Urban Forestry Commission

Cravath Lakefront room 2nd floor 312 West Whitewater Str, Whitewater, WI, 53190 *In Person and Virtual

Monday, February 24, 2025 - 5:30 PM

Citizens are welcome (and encouraged) to join our webinar via computer, smart phone, or telephone. Citizen participation is welcome during topic discussion periods.

Urban Forestry Commission
Feb 24, 2025, 5:30 – 7:30 PM (America/Chicago)

Please join my meeting from your computer, tablet or smartphone.
https://meet.goto.com/605491661

You can also dial in using your phone.
Access Code: 605-491-661
United States: +1 (224) 501-3412

Get the app now and be ready when your first meeting starts:
https://meet.goto.com/install

Please note that although every effort will be made to provide for virtual participation, unforeseen technical difficulties may prevent this, in which case the meeting may still proceed as long as there is a quorum. Should you wish to make a comment in this situation, you are welcome to call this number: (262) 473-0108.

AGENDA

CALL TO ORDER

ROLL CALL

APPROVAL OF AGENDA
A committee member can choose to remove an item from the agenda or rearrange its order; however, introducing new items to the agenda is not allowed. Any proposed changes require a motion, a second, and approval from the Committee to be implemented. The agenda shall be approved at each meeting even if no changes are being made at that meeting.

CONSENT AGENDA

Items on the Consent Agenda will be approved together unless any committee member requests that an item be removed for individual consideration.

HEARING OF CITIZEN COMMENTS

No formal Committee action will be taken during this meeting although issues raised may become a part of a future agenda. Participants are allotted a three minute speaking period. Specific items listed on the agenda may not be discussed at this time; however, citizens are invited to speak to those specific issues at the time the Committee discusses that particular item.

To make a comment during this period, or during any agenda item: On a computer or handheld device, locate the controls on your computer to raise your hand. You may need to move your mouse to see these controls. On a traditional telephone, dial *6 to unmute your phone and dial *9 to raise your hand.

TREASURER'S REPORT

1. Treasurer's Report.
2. Discussion and possible action on segregated funds between the City and Urban Forestry Commission.

STAFF REPORT

CONSIDERATIONS / DISCUSSIONS / REPORTS

3. Discussion and possible action related to the Territorial Oak.
4. Discussion and possible action on making alternate a permanent member of commission.
5. Discussion and possible approval of Landscape plan for Martin Bower located at 411 N Newcomb Street.
6. Discussion and possible approval of the landscape plan for contractor shops to be located at Greenway Court.
7. Discussion and possible action regarding landscaping guidelines.

TREE CITY

8. Discussion on how is funding going to be secured on a continual basis for the future?
9. Discussion and possible action regarding 2025 Tree Sale
   A. Amount to spend on trees.
   B. Making sure order contains more of what people are requesting.

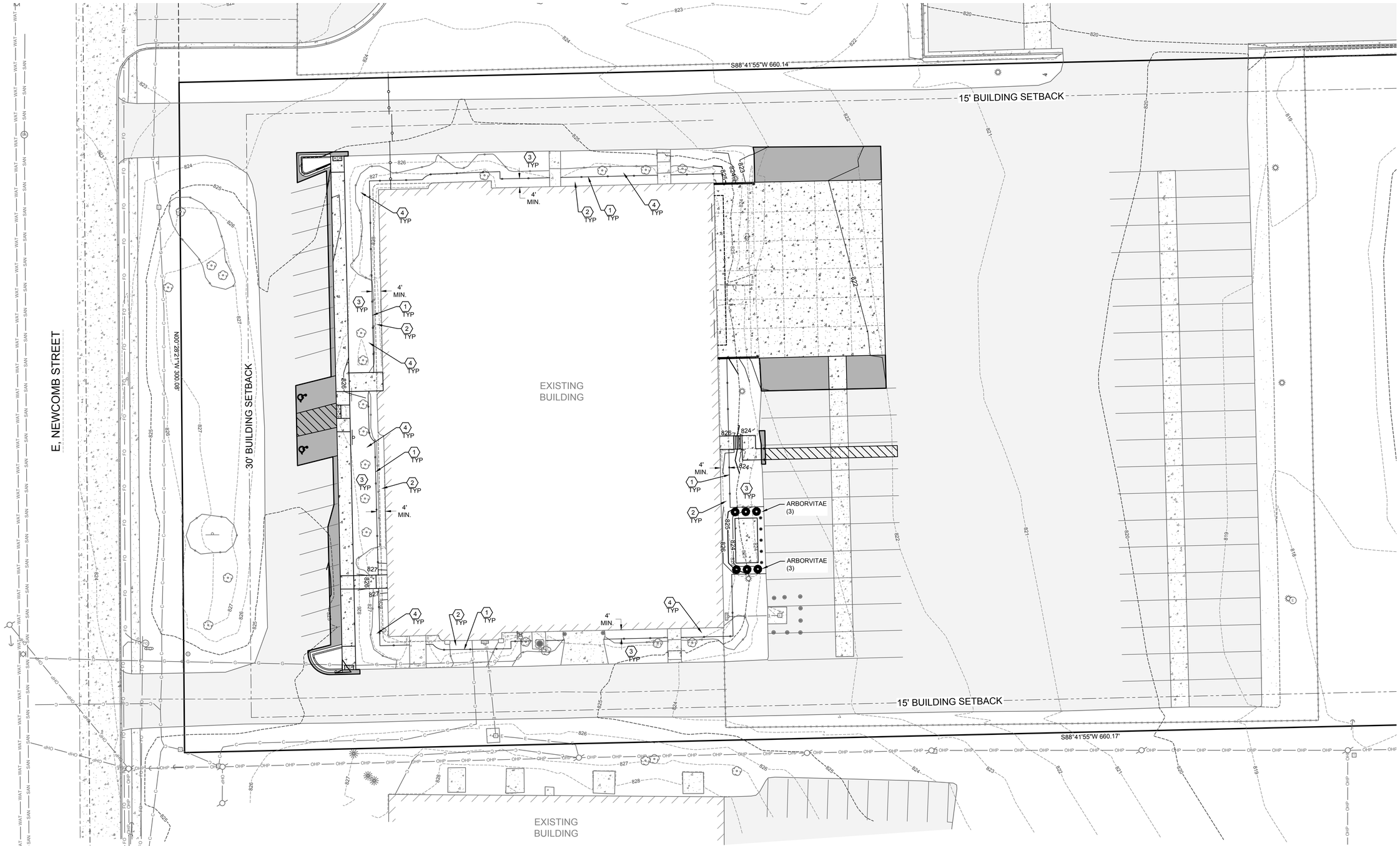
FUTURE AGENDA ITEMS

NEXT MEETING DATE MARCH 24, 2025

ADJOURNMENT

A quorum of the Common Council may be present. This notice is given to inform the public that no formal action will be taken at this meeting.

Anyone requiring special arrangements is asked to call the Office of the City Manager / City Clerk (262-473-0102) at least 72 hours prior to the meeting.



SHEET KEY NOTES:

1. PROFESSIONAL GRADE EDGING
2. 4" THICK X 4' WIDE STONE MULCH (RODENT RUN) OVER WEED BARRIER FABRIC; MULCH TO MATCH EXISTING. WEED BARRIER SHALL BE 10 MIL POLY.
3. LAWN
4. PROTECT EXISTING LANDSCAPING

PLANT TABLE

SYMBOL	COMMON NAME	SCIENTIFIC NAME	QUANTITY	SIZE
●	ARBORVITAE	THUJA OCCIDENTALIS 'SMARAGD'	6	2 GAL.

GRAPHIC SCALE: 20 10 0 20 40

MACH IV
ENGINEERING • SURVEYING • ENVIRONMENTAL
2260 Salscheider Court Green Bay, WI 54313
PH:920-569-5765; Fax: 920-569-5767
www.mach-iv.com
Project Number: 2303-01-25

Gries Architectural Group Inc
NEENAH OFFICE:
500 North Commercial Street
Neenah Wisconsin 54956
Phone: 920.722.7445
www.gries.design
HUDSON OFFICE:
409 South 2nd Street, Suite #135
Hudson Wisconsin 54016
Phone: 920.722.7445
www.gries.design

CITY SITE REVIEW - NOT FOR CONSTRUCTION

A NEW BUILD–OUT FOR:
MARTIN BROWER – WHITEWATER
WHITEWATER, WISCONSIN

SHEET TITLE
LANDSCAPE PLAN

REVISION HISTORY

NO.	DESCRIPTION	DATE

date: 02–10–2025
job: XX–XXX
d. by:

L100

GREENWAY COURT CONTRACTOR SHOP BUILDINGS

Lot T3 Greenway Court
Whitewater, WI 53190

DRAWING INDEX:

PROJECT DESCRIPTION:

PROPOSED CONTRACTOR SHOP BUILDINGS.

BUILDING INFORMATION:

CONSTRUCTION TYPE:	VB
MAIN FLOOR:	6,000 S.F.
NO. OF FLOORS:	1
OCCUPANCY GROUP:	S-1 / B
SPRINKLERED:	NONE
SOIL BEARING:	2,000 psf ASSUMED
BUILDING CODE:	IBC 2015
RISK CATAGORY: TABLE 1604.5	II

SITE INFORMATION:

SITE AREA:	331,601 S.F.	(0.00 ACRE)
BUILDING FOOTPRINT AREA:	24,000 S.F.	(7.4%)
PAVEMENT AREA:	42,185 S.F.	(12.7%)
GRAVEL AREA:	54,880 S.F.	(16.5%)
GREEN SPACE AREA:	210,536 S.F.	(63.4%)

