	SC	SS	SP
<i>Betula alleghaniensis</i>	Yellow Birch	DC	SU/Winter	NOC	YES	PR	WT	SP
<i>Betula nigra</i>	River Birch	DC	SU/Winter	NU	NO		WT	CO
<i>Betula papyrifera</i>	Canoe Birch	DC	SU/Winter	NOC	YES		SU	CO
<i>Carya cordiformis</i>	Bitternut Hickory	DC	SU/Fall	NOC	YES		SU	SP
<i>Carya glabra</i>	Pignut Hickory	DC	SU/Fall	NOC	YES		SU	SP
<i>Carya laciniosa</i>	Big Shellbark Hickory	DC	SU/Fall	NOC	YES		SU	SP
<i>Carya ovata</i>	Shagbark Hickory	DC	SU/Winter	NOC	YES		SU	SP
<i>Celtis occidentalis</i>	Hackberry	DC	Summer	NOC	YES	RC	SU	CO
<i>Cladrastis lutea</i>	Yellowwood	DC	Spring/SU	NU	NO	SC	SU	CO
<i>Fagus grandifolia</i>	American Beech	DC	SU/Winter	NOC	YES		SH	CO
<i>Fagus sylvatica</i>	European Beech	DC	SU/Winter	EX	NO		SU	CO
<i>Ginkgo biloba</i> (male)	Ginkgo	DC	Summer	EX	NO	RC	SU	CO
<i>Ginkgo biloba</i> 'Autumn Gold'	Ginkgo	DC	Summer	EX	NO	RC	SU	CO
<i>Ginkgo biloba</i> 'Magyar'	Ginkgo	DC	Summer	EX	NO	RC	SU	CO
<i>Gleditsia triacanthos</i>	Honeylocust	DC	Summer	NOC	YES		SU	SP
<i>Gleditsia triacanthos inermis</i>	Thornless Honeylocust	DC	Summer	~	YES	RC	SU	CO
<i>Gleditsia triacanthos</i> 'Skyline'	Honeylocust	DC	Summer	~	YES	RC	SU	CO
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	DC	SU/Winter	NS	YES	SC	SS	CO
<i>Juglans cinerea</i>	Butternut	DC	Summer	NOC	YES		SU	CO
<i>Juglans nigra</i>	Black Walnut	DC	Summer	NOC	YES		SU	SP
<i>Liquidambar styraciflua</i>	Sweetgum	DC	SU/Fall	NU	NO		SU	CO
<i>Liriodendron tulipifera</i>	Tuliptree	DC	SU/Fall	NOC	YES	RC	SS	CO
<i>Nyssa sylvatica</i>	Tupelo	DC	SU/Fall	NOC	YES	SC	SU	CO
<i>Platanus acerifolia</i> 'Columbia'	Columbia Planetree	DC	Summer	EX	NO	SC	SS	CO
<i>Platanus occidentalis</i>	American Sycamore	DC	Summer	NOC	YES	SC	SS	SP
<i>Prunus serotina</i>	Black Cherry	DC	Fall	NOC	YES		SU	SP
<i>Quercus alba</i>	White Oak	DC	Summer	NOC	YES		SU	CO
<i>Quercus bicolor</i>	Swamp White Oak	DC	Summer	NOC	YES	RC	SU	SP
<i>Quercus coccinea</i>	Scarlet Oak	DC	Summer	NOC	YES		SU	SP
<i>Quercus ellipsoidalis</i>	Hill's Oak	DC	SU/Fall	NS	YES		SU	SP
<i>Quercus imbricaria</i>	Shingle Oak	DC	Summer	NS	YES		SU	SP
<i>Quercus macrocarpa</i>	Bur Oak	DC	Summer	NOC	YES	RC	SU	CO
<i>Quercus muehlenbergii</i>	Chinkapin Oak	DC	Summer	NOC	YES		SU	SP
<i>Quercus prinus</i>	Chestnut Oak	DC	Summer	NU	NO		SU	SP
<i>Quercus robur</i>	English Oak	DC	Summer	EX	NO	SC	SU	CO
<i>Quercus robur</i> 'Skymaster'	English Oak	DC	SU/Fall	EX	NO	SC	SU	CO
<i>Quercus rubra</i>	Red Oak	DC	Summer	NOC	YES	RC	SU	CO
<i>Quercus velutina</i>	Black Oak	DC	Summer	NOC	YES		SU	SP
<i>Sophora japonica</i>	Pagoda Tree	DC	Spring/SU	EX	NO	RC	SU	SP
<i>Tilia americana</i>	American Basswood	DC	Summer	NOC	YES	RC	SS	CO
<i>Tilia cordata</i>	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
<i>Tilia cordata</i> 'Chancellor'	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
<i>Tilia cordata</i> 'Corzam'	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
<i>Tilia cordata</i> 'Greenspire'	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
<i>Tilia platyphyllos</i>	Large-leaf Linden	DC	SU/Fall	EX	NO	RC	SU	
<i>Tilia tomentosa</i>	Silver Linden	DC	Summer	EX	NO	RC	SU	CO

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Woodland Replacement?	Street Tree Class	Growing Conditions	Nursery Type