PLANTING SCHEDULE

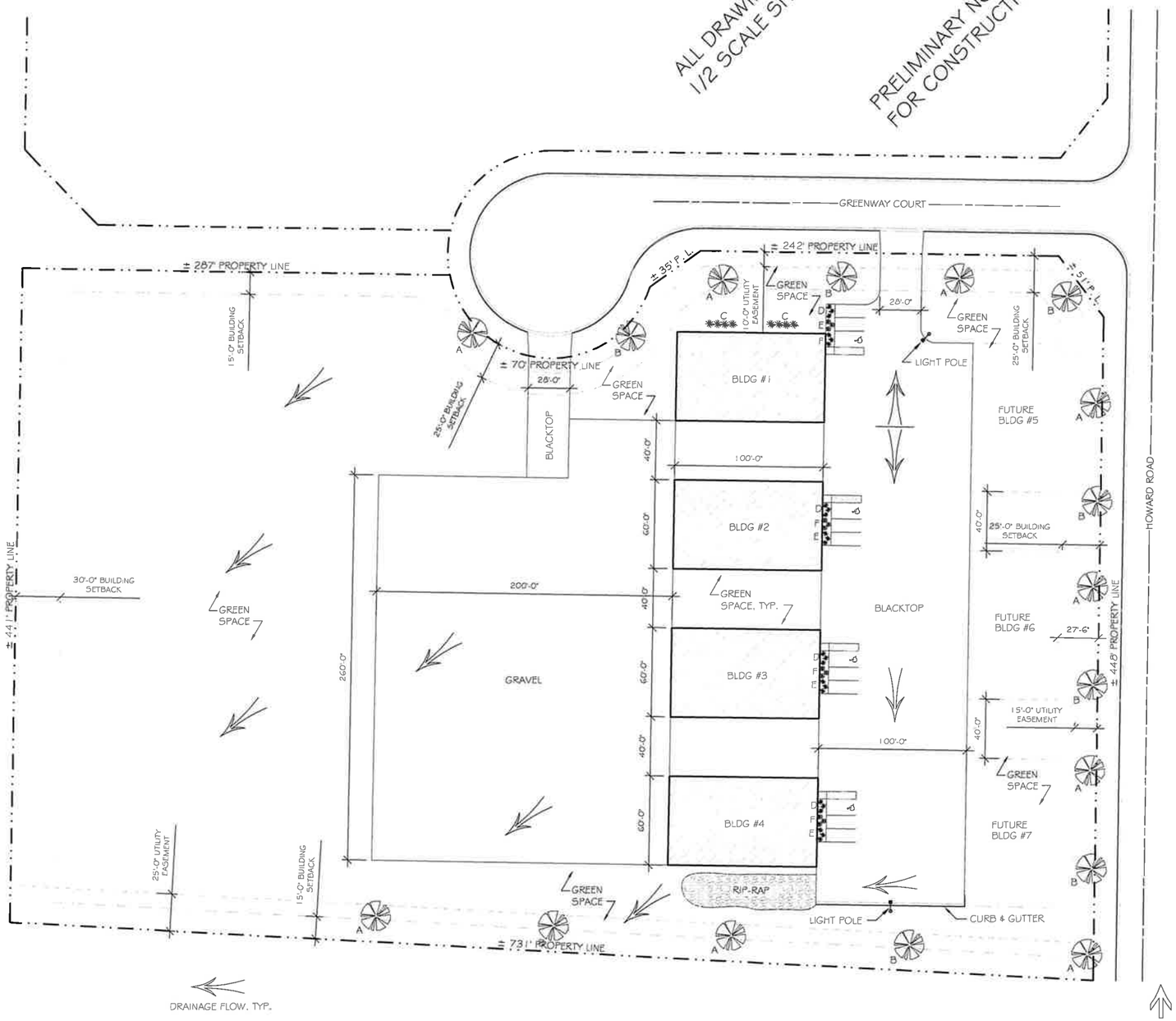
TYPE	DESCRIPTION	PLANTING SIZE	MATURE SIZE	QUANTITY
A	FREEMAN MAPLE	2" CAL	30' DIA	9
B	CHINKAPIN OAK	2" CAL	30' DIA	8
C	ARBOR VITAE 'PYRAMIDAL'	3-4'H	6' DIA	8
D	JUNIPER 'PFITZER'	18-24"H	4' DIA	12
E	TAXUS 'TAUNTONI'	18-24"H	4' DIA	12
F	DWARF SPIREA 'FROEBELLI'	15-18"H	3' DIA	12

17 / SP1 LANDSCAPE SCHEDULE
SCALE: N.T.S.
2024/TANIS WHITEWATER/TW-DRAWINGS.DWG
DATE: OCTOBER 23, 2024

VERIFY ALL CONDITIONS AND DIMENSIONS ON THE JOB AND NOTIFY THE DESIGN ALLIANCE ARCHITECTS, INC, OF ANY DISCREPANCIES PRIOR TO START.

ALL DRAWINGS ARE 1/2 SCALE SHOWN

PRELIMINARY NOT FOR CONSTRUCTION



20 / SP1 SITE PLAN
SCALE: 1" = 40'-0"
2024/TANIS WHITEWATER/TW-DRAWINGS.DWG
DATE: OCTOBER 23, 2024

Design Alliance Architects, Inc.
1003 Madison Avenue
Fort Atkinson, WI
(920) 563-

GREENWAY COURT
CONTRACTOR SHOP BUILDINGS
Lot T3 Greenway Court
Whitewater, WI 53190

DRAWING NAMES
SITE PLAN
LANDSCAPE SCHEDULE

REVISIONS

PROJECT DATA
DATE: 1/3/2025
DRAWN BY: CL
CHECKED BY: P.W.

SHEET NO.
SP-1

City of WHITEWATER

Landscaping Guidelines

The Plan and Architectural Review Commission reviews site and landscape plans for all new and expanded commercial, industrial, institutional, and multiple family housing projects. Landscaping beautifies the property and city, buffers uses and unattractive structures, increases property values, conserves energy, and helps clean the air and water. The Commission adopted the following guidelines to assist developers, builders, and property owners in meeting the expectations for landscaping. The use of the term "must" below reflects zoning ordinance requirements that are mandatory.

Required Components of a Landscape Plan

- A scale (e.g., 1 inch = 50 feet), a north arrow, a date, and an accurate representation of site conditions (e.g., property dimensions should be correct with all features drawn to scale).
- All areas to be left in green space and how they will be covered (e.g., grass, mulch, native vegetation).
- All trees over 4" caliper to be removed or portions of woods with such trees that are proposed for removal.
- All existing trees that are over 4 inches caliper or the edges of woods with such trees.
- All existing trees and other plantings proposed to remain on the site after construction, including proposed locations for barrier fencing or other ways to ensure their preservation.
- Locations, species, size at time of planting, and size at maturity for proposed landscape plants.
- Adjacent streets, existing and proposed buildings, parking lots, loading areas, dumpsters, existing or proposed grades, outdoor storage areas, and mechanical units and utilities in relation to proposed plantings.
- Name, address, and phone number of both the person who prepared the plan and the property owner.

For simple projects, the Landscape Plan may be included on a map that also shows other proposed site improvements, like proposed buildings, signs, lighting, utilities, and grading.

Treatment of Existing Vegetation

Pre-existing landforms, terrain, and vegetation should be preserved as much as practical. This may be achieved by minimizing building construction and site modifications in areas not essential to project development. High-quality, mature, and native trees and hedges should be retained where practical and should not be removed to facilitate commercial signage. Preservation of existing vegetation will reduce expectations for new landscaping, while major removal of existing vegetation may result in expectations for new landscaping greater than what these guidelines normally suggest. In general, where large, high quality trees are proposed for removal on a landscape plan, the equivalent diameter of new trees should also be included in the plan (e.g., one maple with a 12-inch diameter trunk removed = planting of four 3-inch diameter hardwood canopy trees). Similarly, mature trees identified for preservation in the approved Landscape Plan but subsequently lost should be replaced by new trees of similar total diameter.

Mature trees identified for preservation on a Landscape Plan should be protected during construction by not allowing grading or equipment or vehicle storage in these areas and by making all contractors aware of preservation requirements. During construction, barrier fencing should

generally be placed at the critical root zone (CRZ) of the tree, as defined as a radius equivalent to 1.5 feet for every inch in trunk diameter at breast height (DBH). For example, a tree with a trunk diameter of 12 inches has a critical root zone radius of 18 feet.

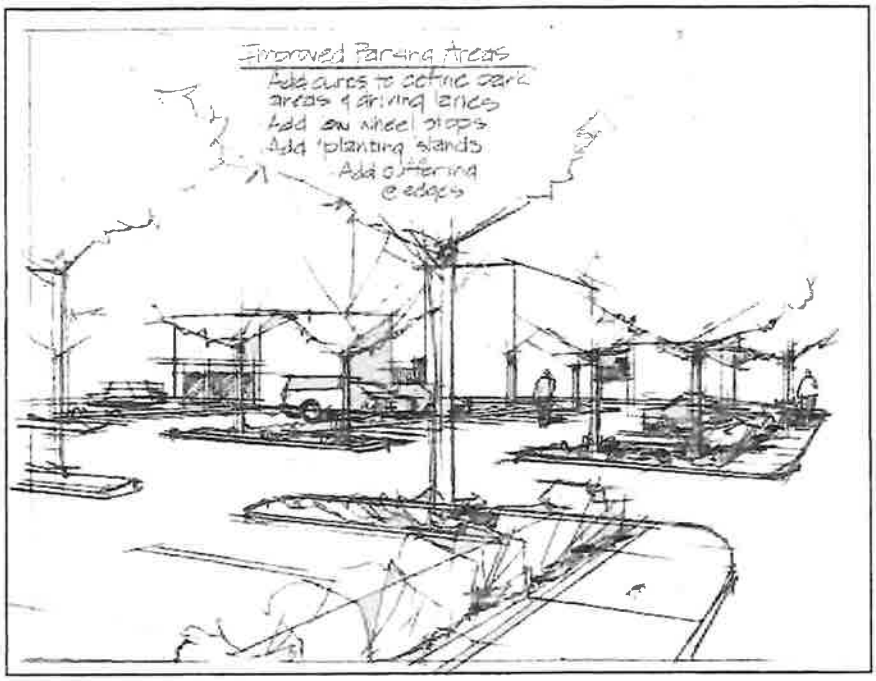
The Urban Forestry Management Plan available from the City's Parks, Recreation, and Forestry Department—contains additional preservation guidance (see particularly the City's Terrace Tree Protection guidelines).

Recommended Locations and Amount of New Landscaping

New landscape plantings should be provided on different parts of the site, as advised below:

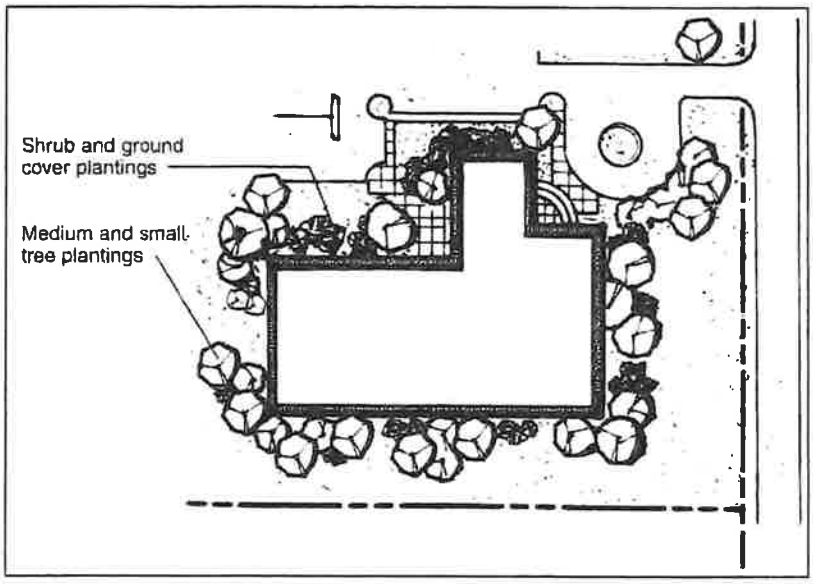
1. **Street Frontages**. One deciduous tree must be planted for each 35 feet along each side of a street right-of-way, except where a clustered or wider spacing is allowed by the City Forester or where traffic visibility, street lights, or utilities would be negatively affected. Street trees should be planted midway between the street curb and the sidewalk, or within 15 feet of the property line adjoining the street, but only if space is not available between the sidewalk and curb. Plantings may also be appropriate in any boulevard included in development plans. Street tree species should be approved by the City Forester prior to installation, and should be based generally upon the information provided in Figures 3 and 4 below.
2. **Paved Areas**. One large deciduous tree and 60 points of additional landscaping (see Figure 3: Appropriate Plant Species and Sizes) should be planted for each 1,500 square feet of paved area—which is about the same amount of space required for five parking spaces plus a driveway. Plants should be installed in landscaped islands within the paved area or within 15 feet of the edges of the paved area. Landscaped islands or peninsulas must be provided at the end of every parking row, and interior islands should be provided for every 20 parking spaces in non-industrial projects. Species selection for paved area plantings is particularly important to ensure salt and snow tolerance (see Figure 6), proper growth habit and branch height, avoidance of messy fruit or other litter from the tree, and maintenance of good visibility within parking lots.

Figure 1: Parking Lot Landscaping Example



3. **Building Foundations.** 160 points of landscaping (see Figure 3: Appropriate Plant Species and Sizes) should be planted for each 100 lineal feet of exterior building wall that is visible from public rights-of-way and adjoining sites. The graphic on the following page provides an example of building foundation landscaping. Plants required by this section should be installed within 20 feet of the building foundation and generally should not include large deciduous trees.
4. **Landscaped Bufferyards.** The City requires installation of a landscaped bufferyard:
   - In yards where a B-1, B-3, or M-1 zoning district abuts a residential use or zoning district,
   - Where off-street parking areas for five or more vehicles are within 15 feet of a lot line, except where the next door lot also contains parking within that same distance, and
   - Where lots in a new residential subdivision back onto a proposed major street.

Figure 2: Building Foundation Planting Example



The minimum width of a landscaped bufferyard is 10 feet (30 feet where subdivision lots back onto a major street), not including the area between the sidewalk and street curb. Bufferyards are generally required to be landscaped with two large deciduous trees, five small deciduous and/or evergreen trees, and twelve shrubs for every 100 feet of bufferyard length. The Plan Commission may instead approve substitute landscaping, a berm, an opaque fence or wall, or some combination. Fences or walls should generally not be used in street yards and must not be more than 6 feet tall in residential zoning districts and 10 feet tall in non-residential districts. A berm is mound of soil surfaced with a landscaped ground cover, generally 3 to 6 feet above the surrounding grade and preferably of an undulating or otherwise visually interesting layout.

5. **General Yard Areas.** In other parts of the site, 200 additional points of landscaping (see Suggested Plant Species and Sizes table) should be planted for each 5,000 square feet of total site area. Most general yard area landscaping should be located in street-facing yards. Except for approved natural areas, general yard areas should be seeded. Slopes should be a maximum of 3 vertical feet for every 1 horizontal foot. Where retaining walls are necessary, they should be designed to be less than 10 feet in height and constructed with stone or block, or terraced if the grade change is 10 feet or more.

6. **Screening.** Dumpsters, outside storage areas, loading docks, vending machines, and large or unsightly mechanical, utility, or telecommunication units should be enclosed by a fence, wall, and/or landscaping designed to provide a total visual screen from public rights-of-way and adjacent properties. Screening fences and walls surrounding outdoor storage areas should generally be between 6 and 8 feet tall, while fences and walls designed to screen other areas should generally be between 4 and 6 feet tall. Appropriate screening tree species are indicated in Figure 5. Future trimming of screen plantings in such a way that limits their capacity to provide a total visual screen is not permitted. The base of freestanding signs—monument and pylon signs—should also be landscaped. Low-level plantings should be selected in sign areas.

7. **Vision Triangles and Easements**. No parts of plantings within 10 feet of the ground level may extend over any public right-of-way. No new landscape plantings with a mature height over 2½ feet or with branches at maturity that will be less than 10 feet may be placed in vision triangles near street intersections (see Section 19.51.010 of zoning ordinance in order to measure extent of vision triangle). Planting in utility easements is at the risk of the property owner and may be subject to restrictions associated with the easement. Tree plantings should generally be at least 20 feet from street lights, 10 feet from hydrants, and 6 feet from gas and water valves.

Recommended Sizes and Species of New Landscaping

Figure 3 indicates the points that may be obtained for each plant within the five different categories of landscape plantings large deciduous tree, small deciduous tree, evergreen tree, shrub, and perennial planting bed. When added together, the points obtained from each plant depicted in a Landscape Plan may be used to determine whether the landscaping point guidelines above are being met. Figure 3 also provides a starting point for potential plant species selection within each of the five categories of plantings.

Figures 4, 5, and 6 include examples of appropriate tree and shrub species for different, unique applications. These include trees appropriate for placement under power lines (Figure 4), trees that are appropriate for screening (Figure 5), and plantings that are most tolerant of salt for use in and near parking lots for example (Figure 6).

Figure 7 includes species to minimize or avoid, for various reasons including overuse, susceptibility to disease, and invasive characteristics.

For more information in selecting plants, the following guides are available online at the UW–Extension (www.learningstore.uwex.edu): *Choosing the Right Landscape Plants: Factors to Consider* (A3864); *Deicing Salt Injury in the Landscape and Salt-Tolerant Landscape Plants* (A3869); *Guide to Selecting Landscape Plants for Wisconsin* (A2865). Also look for *Power Planting: How to Select and Plant Trees Near Power Lines*, available at: www.we-energies.com/forestry/treeplant_booklet.pdf.

Figure 3: Appropriate Plant Species and Sizes

Category of Plant	Expected Mature Height	Minimum Size at Time of Planting	Landscaping Points for Each Plant	Examples of Appropriate Species	
Large Deciduous Tree	Greater than 25 feet	2 inch trunk diameter as measured 4 ½ feet up (1½ inch for street trees)	150	Freeman maple Paperbark maple State Street Miyabe maple Gingko (male cultivars) Chanticleer pear Honeylocust (male cultivars) Chinkapin oak Baldcypress Lindens/basswood Elms (hybrids) Hackberry Hazelnut	*Acer* x *freemanii* *Acer griseum* *Acer miyabei* 'Morton' *Gingko biloba* *Pyrus calleryana* 'Chanticleer' *Gleditsia triacanthos* var. inermis *Quercus muehlenbergii* *Taxodium distichum* *Tilia* spp. *Ulmus* spp. *Celtis occidentalis* *Corylus* ssp.
Small Deciduous Tree	25 feet or less	1½ inch trunk diameter as measured 4 ½ feet up, or 4 feet tall	60	Birch Serviceberry Hawthorn Eastern redbud Callery pear Flowering crabapples Japanese tree lilac Hornbeam (Musclewood) Ironwood/Hophornbeam	*Betula* ssp. *Amelanchior* *Crataegus viridis* *Cercis canadensis* *Pyrus calleryana* *Malus* spp. *Syringa reticulata* *Carpinus caroliniana* *Ostrya virginiana*
Evergreen Tree	Usually > 10 feet	4 feet tall	40	Serbian spruce Pine (except Austrian)	 *Pinus* ssp. (not *nigra*)
Shrub (deciduous or evergreen)	Usually less than 10 feet	2 feet in height or 2 gallon pot	20	Weigela Shrub rose Juniper Arborvitae Amelanchior Elderberry ninebark Viburnum Dogwood Cotoneaster Forsythia Potentilla Gro-low sumac Yew	 *Sambucus candensis* "aurea"
Perennial Planting	Varies	Varies	20 points for every 20 sq ft of	Coneflower Catmint	Columbine Aster

Category of Plant	Expected Mature Height	Minimum Size at Time of Planting	Landscaping Points for Each Plant	Examples of Appropriate Species	
Bed			bed	Black-eyed Susan	Brunnera
				Lily	Liatris
				Daylily	Cimicifuga
				Hosta	Peony
				Catmint	Pachysandra
				Ornamental grass	Sedum
				Lady's mantle	Astilbe

Figure 4: Trees Appropriate for Planting under Power Lines

Category of Plant	Expected Mature Height	Minimum Size at Time of Planting	Landscaping Points for Each Plant	Examples of Appropriate Species	
Small Deciduous Tree	25 feet or less	1½ inch trunk diameter or 4 feet tall	60	Flowering crabapple	*Malus* spp.
				Japanese tree lilac	*Syringa reticulata*

Figure 5: Trees Appropriate for Screening

Category of Plant	Expected Mature Height	Minimum Size at Time of Planting	Landscaping Points for Each Plant	Examples of Appropriate Species for Screening	
Evergreen Tree	Usually > 10 feet	4 feet tall	40	Firs	*abies* spp.
				Eastern red cedar	*Juniperus virginiana*
				Spruces	*Picea* spp.
				Pines	*Pinus* spp.
				Douglas fir	*Pseudotsuga menziesii* var. glauca
				Arborvitae	*Thuja occidentalis*
				Eastern hemlock	*Tsuga canadensis*

Figure 6: Salt Tolerant Plants

Category of Plant	Expected Mature Height	Minimum Size at Time of Planting	Landscaping Points for Each Plant	Examples of Appropriate Species for Salt Sensitivity
Large Deciduous Tree	Greater than 25 feet	2 inch trunk diameter (1½ inch for street trees)	150	maple
				sweet gum
Small Deciduous Tree	25 feet or less	1½ inch diameter or 4 feet tall	60	crabapple
				crape myrtle
				dogwood
Evergreen	Usually	4 feet tall	40	American holly

Category of Plant	Expected Mature Height	Minimum Size at Time of Planting	Landscaping Points for Each Plant	Examples of Appropriate Species for Salt Sensitivity
Tree	> 10 feet			yew
Shrub (deciduous or evergreen)	Usually less than 10 feet	2 feet in height or 2 gallon pot	20	azalea barberry boxwood forsythia rhodedendron spirea

Figure 7: Plant Species to Use Sparingly or Avoid

Category of Plant	Species to Use Sparingly	Species To Avoid	Reason to Avoid	Good Alternative
Large Deciduous Tree	Maple	Any ash (fraxinus)	Emerald ash borer	
	Basswood/linden	Non-resistant elms	Dutch elm disease	Resistant elms
	Honeylocust	Boxelder	Spread quickly	
		Maples (Freeman/Autumn Blaze)	Over-planted	
		Maples, Norway	Over-planted, dense	
		Maples, red	Prefer acidic soil	
		Maples, sugar	Thrives only in certain conditions; picky	
		Bradford pears	Poorly branched, tend to break	Chanticleer pear
		White mulberry	Invasive, non-native	
Small Deciduous Tree		Buckthorns	Invasive, non-native	
		Autumn-olive	Invasive, non-native	
Evergreen Tree	Blue spruce White pine White spruce	Austrian pine	Over-planted	

Category of Plant	Species to Use Sparingly	Species To Avoid	Reason to Avoid	Good Alternative
Shrub (deciduous or evergreen)		Spirea japonica	Invasive (re-seed)	Ninebark 'nanus'
		Prunus x cistena (purple sandcherry)	Short-lived	Purple ninebarks
		Burning bush (euonymus)	Invasive, non-native	
		Honeysuckle	Invasive, non-native	
		Multiflora rose	Invasive, non-native	

Descriptions and Standards for Rain Gardens and Bioswales

Rain gardens and bioswales can serve both as landscaping and stormwater management features on a building site, where appropriately designed and sited.

A rain garden is a shallow, depressed garden that is designed and positioned on a site to capture stormwater runoff and allow for the infiltration of water back into the ground. Rain garden plants are carefully chosen for their ability to withstand moisture extremes and potentially high concentrations of nutrients and sediments that are often found in stormwater runoff. A well designed and maintained rain garden serves as an attractive component of an overall landscaping plan for a development site.

A bioswale is a linear, vegetative stormwater runoff conveyance system that is designed to store and infiltrate water from small storm events back into the ground and direct water from heavy rain events to appropriate storm sewer inlets or other management facilities. The flow of water being conveyed through a bioswale is slowed down, allowing for municipal storm systems to more effectively manage heavier rain events and help reduce the risk of flooding on or off-site. Water being infiltrated or conveyed via a bioswale is also filtered by the vegetation within it, generally improving both ground and surface water quality.

The installation of a rain garden or bioswale may contribute to the overall stormwater management plan for a development site and count toward meeting the City's landscaping guidelines in the same manner as that presented for "perennial planting bed" in Figure 3 above (20 points for every 20 sq. ft.), provided that:

1. Detailed plans are provided that show all proposed dimensions of the rain garden including length, width, depth, and slope of depression; location of the rain garden on the lot relative to hard-surfaced areas, downspouts, and site topography; characteristics of the soil underlying the rain garden or bioswale; description of planting media; the species, number, and size at time of installation of all vegetation proposed for the rain garden or bioswale; and information on any other materials (e.g., rocks) that will be used to line the raingarden or bioswale.