<i>Tilia x euchlora</i> 'Laurelhurst'	Crimean Linden	DC	Summer	EX	NO		SU	
<i>Zelkova serrata</i>	Zelkova	DC	Summer	EX	NO	SC	SU	CO
CONIFEROUS TREES - see Section 37-8 for woodland replacement ratio								
<i>Abies balsamea</i>	Balsam Fir	LE	Winter	NU	YES	PR	SS	CO
<i>Abies concolor</i>	Concolor Fir	LE	Winter	NU	NO	PR	SU	CO
<i>Larix laricina</i>	Tamarack	LE	Fall	NOC	YES		WT	SP
<i>Metasequoia glyptostroboides</i>	Dawn Redwood	LE	SU/Fall	EX	NO		SU	CO
<i>Picea abies</i>	Norway Spruce	LE	Winter	EX	NO	PR	SU	CO
<i>Picea pungens</i>	Colorado Spruce	LE	Winter	NU	NO	PR	SU	CO
<i>Picea glauca</i>	White Spruce	LE	Winter	NS	YES	PR	SU	CO
<i>Picea mariana</i>	Black Spruce	LE	Winter	NOC	YES	PR	SU	SP
<i>Picea omorika</i>	Serbian Spruce	LE	Winter	EX	NO	PR	SU	CO
<i>Pinus nigra</i>	Austrian Pine	LE	Winter	EX	NO	PR	SU	CO
<i>Pinus resinosa</i>	Red Pine	LE	Winter	NU	YES	PR	SU	CO
<i>Pinus strobus</i>	White Pine	LE	Winter	NOC	YES	PR	SU	CO
<i>Pinus sylvestris</i>	Scotch Pine	LE	Winter	EX	NO	PR	SU	CO
<i>Pseudotsuga menziesii</i>	Douglas Fir	LE	Winter	NU	NO	PR	SS	CO
<i>Taxodium distichum</i>	Bald Cypress	LE	SU/Winter	NU	NO		WT	CO
<i>Tsuga canadensis</i>	Canada Hemlock	LE	Winter	NOC	YES	PR	SS	CO
UPRIGHT EVERGREENS - see Section 37-8 for woodland replacement ratios								
<i>Juniperus virginiana</i>	Eastern Red Cedar	UE	Winter	NOC	YES	~	SU	CO
<i>Thuja occidentalis</i>	Arborvitae	UE	Winter	NOC	YES	~	SS	CO
DECIDUOUS SUBCANOPY TREES - see Section 37.8 for woodland replacement ratios								
<i>Acer campestre</i>	Hedge Maple	DS	Summer	EX	NO	SC	SU	CO
<i>Acer campestre</i> 'Queen Elizabeth'	Hedge Maple	DS	Fall	EX	NO	UO	SU	CO
<i>Acer ginnala</i>	Amur Maple	DS	Fall	EX	NO		SU	CO
<i>Acer griseum</i>	Paperbark Maple	DS	Winter	EX	NO	SC	SU	CO
<i>Acer pensylvanicum</i>	Striped Maple	DS	Fall	NU	YES		SH	SP
<i>Acer spicatum</i>	Mountain Maple	DS	Fall	NOC	YES		SH	SP
<i>Alnus rugosa</i>	Speckled Alder	DS	Fall	NOC	YES	PR	WT	SP
<i>Amelanchier xAutumn Brilliance</i>	Serviceberry	DS	Spring	~	YES	UO	SS	CO
<i>Asimina triloba</i>	Paw Paw	DS	Fall	NOC	YES	PR	SH	SP
<i>Carpinus betulus</i>	European Hornbeam	DS	Winter	EX	NO	UO	SS	CO
<i>Carpinus caroliniana</i>	American Hornbeam	DS	Summer	NOC	YES		SS	CO
<i>Cercis canadensis</i>	Eastern Redbud	DS	Spring	NS	YES		SS	CP
<i>Chionanthus virginicus</i>	Fringetree	DS	Spring	NU	NO		SU	CO
<i>Cornus alternifolia</i>	Alternate-Leaved Dogwood	DS	Summer	NOC	YES	~	SS	CO
<i>Cornus florida</i>	Flowering Dogwood	DS	Spring	NOC	YES	PR	SS	CO
<i>Cornus kousa</i>	Japanese Dogwood	DS	Spring	EX	NO	UO	SS	CO
<i>Cornus mas</i>	Corneliancherry Dogwood	DS	Spring	EX	NO	UO	SS	CO
<i>Crataegus crus-galli inermis</i>	Cockspur Hawthorn	DS	Winter	~	YES	UO		CO
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	DS	Winter	NU	NO	SC		CO
<i>Koeleruteria paniculata</i>	Golden-Rain Tree	DS		EX	NO	SC		CO
<i>Magnolia stellata</i>	Star Magnolia	DS	Spring	NU	NO			CO
<i>Malus hybrids</i>	Flowering Crabapple	DS	Spring	~	NO	UO	SU	CO
<i>Ostrya virginiana</i>	Hophornbeam	DS	Summer	NOC	YES		SS	CO
<i>Ptelea trifoliata</i>	Wafer-Ash	DS	Fall	NOC	YES	SC	SU	SP
LARGE SHRUBS - see Section 37-8 for woodland replacement ratio								
<i>Amelanchier alnifolia</i>	Saskatoon Serviceberry	SL	Spring	NU	NO	~	SS	SP
<i>Amelanchier arborea</i>	Juneberry	SL	Spring	NOC	YES	~	SS	SP
<i>Amelanchier canadensis</i>	Shadblow	SL/DS	Spring	NU	NO	~	SS	CO
<i>Amelanchier laevis</i>	Shadbush	SL/DS	Spring	NOC	YES	~	SS	CO
<i>Aronia melanocarpa (prunifolia)</i>	Black Chokecherry	SS	Summer	NOC	YES	~	SS	CO
<i>Betula pumila</i>	Dwarf Birch	SL	Winter	NOC	YES	~	SU	SP
<i>Calycanthus floridus</i>	Strawberry-Shrub	SL	Summer	NU	NO	~	SS	CO
<i>Cephalanthus occidentalis</i>	Buttonbush	SL	Summer	NOC	YES	~	WT	CO
<i>Cornus amomum</i>	Silky Dogwood	SL	Summer	NOC	YES	~	SS	CO
<i>Cornus foemina</i>	Gray Dogwood	SL	Spring	NOC	YES	~	SS	SP
<i>Cornus rugosa</i>	Round-Leaved Dogwood	SL	Summer	NOC	YES	~	SS	SP

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<i>Cornus stolonifera</i>	Red Osier Dogwood	SL	Winter	NOC	YES	~	SS	CO
<i>Corylus americana</i>	American Hazelnut	SL	Fall	NOC	YES	~	SS	CO
<i>Corylus cornuta</i>	Beaked Hazelnut	SL	Spring	NS	YES	~	SS	SP
<i>Euonymus alatus</i>	Burning Bush	SL	Fall	EX	NO	~	SS	CO
<i>Fothergilla major</i>	Large Fothergilla	SL	Spring	NU	NO	~	SS	CO
<i>Hamamelis vernalis</i>	Vernal Witchhazel	SL	Spring	NU	NO	~	SS	CO
<i>Hamamelis virginiana</i>	Witch-Hazel	SL	Winter	NOC	YES	~	SS	CO
<i>Hibiscus syriacus</i>	Rose-Of-Sharon	SL	Summer	EX	NO	~	SS	CO
<i>Ilex opaca</i>	American Holly	SL	Winter	NOC	NO	~	SS	CO
<i>Ilex verticillata</i>	Winterberry	SL	Fall	NOC	YES	~	SS	CO
<i>Itea virginica</i>	Virginia Willow	SL	Summer	NU	NO	~	SS	CO
<i>Lindera benzoin</i>	Spicebush	SL	Fall	NOC	YES	~	SS	CO
<i>Physocarpus opulifolius</i>	Common Ninebark	SL	Summer	NOC	YES	~	WT	CO
<i>Rhus copallina</i>	Dwarf Sumac	SL	Summer	NOC	YES	~	SU	SP
<i>Rhus glabra</i>	Smooth Sumac	SL	Summer	NOC	YES	~	SU	CO
<i>Rhus typhina</i>	Staghorn Sumac	SL	Summer	NOC	YES	~	SU	CO
<i>Salix discolor</i>	Pussy Willow	SL	Spring	NOC	YES	~	WT	CO
<i>Sambucus canadensis</i>	Common Elder	SL	Summer	NOC	YES	~	SU	CO
<i>Sambucus racemosa (pubens)</i>	Red-Berried Elder	SL	Winter	NOC	YES	~	SU	CO
<i>Staphylea trifolia</i>	Bladdernut	SL	Winter	NOC	YES	~	SH	SP
<i>Syringa vulgaris</i>	Lilac	SL	Spring	EX	NO	~	SU	CO
<i>Viburnum dentatum</i>	Arrowwood	SL	Spring	NOC	YES	~	SS	CO
<i>Viburnum lantana</i>	Wayfaring Tree	SL	Spring	EX	NO	~	SU	CO
<i>Viburnum lentago</i>	Nannyberry	SL	Spring	NOC	YES	~	SS	CO
<i>Viburnum opulus</i>	European High-Bush Cranberry	SL	Spring	EX	NO	~	SU	CO
<i>Viburnum prunifolium</i>	Black Haw	SL	Winter	NS	YES	~	SS	CO
<i>Viburnum rafinesquianum</i>	Downy Arrowwood	SL	Spring	NOC	YES	~	SS	SP
<i>Viburnum trilobum</i>	High-Bush Cranberry	SL	Spring	NOC	YES	~	SS	CO
SMALL SHRUBS - see Section 37-8 for woodland replacement ratios								
<i>Arctostaphylos uva-ursi</i>	Bearberry	SS	Summer	NU	NO	~	SU	CO
<i>Aronia melanocarpa (prunifolia)</i>	Black Chokecherry	SS	Summer	NOC	YES	~	SS	CO
<i>Berberis thunbergii</i>	Japanese Barberry	SS	Winter	EX	NO	~	SS	CO
<i>Chaenomeles japonica</i>	Japanese Quince	SS	Spring	EX	NO	~	SU	CO
<i>Comptonia peregrina</i>	Sweet Fern	SS	Summer	NOC	YES	~	SS	CO
<i>Euonymus fortunei</i>	Climbing Euonymus	SS	Winter	EX	NO	~	SS	CO
<i>Euonymus kiautschovicus</i>	Climbing Euonymus	SS	Winter	EX	NO	~	SS	CO
<i>Euonymus obovatus</i>	Running Strawberry Bush	SS	Winter	NOC	YES	~	SS	SP
<i>Fothergilla gardenii</i>	Dwarf Fothergilla	SS	Spring	NU	NO	~	SS	CO
<i>Ilex glabra</i>	Inkberry	SS	Winter	NU	NO	~	SS	CO