2. Installation is not proposed for areas where there is known soil contamination unless the rain garden is proposed to be constructed with an under-drain; where the characteristics of the soil would not allow for the proper infiltration of water into the ground; or where there are expected high levels of foot traffic.
3. The owner can demonstrate that the rain garden or bioswale will be properly maintained; kept free of trash, weeds debris, and dead or dying plants; any pipes associated with the garden will be inspected on an annual basis and kept free of debris; and by the beginning of every spring dead plant materials will be cut back or removed.
4. Bioswales and rain gardens must be generously (and appropriately) vegetated to qualify for landscaping points. Bioswales and rain gardens (or portions thereof) that are lined with turf and/or rocks but do not include other vegetation will not qualify for landscaping points.
5. To serve as a component of an overall stormwater management plan for a site, detailed plans, calculations, and specifications meeting the City's stormwater management ordinance are provided. Detailed plans should include the location and description of all other stormwater management facilities serving the site, particularly those to which any bioswale will be directed.

For further information on rain garden and bioswale design, see *Rain Gardens: A How-To Manual for Homeowners*, which is available from County UW-Extension offices, Cooperative Extension Publications, DNR Service Centers, and online at http://clean-water.uwex.edu/pubs/pdf/home.rgmanual.pdf and *Design Guidelines for Stormwater Bioretention Facilities*, which is available from the Communications Office of the State of Wisconsin Aquatic Sciences Center and online at http://aqua.wisc.edu/publications/PDFs/stormwaterbioretention.pdf\.

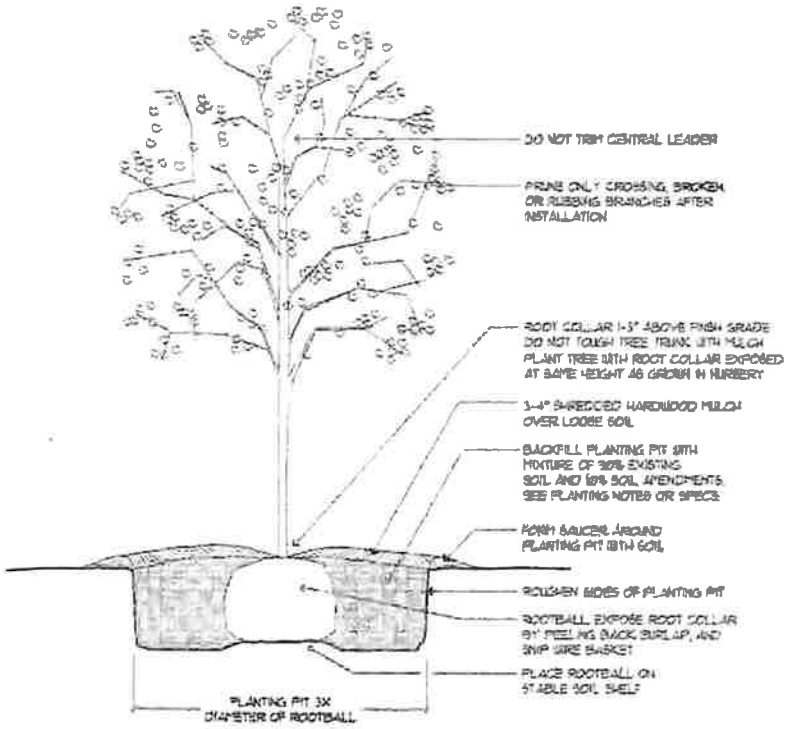
General Installation and Maintenance for Landscaping and Bufferyards

Landscaping must be installed using landscape contracting industry standards available from landscape designers and nurseries. These include proper soil conditioning, removing any packing materials including wire cages, burlap, and string, and the placement of the root collar at or slightly above grade. A 6-foot bark mulch radius around a tree is ideal, with the mulch no thicker than 4 inches in general and tapered to a depth of 1 inch at the base of the tree (the classic saucer shape). Rock mulch is discouraged around all planting areas. Figure 8 suggests proper planting and maintenance techniques for deciduous trees; techniques for evergreen trees and shrubs vary slightly, but the basic principles are similar.

All landscaping must be installed prior to building occupancy or operations, unless doing so would result in unsatisfactory plant survival. In this case, the City requires a site improvement deposit until landscaping is installed according to plan.

All required landscaping should be continually maintained in a live state to meet its original function (e.g., screen plants not overly pruned). Maintenance must include replacement of dead or dying plants, regardless of when the plant dies. Replacement should occur within the same year in which a plant dies or the next spring.

Figure 8: Deciduous Tree Planting Standard



SCORING LANDSCAPING PROPOSALS

IMPORTANT: ADDITIONAL DOCUMENT (INCLUDING MAP) NEEDED DETAILING PRE-DEVELOPMENT CONDITIONS, SOILS AND VEGETATION – POINTS ASSIGNED FOR MATURE TREES 4" CALIPER AND OVER AND NOTABLES)

REQUIRED FOR PLANS

Scale: North Arrow Date Accurate Representation of Conditions
Inventory: Removed Tree over 4" caliper, and their associated woodlands. Existing Trees over 4" caliper
All trees and other plantings are to remain and must be protected in construction

Record: Large, high quality trees proposed for removal: .Note: Equivalent diameter should be included in plan showing replacement of trees of similar quality, and equivalent total diameter (4 x 4" diameter hardwood to replace 1 x12 diameter hardwood either removed or lost in construction.

Green Space: specify coverage – report mulch, etc

Calculation Maybe completed by filling in the Orange Square below. All measurement in feet

PAVED AREAS				
Length	Width	Total Area	Required Points	NOTE: 1500 sq ft = 5 parking places plus driveway. Tree islands each end of 20 parking spaces [4 trees] same
1	98174	98174	3927	
		0	0	
		0	0	

FOUNDATIONS AREAS				
Length	Width	Total Linear Feet	Required Points	160 pts per 100 lineal feet for appropriate plantings within 20 feet of visible foundations (shrubs, groundcover, medium and small trees)
	700	1400	2240	
		0	0	
		0	0	

BUFFER				
Length	Width	Total Linear Feet	Required Points	160 pts per 100 lineal feet for appropriate plantings within 20 feet of visible area (shrubs, groundcover, medium and small trees)
		0	0	
		0	0	
		0	0	

GENERAL YARDS				
Length	Width	Total Area	Required Points	
		0	0	
		0	0	
		0	0	

STREET Frontage & Total Trees Requirements				
	Street frontage Length	Footage per Length	Number of Trees per Street	Points Gained
Large Trees		35	0	0
Native Large Trees		45	0	0
Small Tree		35	0	0
Native Small Tree		45	0	0

POINTS PER PLANT **Do not** count the above Street Frontage Tree Requirements					
Type	Size	Point	Number		Total
Large Deciduous	Equal to or greater than 25ft 2"diameter @ chest	150		0	0

Native	Equal to or greater than 25ft 2"diameter @ chest	165		0	0
Small Deciduous	Less than 25ft 2"diameter @ chest	60		0	0
Native	Less than 25ft 2"diameter @ chest	75			0
Evergreen	10 to 4 feet tall	40			0
Native	10 to 4 feet tall	55			0
Shrub	2 foot or 2 gallon	20			0
Native	2 foot or 2 gallon	35			0
Perennial	20 points for 20 sq ft	20			0
Native	20 points for 20 sq ft	35			0
Note: Use with Whitewater Landscaping Guidelines AND Nowak, M. Beyond the Bird Feeder, WSObirds.org			Number of Over ALL Points		
			0		

TOTAL REQUIRED	**6167**

TOTAL POINTS PER PROPOSED PLAN	**0**

If the maximum number of points can not be meet, the applicant may have the option to donate the difference to the Whitewater Tree Fund. Each point under will be the equivalent of $1.00	**$ 6,166.96**

City of Whitewater			
Approved Tree List			
STREET TREE			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Aspen			
Quaking	Populus tremuloides	40-50	20-30
Buckeye			
Yellow	Aesculus Flava	60-75	30-50
Coffeetree			
Espreso Kentucky	Gymnocladus dioicus 'Espresso'	50	35
Kentucky	Gymnocladus dioicus	50-60	50-60
Cypress			
Bald Cypress	Taxodium distichum	50-70	20-30
Shawnee Brave Bald Cypress	Taxodium distichum 'Mickelson'	50	15-20
Elm			
Princeton	Ulmus americana 'Princeton'	60-80	40-60
Valley Forge	Ulmus americana 'Valley Forge'	80	60
Ginko			
Autumn Gold	Ginko biloba 'Autumn Gold'	40-50	25-30
Magyar	Ginko biloba 'Magyar'	40-50	20-25
Princeton Sentry	Ginko biloba 'Princeton Sentry'	40-50	15-20
Gum			
Black	Nyssa sylvatica	30-50	20-30
Hackberry	Celtis Occidentalis	40-60	40-60
Linden			
Boulevard American	Tilia americana 'Boulevard'	60	25
Sweet Street	Tilia americana 'Kromm'	SO	25
Honey Locust	Gleditsia triacanthos	40-50	30-40
Maple			
Celebration	Acer x freemanii 'Celzam'	40-50	20-35
Sienna Glen	Acer x freemanii 'Sienna'	40-50	35-40
Sugar	Acer saccharum	50-75	SO
Oak			
Burr	Quercus macrocarpa	70-80	75-90
Chinkapin	Quercus muehlengergii	50-60	50-60
Hybrid Swamp x Burr	Quercus x schuettei	75	70
Red	Quercus rubra	60-75	60-75
Planetree			
Exclamation London	Platanus x acerifolia 'Morton Circle'	60	45

City of Whitewater			
Approved Tree List			
LARGE AREA TREES			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Aspen			
Quaking	Populus tremuloides	40-50	20-30
Basswood			
American	Tilia americana	75-130	23-35
Beech			
American	Fagus grandifolia	60-75	55-65
Birch			
Paper	Betula papyrifera	SO	35
River	Betula nigra	40-70	40-60
Yellow	Betula alleghaniensis	40-60	40-50
Buckeye			
Yellow	Aesculus Flava	60-75	30-50
Butternut	Juglans cinerea	40-60	40-60
Coffeetree			
Kentucky	Gymnocladus dioicus	50-60	50-60
Cypress			
Bald Cypress	Taxodium distichum	50-70	20-30
Shawnee Brave Blad Cypress	Taxodium distichum 'Mickelson'	SO	15-20
Elm			
Princeton	Ulmus americana 'Princeton'	60-80	40-60
Valley Forge	Ulmus americana 'Valley Forge'	80	60
Ginko			
Autumn Gold	Ginko biloba 'Autumn Gold'	40-50	25-30
Magyar	Ginko biloba 'Magyar'	40-50	20-25
Princeton Sentry	Ginko biloba 'Princeton Sentry'	40-50	15-20
Gum			
Black	Nyssa sylvatica	30-50	20-30
Moraine Sweet	Liquidambar styraciflua 'Moraine'	40-45	25-30
Hackberry	Celtis Occidentalis	40-60	40-60
Hickory			
Shagbark	Carya ovata	80	40
Katsura	Cercidiphyllum japonicum	40-60	20-35
Linden			
American Sentry	Tilia americana 'McKSentry'	50-60	20-25
Honey Locust	Gleditsia triacanthos	40-50	30-40
Maple			
Red	Acer rubrum	40-60	40-60
Sienna Glen	Acer x freemanii 'Sienna'	40-50	35-40
Sugar	Acer saccharum	50-75	SO
Magnolia			
Cucumbertree	Magnolia acuminata	50-80	35-60
Oak			