<i>Juniperus communis</i>	Common Juniper	SS	Winter	NOC	YES	~	SU	CO
<i>Juniperus horizontalis</i>	Trailing Juniper	SS	Winter	NU	NO	~	SU	CO
<i>Potentilla fruticosa</i>	Bush Cinquefoil	SS	Summer	NOC	YES	~	SS	CO
<i>Rhus aromatica</i>	Fragrant Sumac	SS	Summer	NOC	YES	~	SU	CO
<i>Taxus canadensis</i>	Canada Yew	SS	Winter	NOC	YES	~	SH	SP
<i>Viburnum acerifolium</i>	Maple-Leaved Arrowwood	SS	Spring	NOC	YES	~	SS	SP
HERBACEOUS PLANTS - see Section 37-8 for woodland replacement ratios								
<i>Acorus calamus</i>	Sweet-Flag	PG	Spring	NOC	YES	~	WT	SP
<i>Actaea pachypoda</i>	White Baneberry	PG	Summer	NOC	YES	~	SH	SP
<i>Actaea rubra</i>	Red Baneberry	PG	Summer	NOC	YES	~	SH	SP
<i>Adiantum pedatum</i>	Maidenhair Fern	PG	Summer	NOC	YES	~	SH	SP
<i>Aegopodium podagraria</i>	Bishop's Weed	PG	Summer	EX	NO	~	SH	CO
<i>Agastache nepetoides</i>	Yellow Giant Hyssop	PG	Summer	NOC	YES	~	SS	SP
<i>Agrimonia gryposepala</i>	Tall Agrimony	PG	Summer	NOC	YES	~	SH	SP
<i>Agrimonia parviflora</i>	Swamp Agrimony	PG	Summer	NOC	YES	~	SS	SP
<i>Ajuga reptans</i>	Bugleweed	PG	Summer	EX	NO	~	SS	CO
<i>Alcea rosea</i>	Hollyhock	PG	Summer	EX	NO	~	SU	CP
<i>Allium cernuum</i>	Nodding Wild Onion	PG	Summer	NS	YES	~	SS	CO
<i>Allium schoenoprasum</i>	Chives	PG	Summer	NU	YES	~	SU	CO
<i>Allium tricoccum</i>	Wild Leek	PG	Spring	NOC	YES	~	SH	UN
<i>Amorpha canescens</i>	Lead Plant	PG	Summer	NU	YES	~	SU	UN
<i>Amphicarpaea bracteata</i>	Hog Peanut	PG	Summer	NOC	YES	~	SS	SP

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<i>Amsonia tabernaemontana</i>	Blue Star	PG	Summer	NU	NO	~	SS	CO
<i>Andropogon gerardii</i>	Big Bluestem	PG	Summer	NOC	YES	~	SU	SP
<i>Andropogon scoparius</i>	Little Bluestem	PG	Summer	NOC	YES	~	SU	SP
<i>Andropogon virginicus</i>	Broom Sedge	PG	Summer	NS	YES	~	SU	SP
<i>Anemone canadensis</i>	Meadow Anemone	PG	Spring	NS	YES	~	SU	SP
<i>Anemone cylindrica</i>	Prairie Thimbleweed	PG	Spring	NOC	YES	~	SS	SP
<i>Anemone patens</i>	Pasque Flower	PG	Spring	NU	NO	~	SU	UN
<i>Anemone virginiana</i>	Thimbleweed	PG	Summer	NOC	YES	~	SH	SP
<i>Anemonella thalictroides</i>	Rue Anemone	PG	Spring	NOC	YES	~	SH	SP
<i>Angelica atropurpurea</i>	Great Angelica	PG	Spring	NS	YES	~	SU	SP
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	PG	Spring	NOC	YES	~	SS	SP
<i>Aquilegia canadensis</i>	Wild Columbine	PG	Spring	NOC	YES	~	SH	CP
<i>Arisaema triphyllum</i>	Jack-In-The-Pulpit	PG	Summer	NOC	YES	~	SH	CO
<i>Aralis dioicus</i>	Goat's-Beard	PG	Summer	NU	NO	~	SS	CO
<i>Asarum canadense</i>	Wild Ginger	PG	Spring	NOC	YES	~	SH	CO
<i>Asclepias exaltata</i>	Poke Milkweed	PG	Summer	NOC	YES	~	SH	SP
<i>Asclepias incarnata</i>	Swamp Milkweed	PG	Summer	NOC	YES	~	WT	CO
<i>Asclepias syriaca</i>	Common Milkweed	PG	Summer	NOC	YES	~	SU	SP
<i>Asclepias tuberosa</i>	Butterfly Weed	PG	Summer	NOC	YES	~	SU	CO
<i>Asclepias verticillata</i>	Horsetail Milkweed	PG	Summer	NOC	YES	~	SU	SP
<i>Aster cordifolius</i>	Heart-Leaved Aster	PG	Fall	NOC	YES	~	SH	SP
<i>Aster ericoides</i>	Heath Aster	PG	Fall	NOC	YES	~	SU	SP
<i>Aster laevis</i>	Smooth Aster	PG	Fall	NOC	YES	~	SU	SP
<i>Aster macrophyllus</i>	Big-Leaved Aster	PG	Fall	NOC	YES	~	SH	UN
<i>Aster novae-angliae</i>	New England Aster	PG	Fall	NOC	YES	~	SS	CO
<i>Aster novi-belgii</i>	New Belgium Aster	PG	Fall	NU	NO	~	SU	CO
<i>Aster oolentangiensis</i>	Sky Blue Aster	PG	Fall	NOC	YES	~	SU	SP
<i>Aster pilosus</i>	Hairy Aster	PG	Fall	NOC	YES	~	SU	SP
<i>Aster sagittifolius</i>	Arrow Aster	PG	Fall	NOC	YES	~	SS	SP
<i>Aster sericeus</i>	Silky Aster	PG	Fall	NU	YES	~	SU	SP
<i>Aster umbellatus</i>	Flattop Aster	PG	Fall	NOC	YES	~	SU	SP
<i>Athyrium filix-femina</i>	Lady Fern	PG	Summer	NOC	YES	~	SH	CO
<i>Aureolaria pedicularia</i>	Annual False Foxglove	PG	Summer	NOC	YES	~	SS	SP
<i>Baptisia australis</i>	Blue Wild Indigo	PG	Summer	NU	NO	~	SU	CO
<i>Baptisia leucophaea</i>	Cream Wild Indigo	PG	Summer	NU	YES	~	SU	SP
<i>Bouteloua curtipendula</i>	Sideoats Grama	PG	Summer	NOC	YES	~	SU	SP
<i>Bromus latiglumis</i>	Vibrant Shade Grass	PG	Summer	NOC	YES	~	SH	SP
<i>Calamagrostis canadensis</i>	Blue Joint Grass	PG	Summer	NOC	YES	~	WT	SP
<i>Calla palustris</i>	Water Arum	PG	Spring	NOC	YES	~	WT	CO
<i>Calopogon tuberosus</i>	Grass Pink Orchid	PG	Spring	NOC	YES	~	WT	SP
<i>Caltha palustris</i>	Marsh-marigold	PG	Spring	NOC	YES	~	WT	SP
<i>Campanula glomerata</i>	Clustered Bellflower	PG	Spring	EX	NO	~	SS	CO
<i>Campanula rotundifolia</i>	Bellflower	PG	Spring	NOC	YES	~	SS	SP
<i>Carex sp.</i>	Sedges	PG	Spring	~	~	~	WT	SP
<i>Caulophyllum thalictroides</i>	Blue Cohosh	PG	Summer	NOC	YES	~	SH	SP
<i>Ceanothus americanus</i>	New Jersey Tea	PG	Fall	NOC	YES	~	SU	CO
<i>Chasmanthium latifolium</i>	Sea Oats	PG	Summer	NU	YES	~	WT	CO
<i>Chelone glabra</i>	Turtlehead	PG	Fall	NOC	YES	~	SU	CO
<i>Cimicifuga racemosa</i>	Black Cohosh	PG	Fall	NS	NO	~	SH	CO
<i>Cinna arundinacea</i>	Common Wood Reed	PG	Summer	NOC	YES	~	WT	SP
<i>Cirsium discolor</i>	Pasture Thistle	PG	Summer	NOC	YES	~	SU	SP
<i>Collinsonia canadensis</i>	Citronella Horse Balm	PG	Summer	NOC	YES	~	SH	SP
<i>Convallaria majalis</i>	Lily Of The Valley	PG	Spring	EX	NO	~	SS	CO
<i>Coreopsis grandiflora</i>	Large-Flowered Coreopsis	PG	Fall	NU	NO	~	SU	CO
<i>Coreopsis lanceolata</i>	Sand Coreopsis	PG	Fall	NS	YES	~	SU	CO
<i>Coreopsis palmata</i>	Prairie Coreopsis	PG	Fall	NU	NO	~	SU	SP
<i>Coreopsis tripteris</i>	Tall Coreopsis	PG	Summer	NU	YES	~	SU	SP
<i>Cornus canadensis</i>	Bunchberry	PG	Fall	NOC	YES	~	SS	CO
<i>Cryptotaenia canadensis</i>	Honewort	PG	Summer	NOC	YES	~	SH	SP
<i>Dennstaedtia punctilobula</i>	Hay-Scented Fern	PG	Summer	NS	NO	~	SU	CO
<i>Desmodium canadense</i>	Showy Tick Trefoil	PG	Summer	NOC	YES	~	SS	SP
<i>Desmodium glutinosum</i>	Pointed-Leaved Tick-Trefoil	PG	Summer	NOC	YES	~	SH	SP
<i>Dianthus deltoides</i>	Maiden Pink	PG	Spring	EX	NO	~	SU	CO

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<i>Dicentra cucullaria</i>	Dutchman's Breeches	PG	Spring	NOC	YES	~	SH	SP
<i>Dicentra eximia</i>	Wild Bleeding Heart	PG	Spring	NU	NO	~	SS	CO
<i>Dodecatheon meadia</i>	Shooting Star	PG	Spring	NS	NO	~	SS	SP
<i>Dryopteris carthusiana</i>	Spinulose Woodfern	PG	Spring	NOC	YES	~	SH	CO
<i>Echinacea pallida</i>	Pale Purple Coneflower	PG	Fall	NU	NO	~	SU	SP
<i>Echinacea purpurea</i>	Purple Coneflower	PG	Summer	NU	NO	~	SS	CO
<i>Echinops sphaerocephalus</i>	Globe Thistle	PG	Summer	EX	NO	~	SU	CO
<i>Elymus canadensis</i>	Canada Wild Rye	PG	Summer	NOC	YES	~	SS	SP
<i>Elymus virginicus</i>	Virginia Wild Rye	PG	Summer	NOC	YES	~	SS	SP