Black	Quercus Velutina	50-60	50-60
Burr	Quercus macrocarpa	70-80	75-90
Chinkapin	Quercus muehlengergii	50-60	50-60
Hybrid Swamp x Burr	Quercus x schuettei	75	70
Red	Quercus rubra	60-75	60-75
Planetree			
Exclamation London	Platanus x acerifolia 'Morton Circle'	60	45
Redwood			
Dawn	Metasequoia glyptostroboides	75-100	15-25
Sycamore			
American	Platanus occidentalis	70-90	80
Tuliptree	Liriodendron tulipifera	70-80	35-45
Yellowwood	Cladrastic kentukea	30-50	40-50

City of Whitewater			
Approved Tree List			
MEDIUM-SMALL STREET TREES			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Buckeye			
Early Glow	Aesculus glabra 'J.N. Select'	35	35
Mystic Ruby	Aesculus x bushii 'Aaron#l'	30-35	15-20
Cockspur Hawthorn, Thornless	Crataegus Crus-galli var. inermis	20-30	25-35
Crabapple			
Crab	?		
Prairie	Malus ioensis	15-20	15-20
Elm			
New Horizon	Ulmus 'New Horizon'	30-40	15-25
Ironwood	Ostrya virginiana	25	15
Lilac			
Ivory Silk Japanese	Syringa reticulata subsp. Reticulata	25	15
Maple			
Paper Barked	Acer griseum	20-30	20-30
State Street Miyabe's	Acer miyabei 'Morton'	50	40
Magnolia			
Royal Star	Magnolia stellata 'Royal Star'	10-15	10-15
Musclewood	Carpinus caroliniana	25-30	25-30
Red Bud, Eastern	Cercis canadensis	20-30	25-35
Serviceberry			
Allegheny	Amelanchier laevis	25	15
Apple	Amelanchier x grandiflora	25-30	25-30
Autumn Brilliance	Amelanchier x grandiflora 'Autumn Brilliance'	20-25	20-25

City of Whitewater			
Approved Tree List			
MEDIUM-SMALL OFF STREET TREES			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Buckeye			
Early Glow	Aesculus glabra 'J.N. Select'	35	35
Mystic Ruby	Aesculus x bushii 'Aaron#l'	30-35	15-20
Crabapple			
Crab	?		
Prairie	Malus ioensis	15-20	15-20
Dogwood			
Golden Glory	Cornus mas 'Golden Glory'	15-25	15-25
Pagoda	Cornus alternifolia	15-25	15-25
Elm			
New Horizon	Ulmus 'New Horizon'	30-40	15-25
Ironwood	Ostrya virginiana	25	15
Lilac			
Ivory Silk Japanese	Syringa reticulata subsp. reticulata	25	15
Maple			
Paper Barked	Acer griseum	20-30	20-30
Striped	Acer pensylvanicum	20	15
Magnolia			
Royal Star	Magnolia stellata 'Royal Star'	10-15	10-15
Musclewood	Carpinus caroliniana	25-30	25-30
Red Bud, Eastern	Cercis canadensis	20-30	25-35
Serviceberry			
Allegheny	Amelanchier laevis	25	15
Apple	Amelanchier x grandiflora	25-30	25-30
Autumn Brilliance	Amelanchier x grandiflora 'Autumn Brilliance'	20-25	20-25
Seven Son Flower	Heptacodium miconioides	15-20	8-15

Landscape Plants - Native - Herbacious

Common	Latin	Height	Bloom Color
Lavender Hyssop	Agastache foeniculum	2-4'	Purple
Nodding Onion	Allium cernuum	18"	Pink
Sullivant's Milkweed (Prairie)	Asclepias sullivantii	3-5'	Pink
Butterfly Milkweed	Asclepias tuberosa	2'	Orange
New England Aster	Aster novae-angliae	5'	Purple, Pink
Canada Milk Vetch	Astragalus canadensis	1-3'	cream
White Wild Indigo	Baptisia alba	**4'**	White
Blue Wild Indigo	Baptisia australis	3-5'	Blue
Cream False Indigo	Baptisia bracteata	1-2'	Cream
Yellow Wild Indigo	Baptisia tinctoria	2-3'	Yellow
Downy Wood Mint	Blephilia cilata	1-2'	Purple
Pale Purple Coneflower	Echinacea pallida	3-5'	Purple
Purple Coneflower	Echinacea purpurea	3-4'	Purple
Rattlesnake Master	Eryngium yuccifolium	4'	White/green
Early Sunflower	Helianthus helianthoides	3-5'	Yellow
Prairie Alumroot	Heuchera richardsonii	2'	Green
Round Headed Bush Clover	Lespedeza capitata	4'	White
Rough Blazing Star	Liatris aspera	2-5'	Purple
Michigan Lilly	Lilium michiganense		Orange
Wild Bergamot	Monarda fistulosa	2-4'	L.av ri<l:ler
Eastern Prickly Pear Cactus	Optuntia humifosa	**6"**	Yellow
Wild Quinine	Parthenium integrifolium	**4'**	White
Smooth Penstemon	Penstemon digitalis	1-3'	White
Large Flowered-Penstemon	Penstemon grandiflorus	1-3'	l..aven€1er
Compass Plant	Silphium laciniatum	**8'**	Yellow
Rosin Weed	Silphium integrifolium	4-6'	Yellow
Spiderwort	Tradescantia ohiensis	2-4'	Blue
Hoary Vervain	Verbena stricta	2-4'	Blue

Native - Grasses/Sedges

River Oats/Northern Sea Oats	Chasmanthium latifolium	3-4'	Grass
Little Blue Stem	Schizachyrium scoparium	2-3'	GrqSS
Prairie Dropseed	Sporobolus heterolepis	2-3'	@rasi;
Side Oats Gramma	Bouteloua curtipendula	1-3'	Grass

Native - Small Shrubs

White Snowberry	Symphoricarpos albus	3-5'	White
Black Chokeberry	Aronia melanocarpa	3-6'	White
Juneberry	Amelanchier alnifolia	4-15'	White
Running Serviceberry	Amelanchier stolonifera	3-5'	White
Northern Bush Honeysuckle	Diervilla lonicera	1-3'	Yellow
Pasture Rose	Rosa carolina	2'	Pink

New Jersey Tea	Ceanothus americanus	3'	White
Shrubby St. Johns Wort	Hypericum prolificum	4'	Yellow
Sweet Fern	Comptonia peregrina	2-5'	
Lead Plant	Amorpha canescens	3'	Purple
Shrubby Cinquefoil (Potentilla)	Dasphora fruticosa	2-4'	Yellow

Soil	Moisture
	Mesic-OM
	WM-OM
	Mesic-WM
	Mesic-Dry
	Wet-OM
	WM-OM
	WM-Dry
	WM-Mesic
	Mesic-Dry
	Mesic-Dry
	Mesic-Dry
	WM-OM
	WM-OM
	WM-OM
	Mesic-Dry
	Mesic-Dry
	Mesic-Dry
	WM-Dry
	Dry
	WM-OM
	Mesic-OM
Sand	OM-Dry
	WM-Dry
	WM-Dry
	WM-Dry
	OM-Dry
	Mesic-WM
	Mesic-Dry Replace Karl Forester Grass
	Mesic-Dry
	Mesic-Dry
heavy clay soils	rocky to sandy soils
Sand, clay & garden	Poorly drained- well drained
Alkaline	Moist - Dry Good fruit production
Alkaline	Moist, Well Drained
Acidic (sandy, loamy, clay, and 1	well drained, dry to medium moisture
	average m Aggressive if just planted in mulch

sandy soils, rocky hillsides	Mesic -Dry
Wide Range	Moist but tolerates Dry
Sand (no clay)	Dry
Sand, gravel, loam or clay	Mesic -Dry
pH 6.8-7.2	WM-Mesic, well drained, moderately fertile

Landscape Plants - Native - Herbacious

Common	Latin	Height	Bloom Color
Lavender Hyssop	Agastache foeniculum	2-4'	Purple
Nodding Onion	Allium cernuum	18"	Pink
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New England Aster	Aster novae-angliae	5'	Purple, Pink
Canada Milk Vetch	Astragalus canadensis	1-3'	cream
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Cream False Indigo	Baptisia bracteata	1-2'	Cream
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Downy Wood Mint	Blephilia cilata	1-2'	Purple
Pale Purple Coneflower	Echinacea pallida	3-5'	Purple
Purple Coneflower	Echinacea purpurea	3-4'	Purple
Rattlesnake Master	Eryngium yuccifolium	4'	White/green
Early Sunflower	Helianthus helianthoides	3-5'	Yellow
Prairie Alumroot	Heuchera richardsonii	2'	Green
Round Headed Bush Clover	Lespedeza capitata	4'	White
Rough Blazing Star	Liatris aspera	2-5'	Purple
Michigan Lilly	Lilium michiganense		Orange
Wild Bergamot	Monarda fistulosa	2-4'	Lavender
Eastern Prickly Pear Cactus	Optuntia humifosa	6"	Yellow
Wild Quinine	Parthenium integrifolium	4'	White
Smooth Penstemon	Penstemon digitalis	1-3'	White
Large Flowered-Penstemon	Penstemon grandiflorus	1-3'	Lavender
Compass Plant	Silphium laciniatum	8'	Yellow
Rosin Weed	Silphium integrifolium	4-6'	Yellow
Spiderwort	Tradescantia ohiensis	2-4'	Blue
Hoary Vervain	Verbena stricta	2-4'	Blue

Native - Grasses/Sedges

River Oats/Northern Sea Oats	Chasmanthium latifolium	3-4'	Grass
Little Blue Stem	Schizachyrium scoparium	2-3'	Grass
Prairie Dropseed	Sporobolus heterolepis	2-3'	Grass
Side Oats Gramma	Bouteloua curtipendula	1-3'	Grass

Native - Small Shrubs

White Snowberry	Symphoricarpos albus	3-5'	White
Black Chokeberry	Aronia melanocarpa	3-6'	White
Juneberry	Amelanchier alnifolia	4-15'	White
Running Serviceberry	Amelanchier stolonifera	3-5'	White
Northern Bush Honeysuckle	Diervilla lonicera	1-3'	Yellow
Pasture Rose	Rosa carolina	2'	Pink

New Jersey Tea	Ceanothus americanus	3'	White
Shrubby St. Johns Wort	Hypericum prolificum	4'	Yellow
Sweet Fern	Comptonia peregrina	2-5'	
Lead Plant	Amorpha canescens	3'	Purple
Shrubby Cinquefoil (Potentilla)	Dasphora fruticosa	2-4'	Yellow

Soil	Moisture
	Mesic-DM
	WM-DM
	Mesic-WM
	Mesic-Dry
	Wet-DM
	WM-DM
	WM-Dry
	WM-Mesic
	Mesic-Dry
	Mesic-Dry
	Mesic-Dry
	WM-DM
	WM-DM
	WM-DM
	Mesic-Dry
	Mesic-Dry
	Mesic-Dry
	WM-Dry
	Dry
	WM-DM
	Mesic-DM
Sand	DM-Dry
	WM-Dry
	WM-Dry
	WM-Dry
	DM-Dry
	Mesic-WM
	Mesic-Dry Replace Karl Forester Grass
	Mesic-Dry
	Mesic-Dry
heavy clay soils	rocky to sandy soils
Sand, clay & garden	Poorly drained- well drained
Alkaline	Moist - Dry Good fruit production
Alkaline	Moist, Well Drained
Acidic (sandy, loamy, clay, and l	well drained, dry to medium moisture
	average m Aggressive if just planted in mulch

sandy soils, rocky hillsides	Mesic -Dry
Wide Range	Moist but tolerates Dry
Sand (no clay)	Dry
Sand, gravel, loam or clay	Mesic -Dry
pH 6.8-7.2	WM-Mesic, well drained, moderately fertile

SCORING LANDSCAPING PROPOSALS

IMPORTANT: ADDITIONAL DOCUMENT (INCLUDING MAP) NEEDED DETAILING PRE-DEVELOPMENT CONDITIONS, SOILS AND VEGETATION – POINTS ASSIGNED FOR MATURE TREES 4" CALIPER AND OVER AND NOTABLES)

REQUIRED COMPONENTS

Scale: North Arrow Date Accurate Representation of Conditions

Inventory: Removed Tree over 4" caliper, and their associated woodlands. Existing Trees over 4" caliper

All trees and other plantings are to remain and must be protected in construction

Record: Large, high quality trees proposed for removal: .Note: Equivalent diameter should be included in plan showing replacement of trees of similar quality, and equivalent total diameter (4 x 4" diameter hardwood to replace 1 x12 diameter hardwood either removed or lost in construction.

Green Space: specify coverage – report mulch, etc

POINTS

Large deciduous	**- >25ft 2"diameter @ chest**	**150 points**
Small deciduous	**-25 ft 1.5" diameter @ chest**	**60 points**
Evergreen	**> 10 ft 4ft tall**	**40 points**
Shrub	**2 ft or 2 gallon**	**20**
Perennial		**20 points for 20 sq ft**

Note: Use with Whitewater Landscaping Guidelines AND Nowak, M. *Beyond the Bird Feeder*, WSObirds.org

STREET FRONTAGES – TOTAL TREES = _____

(1) Deciduous tree per 35 feet along each side of a street right of way.

Street 1 _____, Number of Trees= LARGE _____ SMALL _____ POINTS _____

Street 2 _____, Number of Trees= LARGE_____ SMALL _____ POINTS _____

PAVED AREAS @60 POINTS per 1500 sq feet:

AND (X) deciduous tree(s) @150 X x 150 POINTS _____

L X W = AREA = total square footage SQ FT / 1500 _____, [to one decimal place] POINTS _____

NOTE: 1500 sq ft = 5 parking places plus driveway. Tree islands each end of 20 parking spaces [4 trees] same

FOUNDATIONS @ 160 POINTS per 100 lineal feet for appropriate plantings within 20 feet of visible foundations (shrubs, groundcover, medium and small trees)

[(Length x 2, + Width x 2) = _____ linear feet Linear Ft / 100 x 160 = _____ POINTS _____

BUFFERYARDS (adjacent B1, B#, M! zones)

Linear ft /100 = _____ Trees: x 2 large deciduous, 5 small, 12 shrubs

Minimum width 10 feet, 30 feet if buffering major street. Total Large D = ____, Small D - ____, and Shrubs = ____

GENERAL YARDS

200 points for each 5000 square feet. Lot Square feet / 5000 x 200 POINTS _____

RAIN GARDEN / BIOSWALE Dimensions L X W Sq FT _____

Raingarden = depressed area for storm water Swale =" Linear, vegetative, stormwater runoff conveyance system"

NOTE: Treat as "Perennial planting bed"

20 points for every 20 square feet providing show in detail: slope, topography, length, width, soil, planting media, species, number and size of all plantings at time of installation, any other materials (e.g., rocks) used to line the garden or swale. Must be "generously and appropriately vegetated." Also maintained, cleaned annually and replaced as needed. Note: **Turf and rocks do not qualify for landscaping points.**

Sq Ft Area / 20 = ____ x 20 SO… AREA of SWALE = POINTS _____

VISION AND SCREENING

Dumpsters, loading docks, outside storage, vending machines, unsightly mechanical, utility, or telecommunications installations, and base of signs:

Provide a total visual screen (wall, fence or plantings)

RETENTION / DETENTION PONDS

Nothing in landscaping guidelines – see Bioswales

City of Whitewater			
Approved Tree List			
STREET TREE			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Aspen			
Quaking	Populus tremuloides	40-50	20-30
Buckeye			
Yellow	Aesculus Flava	60-75	30-50
Coffeetree			
Espreso Kentucky	Gymnocladus dioicus 'Espresso'	50	35
Kentucky	Gymnocladus dioicus	50-60	50-60
Cypress			
Bald Cypress	Taxodium distichum	50-70	20-30
Shawnee Brave Bald Cypress	Taxodium distichum 'Mickelson'	50	15-20
Elm			
Princeton	Ulmus americana 'Princeton'	60-80	40-60
Valley Forge	Ulmus americana 'Valley Forge'	80	60
Ginko			
Autumn Gold	Ginko biloba 'Autumn Gold'	40-50	25-30
Magyar	Ginko biloba 'Magyar'	40-50	20-25
Princeton Sentry	Ginko biloba 'Princeton Sentry'	40-50	15-20
Gum			
Black	Nyssa sylvatica	30-50	20-30
Hackberry	Celtis Occidentalis	40-60	40-60
Linden			
Boulevard American	Tilia americana 'Boulevard'	60	25
Sweet Street	Tilia americana 'Kromm'	50	25
Honey Locust	Gleditsia triacanthos	40-50	30-40
Maple			
Celebration	Acer x freemanii 'Celzam'	40-50	20-35
Sienna Glen	Acer x freemanii 'Sienna'	40-50	35-40
Sugar	Acer saccharum	50-75	50
Oak			
Burr	Quercus macrocarpa	70-80	75-90
Chinkapin	Quercus muehlengergii	50-60	50-60
Hybrid Swamp x Burr	Quercus x schuettei	75	70
Red	Quercus rubra	60-75	60-75
Planetree			
Exclamation London	Platanus x acerifolia 'Morton Circle'	60	45

City of Whitewater			
Approved Tree List			
LARGE AREA TREES			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Aspen			
Quaking	Populus tremuloides	40-50	20-30
Basswood			
American	Tilia americana	75-130	23-35
Beech			
American	Fagus grandifolia	60-75	55-65
Birch			
Paper	Betula papyrifera	50	35
River	Betula nigra	40-70	40-60
Yellow	Betula alleghaniensis	40-60	40-50
Buckeye			
Yellow	Aesculus Flava	60-75	30-50
Butternut	Juglans cinerea	40-60	40-60
Coffeetree			
Kentucky	Gymnocladus dioicus	50-60	50-60
Cypress			
Bald Cypress	Taxodium distichum	50-70	20-30
Shawnee Brave Blad Cypress	Taxodium distichum 'Mickelson'	50	15-20
Elm			
Princeton	Ulmus americana 'Princeton'	60-80	40-60
Valley Forge	Ulmus americana 'Valley Forge'	80	60
Ginko			
Autumn Gold	Ginko biloba 'Autumn Gold'	40-50	25-30
Magyar	Ginko biloba 'Magyar'	40-50	20-25
Princeton Sentry	Ginko biloba 'Princeton Sentry'	40-50	15-20
Gum			
Black	Nyssa sylvatica	30-50	20-30
Moraine Sweet	Liquidambar styraciflua 'Moraine'	40-45	25-30
Hackberry	Celtis Occidentalis	40-60	40-60
Hickory			
Shagbark	Carya ovata	80	40
Katsura	Cercidiphyllum japonicum	40-60	20-35
Linden			
American Sentry	Tilia americana 'McKSentry'	50-60	20-25
Honey Locust	Gleditsia triacanthos	40-50	30-40
Maple			
Red	Acer rubrum	40-60	40-60
Sienna Glen	Acer x freemanii 'Sienna'	40-50	35-40
Sugar	Acer saccharum	50-75	50
Magnolia			
Cucumbertree	Magnolia acuminata	50-80	35-60
Oak			

Black	Quercus Velutina	50-60	50-60
Burr	Quercus macrocarpa	70-80	75-90
Chinkapin	Quercus muehlengergii	50-60	50-60
Hybrid Swamp x Burr	Quercus x schuettei	75	70
Red	Quercus rubra	60-75	60-75
Planetree			
Exclamation London	Platanus x acerifolia 'Morton Circle'	60	45
Redwood			
Dawn	Metasequoia glyptostroboides	75-100	15-25
Sycamore			
American	Platanus occidentalis	70-90	80
Tuliptree	Liriodendron tulipifera	70-80	35-45
Yellowwood	Cladrastic kentukea	30-50	40-50

City of Whitewater			
Approved Tree List			
MEDIUM-SMALL STREET TREES			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Buckeye			
Early Glow	Aesculus glabra 'J.N. Select'	35	35
Mystic Ruby	Aesculus x bushii 'Aaron#1'	30-35	15-20
Cockspur Hawthorn, Thornless	Crataegus Crus-galli var. inermis	20-30	25-35
Crabapple			
Crab	?		
Prairie	Malus ioensis	15-20	15-20
Elm			
New Horizon	Ulmus 'New Horizon'	30-40	15-25
Ironwood	Ostrya virginiana	25	15
Lilac			
Ivory Silk Japanese	Syringa reticulata subsp. Reticulata	25	15
Maple			
Paper Barked	Acer griseum	20-30	20-30
State Street Miyabe's	Acer miyabei 'Morton'	50	40
Magnolia			
Royal Star	Magnolia stellata 'Royal Star'	10-15	10-15
Musclewood	Carpinus caroliniana	25-30	25-30
Red Bud, Eastern	Cercis canadensis	20-30	25-35
Serviceberry			
Allegheny	Amelanchier laevis	25	15
Apple	Amelanchier x grandiflora	25-30	25-30
Autumn Brilliance	Amelanchier x grandiflora 'Autumn Brilliance'	20-25	20-25

City of Whitewater			
Approved Tree List			
MEDIUM-SMALL OFF STREET TREES			
COMMON NAME	**BOTANICAL NAME**	**HEIGHT**	**WIDTH**
Buckeye			
Early Glow	Aesculus glabra 'J.N. Select'	35	35
Mystic Ruby	Aesculus x bushii 'Aaron#1'	30-35	15-20
Crabapple			
Crab	?		
Prairie	Malus ioensis	15-20	15-20
Dogwood			
Golden Glory	Cornus mas 'Golden Glory'	15-25	15-25
Pagoda	Cornus alternifolia	15-25	15-25
Elm			
New Horizon	Ulmus 'New Horizon'	30-40	15-25
Ironwood	Ostrya virginiana	25	15
Lilac			
Ivory Silk Japanese	Syringa reticulata subsp. reticulata	25	15
Maple			
Paper Barked	Acer griseum	20-30	20-30
Striped	Acer pensylvanicum	20	15
Magnolia			
Royal Star	Magnolia stellata 'Royal Star'	10-15	10-15
Musclewood	Carpinus caroliniana	25-30	25-30
Red Bud, Eastern	Cercis canadensis	20-30	25-35
Serviceberry			
Allegheny	Amelanchier laevis	25	15
Apple	Amelanchier x grandiflora	25-30	25-30
Autumn Brilliance	Amelanchier x grandiflora 'Autumn Brilliance'	20-25	20-25
Seven Son Flower	Heptacodium miconioides	15-20	8-15

LANDSCAPE DESIGN GUIDELINES AND STANDARDS FOR AREAS IN AND ALONG PUBLIC RIGHTS-OF-WAY

CITY OF LONE TREE

ADOPTED BY CITY COUNCIL JUNE 18, 2017
REVISED SEPTEMBER 15, 2020

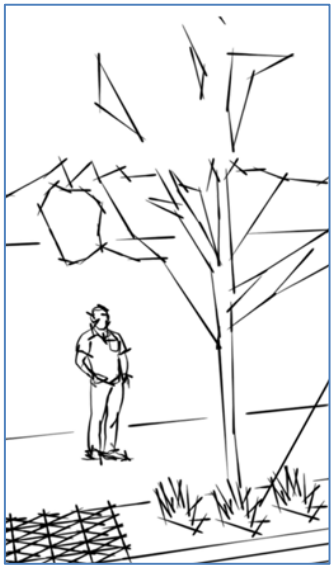


TABLE OF CONTENTS

I. BACKGROUND

The City of Lone Tree incorporated in 1995 as a result of residents in the area wanting a greater voice in shaping their future. An effort was made early on to create and enhance the City's physical and natural environment. Over the years, City Mayors and Councils and the Park Meadows Metro District invested significantly in beautifying the City streets with landscaped medians, brick walls, pedestrian lighting, benches, and public art. These improvements added to the aesthetic appearance of the City, and made traveling by car, bicycle, or foot, a more pleasurable experience. Progress was made elsewhere in the City to beautify the streetscape when new development was approved. In 2004, landscape design guidelines for rights-of-way were established by the City, and in 2016 a collaborative process was initiated by City staff to update the landscape guidelines and to provide a process for their implementation. These guidelines are the result of that process.