<i>Eragrostis spectabilis</i>	Purple Love Grass	PG	Summer	NOC	YES	~	SU	SP
<i>Eryngium yuccifolium</i>	Rattlesnake Master	PG	Summer	NU	YES	~	SU	SP
<i>Erythronium americanum</i>	Yellow Trout Lily	PG	Spring	NOC	YES	~	SH	SP
<i>Eupatorium maculatum</i>	Joe Pye Weed	PG	Summer	NOC	YES	~	SU	CO
<i>Eupatorium perfoliatum</i>	Common Boneset	PG	Summer	NOC	YES	~	WT	CO
<i>Eupatorium purpureum</i>	Sweet-Smelling Joe Pye	PG	Summer	NOC	YES	~	SH	CO
<i>Eupatorium rugosum</i>	White Snakeroot	PG	Summer	NOC	YES	~	SH	CO
<i>Euthamia graminifolia</i>	Grass-Leaved Goldenrod	PG	Fall	NOC	YES	~	SU	SP
<i>Filipendula rubra</i>	Queen Of The Prairie	PG	Spring	NU	NO	~	SU	CO
<i>Gaultheria procumbens</i>	Wintergreen	PG	Winter	NOC	YES	~	SS	CO
<i>Gentiana andrewsii</i>	Closed Gentian	PG	Summer	NOC	YES	~	SU	SP
<i>Geranium maculatum</i>	Wild Geranium	PG	Spring	NOC	YES	~	SH	SP
<i>Geranium sanguineum</i>	Blood-Red Cranesbill	PG	Spring	EX	NO	~	SS	CO
<i>Geum canadense</i>	White Avens	PG	Spring	NOC	YES	~	SH	SP
<i>Geum triflorum</i>	Prairie Smoke	PG	Fall	NU	NO	~	SU	SP
<i>Glyceria striata</i>	Fowl Meadow (Manna) Grass	PG	Summer	NOC	YES	~	SS	WT
<i>Helenium autumnale</i>	Sneezeweed	PG	Summer	NOC	YES	~	SU	CO
<i>Helianthus divaricatus</i>	Woodland Sunflower	PG	Fall	NOC	YES	~	SU	SP
<i>Helianthus occidentalis</i>	Western (Or Naked) Sunflower	PG	Fall	NOC	YES	~	SU	SP
<i>Helianthus strumosus</i>	Pale-Leaved Sunflower	PG	Fall	NOC	YES	~	SU	SP
<i>Heliopsis helianthoides</i>	False Sunflower	PG	Fall	NOC	YES	~	SU	CO
<i>Heracleum maximum</i>	Cow Parsnip	PG	Summer	NOC	YES	~	WT	SP
<i>Hibiscus moscheutos</i>	Swamp Rose Mallow	PG	Spring	NOC	YES	~	SU	CO
<i>Hosta lancifolia</i>	Plantain Lily	PG	Summer	EX	NO	~	SS	CO
<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	PG	Spring	NOC	YES	~	SH	SP
<i>Hystrix patula</i>	Bottlebrush Grass	PG	Summer	NOC	YES	~	SS	SP
<i>Impatiens capensis</i>	Spotted Touch-Me-Not	PG	Summer	NOC	YES	~	SH	SP
<i>Iris germanica</i>	Flag	PG	Spring	EX	NO	~	SU	CO
<i>Iris pumila</i>	Dwarf Iris	PG	Spring	EX	NO	~	SU	CO
<i>Iris versicolor</i>	Wild Blue Flag	PG	Spring	NU	YES	~	WT	CO
<i>Iris virginica</i>	Southern Blue Flag	PG	Spring	NOC	YES	~	WT	CO
<i>Juncus effusus</i>	Common Rush	PG	Spring	NOC	YES	~	WT	SP
<i>Koeleria macrantha</i>	June Grass	PG	Summer	NOC	YES	~	SU	SP
<i>Kuhnia eupatorioides</i>	False Boneset	PG	Summer	NU	NO	~	SU	SP
<i>Lamium maculatum</i>	Spotted Dead Nettle	PG	Summer	EX	NO	~	SU/SH	CO
<i>Leersia oryzoides</i>	Rice Cut Grass	PG	Summer	NOC	YES	~	WT	SP
<i>Lespedeza capitata</i>	Round Headed Bush Clover	PG	Summer	NOC	YES	~	SU	SP
<i>Liatis aspera</i>	Rough Blazing Star	PG	Summer	NOC	YES	~	SU	SP
<i>Liatis cylindracea</i>	Cylindrical Blazing Star	PG	Summer	NOC	YES	~	SU	SP
<i>Liatis spicata</i>	Spiked Blazing Star	PG	Summer	NOC	YES	~	SU	CO
<i>Lilium michiganense</i>	Michigan Lily	PG	Summer	NOC	YES	~	SS	SP
<i>Lilium superbum</i>	Superb Lily	PG	Summer	NU	NO	~	SU	CO
<i>Liriope spicata</i>	Lilyturf	PG	Summer	EX	NO	~	SU/SH	CO
<i>Lobelia cardinalis</i>	Cardinal Flower	PG	Spring	NOC	YES	~	SH	CO
<i>Lobelia siphilitica</i>	Blue Cardinal-Flower	PG	Summer	NOC	YES	~	SU	SP
<i>Lobelia spicata</i>	Pale Spiked Lobelia	PG	Summer	NOC	YES	~	SU	SP
<i>Lycopus americanus</i>	Common Water Horehound	PG	Summer	NOC	YES	~	WT	SP
<i>Lysimachia clethroides</i>	White Loosestrife	PG	Summer	EX	NO	~	WT	CO