II. PURPOSE AND INTENT

The purpose of these guidelines is to provide landscape architects, metropolitan districts, and City staff with a clear understanding of the City's expectations for the planning, design, review, and maintenance of landscaping within and along public rights-of-way in the City of Lone Tree. These Guidelines set the stage for flexibility and dialogue during project review and are not meant to limit creativity and innovation, but to meet the overall intent as provided below.

The intent of these guidelines is to:

1. Enhance the unique natural identity and environment of Lone Tree and promote attractive streetscapes according to recognized horticultural and landscape design practices;
2. Design, install and maintain sustainable landscapes in keeping with Xeriscape principles for improved plant growth and survivability, which also serves to minimize plant replacement costs; and
3. Enhance public safety by separating vehicular traffic and pedestrian areas with tree lawns, through sight guidelines at intersections, and other means.

III. APPLICATION OF GUIDELINES AND STANDARDS

These Landscape Design Guidelines apply to landscaping in all new and expanding public rights-of-way in the City and any landscaping or entryway tracts owned by the City, a Metropolitan District, Homeowners Association, or private party or private entity that is adjacent to collector or arterial rights-of-way. These are not intended to apply to the reconstruction or maintenance of such landscaped areas existing prior to September 15, 2020.

IV. LANDSCAPE PLAN APPROVAL PROCESS

The intent of this process is to ensure thorough and efficient processing of landscape plans by the City for rights-of-way and designated development entryway and landscaping tracts adjacent to collector and arterial rights-of way, and to provide the applicant clear direction and a voice in the design process. In applying the design standards, all standards identified as "shall" or "shall not" are prescriptive. All other guidelines contained herein are intended to communicate an overall design intent and suggest possible ways to achieve that intent.

1. The applicant shall submit a .pdf of the landscape plans to the Community Development

Department for review as part of the Subdivision or Site Improvement Plan application. The Community Development Department will review the plans and refer them to the Public Works Department and other applicable review agencies as needed; the review processes shall adhere to those outlined in Municipal Code for the Subdivision and Site Improvement Plan applications, respectively. Landscape plans that are submitted as part of construction documents for rights-of-way projects that are not concurrent with the subdivision or development review processes will be submitted to the Public Works Department, which will review the plans and refer them to the Community Development Department, and other applicable review agencies as needed; plans submitted as part of construction documents for rights-of-way projects shall be reviewed within fifteen (15) business days of plan receipt. The applicant will discuss review comments and suggestions with Public Works and Community Development staff.

2. The applicant will make changes to the plans, as required, and resubmit plans to the applicable City department.

3. The City will review the revised plans and notify the applicant once approved.

4. Any changes to the approved landscape plans and/or landscaping installations must first be approved by the Community Development and Public Works Departments.

5. Community Development and Public Works staff will inspect landscaping once installation is complete to ensure that it matches the approved plans. The applicant, at the applicant's cost, will be responsible for removing/amending any landscaping installations not in adherence with approved landscape plans.

V. LANDSCAPE PLAN SUBMITTAL REQUIREMENTS

A. Qualifications to Prepare Plan

The Landscape Plan shall be prepared and stamped by a landscape architect licensed with the state of Colorado.

B. Narrative

Submit a narrative that briefly explains what landscaping you are proposing in the right-of-way and how it meets the overall intent of these Guidelines.

C. Plan Requirements

1. General Requirements - The Landscape Plan, through graphic symbols and notes, should comply with the planting and site criteria specified by these guidelines, and with the policies, procedures, standards and all other requirements of the City.

2. Graphic Requirements - Include scale, north arrow, all utility locations including easements, pipe and conduit, sight triangles, utility structures, hydrants, traffic boxes, light locations, boundaries, setbacks, all horizontal improvements, grading/contours, walls with top and bottom of wall elevations, existing vegetation to remain with labels for size and species.

3. The landscape plan shall be prepared at a scale of 1" = 40' or 1" = 20' or another scale approved by staff, which allows for maximum clarity of the proposal.

4. Planting Details - Tree, shrub, perennial, annual, and ground cover planting details shall be shown on the plan.

5. A chart that includes the plant symbol or abbreviation, botanical and common names, size at planting, and for those plants proposed in the sight triangles, plant height at maturity.

6. Width of any tree lawn, raised planters, and tree wells.

7. Document the organic and inorganic soil amendments that may be added based on the results of a soil analysis.

8. Plant Selection - Plants should be selected from Appendix B of the Guidelines unless otherwise approved by the City. (See also Appendix C for a list of prohibited tree and plant materials.)

9. Hydrozones - Plants with similar water needs within each site microclimate (e.g., extent of shade; direction facing, such as west facing; location planted, such as toe of slope, etc.) should be zoned or grouped together for efficiency of water application, to prevent water waste and to provide optimum application of water to plants.

10. Numerical Requirements - The locations and quantities of plants should comply with the guidelines established herein.

11. Plant substitutions - Minor revisions to an approved landscape plan may be requested due to lack of plant availability or seasonal planting constraints. Substitutions may be permitted as approved by the City.

12. Mix of Species - Groupings of plants, rather than single species, are encouraged. Species selection should reflect canopy, understory, and ground cover plants that are compatible.

VI. XERISCAPE PRINCIPLES

The City encourages water conservation. It is important when developing landscape plans for Lone Tree streetscapes to take into account the regional climate. The City is located in high, semi-arid plains that receive 15 inches of rain or less a year on average (borderline desert). Additionally, this region is drought prone – some years getting less than a foot of rain. For that reason, the City of Lone Tree is committed to the reduction of water consumption in landscape irrigation and encourages the application of Xeriscape design and maintenance principles as set forth below.

A. Planning and Design - Develop a plan that takes into account both the regional climate and the microclimate of the site, existing vegetation and topography, the proposed use of the property, and grouping plants by their watering needs.

B. Soil Analysis and Amendments - Analyze several samples of soil to determine the level of compaction and the soil type(s) of the site so that appropriate amendments can be added. Soil amendments will aid plant growth by improving water penetration and retention.

C. Appropriate Plant Selection - Select and group plants for their adaptability to the site, their design characteristics including year-round visual interest, and their water needs. With few exceptions, such as high-traffic turf areas as provided below, or the plantings of high-water use annuals at entries and other limited areas, choose native or low-water use plants.

D. Practical Turf Areas – Limit the use of high-water turf and avoid using turf on narrow areas and steep or exposed south-facing slopes where irrigation will be inefficient and mowing difficult.

E. Efficient Irrigation - Irrigate only when plants need it and irrigate deeply to encourage root growth for a healthier, more drought tolerant landscape. Grouping plants by water need will allow the most water-efficient design for an irrigation system. Management of the system will be as important as its design.

F. Use of Mulches - Apply and maintain organic mulches in planting beds to assist soils in retaining water, reducing weed growth, and preventing erosion. Rock mulch is discouraged in planting beds except on steep slopes or hard-to access areas, as the rock heats the soil and can retard plant growth.

G. Proper Maintenance - Preserve the beauty and water efficiency of the landscape through regular mowing, pruning, weeding, mulching, and irrigation system maintenance.

VII. LANDSCAPE DESIGN & MAINTENANCE

The intent of these guidelines is to provide general direction in streetscapes and in specific areas such as at intersections and near signs and lights, in compact urban areas where tree wells are desired, along streets with tree lawns, in medians and roundabouts.

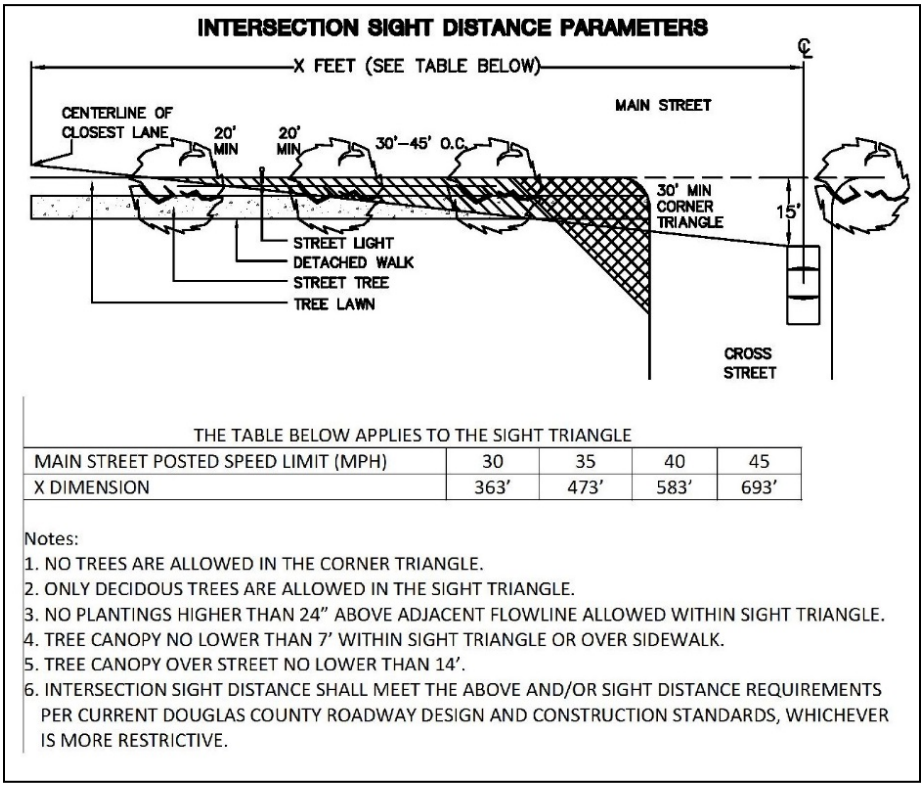
1. Street Design in Hardscapes and Tree Lawns: General Considerations

Many factors affect design along streets, including use by pedestrians, the size and orientation of sidewalks, the distance from trees to buildings and fixtures, the visibility of commercial facades and signs, snow plowing and snow storage and the speed and volume of vehicles.