<i>Lysimachia nummularia</i>	Moneywort	PG	Fall	EX	NO	~	WT	CO
<i>Lysimachia punctata</i>	Dotted Loosestrife	PG	Summer	EX	NO	~	WT	CO
<i>Matteuccia struthiopteris</i>	Ostrich Fern	PG	Summer	NS	YES	~	SH	CO
<i>Mentha canadensis</i>	Wild Mint	PG	Summer	NOC	YES	~	SU	SP
<i>Mertensia virginica</i>	Virginia Bluebells	PG	Spring	NU	YES	~	SH	CO

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<i>Milium effusum</i>	Millet Grass	PG	Summer	NOC	YES	~	SH	SP
<i>Mimulus ringens</i>	Monkey Flower	PG	Summer	NOC	YES	~	SU	SP
<i>Monarda didyma</i>	Oswego Tea	PG	Summer	NS	NO	~	SU	CO
<i>Monarda fistulosa</i>	Wild Bergamot (Beebalm)	PG	Summer	NOC	YES	~	SS	SP
<i>Oenothera biennis</i>	Common Evening Primrose	PG	Summer	NOC	YES	~	SU	SP
<i>Oenothera fruticosa</i>	Shrubby Sundrops	PG	Summer	NS	NO	~	SU	CO
<i>Oenothera speciosa</i>	Showy Evening Primrose	PG	Summer	NS	NO	~	SU	CO
<i>Onoclea sensibilis</i>	Sensitive Fern	PG	Summer	NOC	YES	~	WT	SP
<i>Osmorhiza claytonii</i>	Hairy Sweet-Cicely	PG	Summer	NOC	YES	~	SH	SP
<i>Osmunda cinnamomea</i>	Cinnamon Fern	PG	Summer	NOC	YES	~	WT	CO
<i>Panicum virgatum</i>	Switch Grass	PG	Summer	NOC	YES	~	SU	CO
<i>Parthenium integrifolium</i>	Wild Quinine	PG	Summer	NU	NO	~	SU	SP
<i>Peltandra virginica</i>	Arrow Arum	PG	Summer	NOC	YES	~	WT	CO
<i>Pennisetum alopecuroides</i>	Fountain grass	PG	Summer	EX	NO	~	SU	CO
<i>Penstemon digitalis</i>	Foxglove Beardtongue	PG	Summer	NOC	YES	~	SS	CO
<i>Penstemon hirsutus</i>	Hairy Beardtongue	PG	Summer	NOC	YES	~	SU	SP
<i>Phlox divaricata</i>	Blue Phlox	PG	Spring	NOC	YES	~	SS	CO
<i>Phlox paniculata</i>	Garden Phlox	PG	Spring	NU	NO	~	SU	CO
<i>Phlox subulata</i>	Moss-Pink	PG	Spring	NU	~	~	SU	CO
<i>Physostegia virginiana</i>	Obedient Plant	PG	Summer	NS	YES	~	SS	CO
<i>Phytolacca americana</i>	Pokeweed	PG	Summer	NOC	YES	~	SH	SP
<i>Podophyllum peltatum</i>	Mayapple	PG	Spring	NOC	YES	~	SH	SP
<i>Polygonatum biflorum</i>	Solomon's Seal	PG	Summer	NOC	YES	~	SH	SP
<i>Polygonum virginianum</i>	Jumpseed	PG	Summer	NOC	YES	~	SH	SP
<i>Polystichum acrostichoides</i>	Christmas Fern	PG	Winter	NOC	YES	~	SH	CO
<i>Pontederia cordata</i>	Pickereel Weed	PG	Summer	NOC	YES	~	WT	SP
<i>Potentilla arguta</i>	Prairie Cinquefoil	PG	Summer	NOC	YES	~	SU	SP
<i>Prenanthes altissima</i>	White Lettuce	PG	Summer	NOC	YES	~	SH	SP
<i>Pycnanthemum virginianum</i>	Mountain Mint	PG	Summer	NOC	YES	~	SU	SP
<i>Ratibida pinnata</i>	Grey-Headed Coneflower	PG	Summer	NS	YES	~	SU	SP
<i>Rudbeckia fulgida</i>	Orange Coneflower	PG	Summer	NOC	YES	~	SU	CO
<i>Rudbeckia hirta</i>	Black-Eyed Susan	PG	Summer	NOC	YES	~	SU	CO
<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower	PG	Summer	NOC	YES	~	SU	SP
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	PG	Summer	NOC	YES	~	SU	CO
<i>Sagittaria latifolia</i>	Common Arrowhead	PG	Summer	NOC	YES	~	WT	CO
<i>Salvia verticillata</i>	Sage	PG	Summer	EX	NO	~	SU	CO
<i>Sanguinaria canadensis</i>	Bloodroot	PG	Summer	NOC	YES	~	SH	CO
<i>Sanicula marilandica</i>	Black Snakeroot	PG	Summer	NOC	YES	~	SH	SP
<i>Scirpus atrovirens</i>	Dark Green Rush	PG	Summer	NOC	YES	~	WT	SP
<i>Scirpus validus</i>	Great Bulrush	PG	Summer	NOC	YES	~	WT	SP
<i>Silphium terebinthinaceum</i>	Prairie Dock	PG	Summer	NOC	YES	~	SU	SP
<i>Smilacina racemosa</i>	False Solomon's Seal	PG	Summer	NOC	YES	~	SH	SP
<i>Solidago caesia</i>	Blue Stemmed Goldenrod	PG	Summer	NOC	YES	~	SH	SP
<i>Solidago flexicaulis</i>	Zig Zag Goldenrod	PG	Summer	NOC	YES	~	SH	SP
<i>Solidago nemoralis</i>	Gray Goldenrod	PG	Summer	NOC	YES	~	SU	SP
<i>Solidago ohioensis</i>	Ohio Goldenrod	PG	Summer	NOC	YES	~	SS	SP
<i>Solidago riddellii</i>	Riddell's Goldenrod	PG	Summer	NOC	YES	~	SU	SP
<i>Solidago rigida</i>	Stiff Goldenrod	PG	Summer	NOC	YES	~	SU	SP
<i>Solidago speciosa</i>	Showy Goldenrod	PG	Summer	NOC	YES	~	SU	CO
<i>Solidago sphacelata</i>	Goldenrod	PG	Summer	NS	NO	~	SU	CO
<i>Sorghastrum nutans</i>	Indian Grass	PG	Summer	NOC	YES	~	SU	CO
<i>Spartina pectinata</i>	Prairie Cordgrass	PG	Summer	NOC	YES	~	WT	SP
<i>Sporobolus heterolepis</i>	Prairie Dropseed	PG	Summer	NS	YES	~	SU	SP
<i>Stipa spartea</i>	Porcupine Grass	PG	Summer	NOC	YES	~	SU	SP
<i>Teucrium canadense</i>	American Germander	PG	Summer	NOC	YES	~	SH	SP
<i>Thalictrum diocum</i>	Early Meadowrue	PG	Summer	NOC	YES	~	SH	SP
<i>Tradescantia ohioensis</i>	Spiderwort	PG	Summer	NS	YES	~	SS	SP
<i>Trillium erectum</i>	Stinking Benjamin	PG	Spring	NOC	YES	~	SS	CO
<i>Trillium grandiflorum</i>	Large White Trillium	PG	Spring	NOC	YES	~	SS	CO
<i>Trillium spp.</i>	Trillium	PG	Spring	~	~	~	SH	SP
<i>Triosteum aurantiacum</i>	Horse Gentian	PG	Spring	NOC	YES	~	SH	SP
<i>Typha angustifolia</i>	Narrow-Leaved Cattail	PG	Summer	EX	NO	~	WT	CO
<i>Typha latifolia</i>	Common Cattail	PG	Summer	NOC	NO	~	WT	CO

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<i>Uvularia grandiflora</i>	Bellwort	PG	Spring	NOC	YES	~	SH	CO
<i>Verbena hastata</i>	Blue Vervain	PG	Summer	NOC	YES	~	SU	CO
<i>Verbena uruicifolia</i>	White Vervain	PG	Summer	NOC	YES	~	SU	SP
<i>Vernonia missurica</i>	Ironweed	PG	Summer	NS	YES	~	SU	SP
<i>Veronica longifolia</i>	Garden Speedwell	PG	Summer	EX	NO	~	SU	CO
<i>Veronicastrum virginicum</i>	Culver's Root	PG	Summer	NOC	YES	~	SU	CO
<i>Zizia aptera</i>	Heart-Leaf Meadow Parsnip	PG	Summer	NU	NO	~	SS	CO
<i>Zizia aurea</i>	Golden Alexanders	PG	Summer	NOC	YES	~	SU	SP
<i>Eupatorium fistulosum</i>	Hollow Joe-Pye Weed	PS	Summer	NS	YES	~	WT	SP

SUGGESTED PLANT LIST KEY							
Note: Plants must be grown in Upper Midwest/Great Lakes Region							
Legend							
Plant Type							
	DC	Deciduous Canopy Tree					
	LE	Large Evergreen Tree					
	SL	Large Shrub					
	PG	Perennial/Grass					
	DS	Deciduous Sub-canopy Tree					
	SS	Small Shrub					
	UE	Upright Evergreen Tree					
Interest							
	SP	Spring					
	SU	Summer					
	FA	Fall					
	WI	Winter					
Native to Michigan?							
	EX	Exotic or Non-Hardy					
	NOC	Native to Oakland County					
	NS	Native SE Michigan					
	NU	Native US/Canada					
Woodl. Repl. * subcanopy trees, shrubs, herbaceous plants require greater numbers - see Sec 37-8							
	YES	Can be used as woodland replacement					
	NO	Can not be used as woodland replacement					
Street Tree							
	RC	Recommended					
	UO	Recommended Under Overhead Utilities					
	SC	Special Circumstances					
	PR	Prohibited					
	~	Does not apply					
Growing Conditions							
	SH	Shade					
	SS	Sun/Shade					
	SU	Sun					
	WT	Wet					
Nurseries							
	CO	Commonly found most nurseries					
	SP	Specialty nurseries					
	UN	Unknown					