a. Select trees based on existing environmental conditions and to enhance adjacent property and structures.
b. Trees should have similar characteristics (in terms of form, character and spacing patterns) on both sides of the street.
c. At mature size, residential street trees should form a continuous canopy to reinforce the street space and frame vistas.
d. Provide a mix of species (if an insect or disease attacks one tree variety, other varieties in place can still provide a canopy).
e. Select trees with their mature size in mind so that trees have room to grow. Narrow areas suggest a narrow tree and open areas suggest a wide one.
f. Trees shall not be planted in utility easements unless permitted by the utility company.
g. Where trees may conflict with signs, lights, underground utilities, utility boxes, or fire hydrants, adjust plant species or location.
h. When replacing trees in an existing right-of-way, select new trees of similar characteristics to those being replaced, including form, scale, texture and color.
i. Trees shall not be planted closer than 30-feet from the intersecting curb face at intersections and street corners within the corner triangle. Trees shall be located no closer than 15-feet from the projected alley property line.
j. Trees shall be planted no closer than 20-feet from light poles. Individual site conditions may warrant an exception if approved by the City Engineer and utility provider.
k. Maintain existing trees and shrubs near intersections so as not to obstruct or interfere with views or sight lines. Private property owners with landscape in these areas should consult with the Community Development Department and City Engineer to verify and correct problems.

l. Tree canopies extending over a public roadway shall be maintained to have a minimum canopy of 14’ above the roadway or be trimmed to not impede into the roadway area.

m. Minimum sight triangle and corner triangle distances (as designated by the City Engineer) shall be maintained for safe viewing of oncoming traffic and pedestrians. Within the sight triangle, no objects above (measured from the flowline) shall be permitted except for deciduous tree trunks and canopies as shown in Figure 1.



THE TABLE BELOW APPLIES TO THE SIGHT TRIANGLE

MAIN STREET POSTED SPEED LIMIT (MPH)	30	35	40	45
X DIMENSION	363’	473’	583’	693’

Notes:
1. NO TREES ARE ALLOWED IN THE CORNER TRIANGLE.
2. ONLY DECIDOUS TREES ARE ALLOWED IN THE SIGHT TRIANGLE.
3. NO PLANTINGS HIGHER THAN 24” ABOVE ADJACENT FLOWLINE ALLOWED WITHIN SIGHT TRIANGLE.
4. TREE CANOPY NO LOWER THAN 7’ WITHIN SIGHT TRIANGLE OR OVER SIDEWALK.
5. TREE CANOPY OVER STREET NO LOWER THAN 14’.
6. INTERSECTION SIGHT DISTANCE SHALL MEET THE ABOVE AND/OR SIGHT DISTANCE REQUIREMENTS PER CURRENT DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS, WHICHEVER IS MORE RESTRICTIVE.

Figure 1: Intersection Sight Distance Parameters

n. Design Space for Trees in Hardscapes

Selecting and planting trees in dense urban areas creates special challenges that require thoughtful design and installation.

1. Tree grates and vaults are discouraged as tree grates can girdle the tree if not adequately maintained, and typical tree vaults do not provide adequate space for tree root growth over the long term, often leading to the premature death of trees.
2. While tree lawns are the preferred option, where space is limited, the City may allow a minimum 5-foot wide, 8-foot long opening around the tree, with porous pavers in the areas between the trees, and an 18” curb depth to protect landscaping and provide some snow storage (figure 2). Pavers should be of a character and quality that enhances the streetscape. Use structured soil (3/4-1½-inch angular granite rock interspersed within the soil) to minimize compaction and allow the roots to breathe, using soils with a mix of clay and organic matter according to the CU-Structural Soil standards. Given the tendency of expansive soils in Lone Tree, the use of tree wells with porous pavers must be in conformance with Geotechnical Soils recommendations.

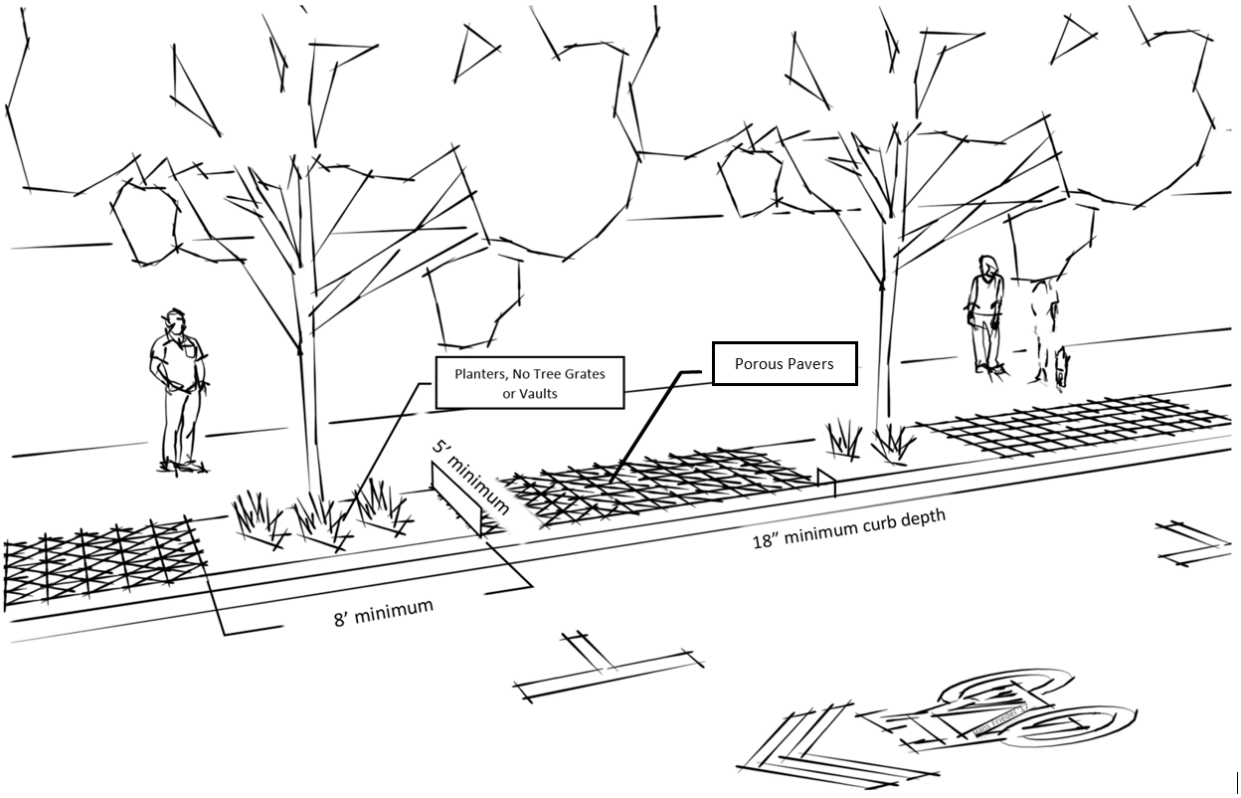


Figure 2: Landscaping for Trees in Hardscapes to help ensure better tree survivability and a beautiful streetscape.

3. Fencing is allowed around tree wells where the tree wells are set back a minimum of 18" from the curb to provide room for snow storage, and where parking is not allowed on the street. Where parking is allowed on the street, set the tree well back a minimum of 30-inches from the curb such that the doors of parked cars do not hit the fence when passengers disembark.

Figure 3: Tree wells with fencing and porous

o. Design for Trees in Tree Lawns

1. Tree lawns shall be 8 feet wide (with trees planted no closer than 4 feet from back of curb) to provide adequate space for street trees to grow.
2. Canopy trees in the tree lawns are recommended (see list of recommended trees in Appendix B).
3. Create a continuous street edge with 1 deciduous canopy tree spaced regularly every 30-lineal feet midway between curb and walk (even where the width of the tree lawn varies). Slightly greater or reduced spacing may be appropriate depending on the space and species, and adjusted for curb cuts, lights, fire hydrants, signage, etc. Review special conditions with the City.

2. Landscape Design for Medians

a. With the emphasis on a continuous street tree canopy for Lone Tree, the medians are intended to complement that canopy. Planting areas in the medians that include trees shall be a minimum of 10 feet wide and a maximum of 14-feet wide in order for trees to thrive (distance measured from back of curb to back of curb). Canopy trees shall be planted no closer than 4-feet from the back of curb and evergreens shall be planted no closer than 7-feet from the back of curb. Planting areas in medians that do not include trees shall be a minimum of -6 feet wide in order for shrubs to thrive (distance measured from back of curb to back of curb.)

b. Median Landscaping shall not have planting objects above 24" within the sight triangle as defined by the City Engineer.

c. Median Tree Requirements – Medians that include trees shall have a minimum of one (1) tree (mixed ornamental, evergreen or deciduous tree) for every 1,200-square feet of median area. The actual number of tree plantings may be more, depending on the particulars of the median design.

d. Shrubs and Ground Covers – Shrubs and ground cover massings are encouraged. Generally, select drought tolerant plants that will require less water and will thrive better if placed in planting beds rather than turf areas. Water-loving plants should be minimally used and located in naturally moist areas and irrigated separately or provided with run-off water to minimize irrigation needs.

e. The use of shrubs and ground covers is to be restricted by the following provisions:

1. Trees, shrubs, and ground cover masses can be used in median plantings, but special care should be taken to preserve traffic safety and adequate visibility. All trees, shrubs and ground cover plantings should remain consistent within the design of each median. (See Appendix B for appropriate shrubs for medians).
2. Evergreen trees, shrubs, and ground covers shall not interfere with or obstruct any sight distance triangles.

3. Landscape Design for Roundabouts

a. The purpose of landscaping in the roundabout is to:

1. Make the central island conspicuous to drivers as they approach the roundabout
2. Clearly indicate to drivers that they cannot pass straight through the intersection
3. Require motorists to focus toward on-coming traffic from the left
4. Help break headlight glare
5. Discourage pedestrian traffic through the central island
6. Help visually impaired pedestrians locate sidewalks and crosswalks
7. Improve and complement the aesthetics of the area

b. When designing landscaping for a roundabout it is important to:

1. Minimize driver distraction and minimize damage and enhance safety for automobiles that do encroach onto the roundabout
2. Consider maintenance requirements early in the program stages of development
3. Maintain adequate sight distances
4. Avoid obscuring the view of signs
5. Minimize fixed objects such as trees, poles, or guard rails

c. To minimize driver distraction, avoid items in the central island that may be considered an attractive nuisance and may encourage passersby to go to the central island for pictures, or other objects that might distract drivers from the driving task. Decorative

features that may attract pedestrians within the central island or lead to distracted driving include (not all inclusive):

1. Decorative statutes
2. Water fountains/features
3. Artwork
4. Decorative walls
5. City logos or community welcome signs
6. Commemorative plaques or monuments
7. Banners and flags
8. Street furniture (decorative and non-decorative)
9. Combination of these above features

d. The following items are prohibited and shall not be planted/placed within the central island:

1. Hazardous material - such as concrete, stone, boulders or wood walls
2. Fixed objects - including trees having a mature diameter greater than 4-inches
3. The City's standard approach to central-island landscaping is mounding the earth and providing plantings. Design the slope of the central island with a minimum grade of 4% and a maximum of 6:1 sloping upward toward the center of the circle. The earth surface in the central island area forms an earth mound that is a minimum of 3.5-feet to a maximum of 5-feet in height, measured from the circulating roadway surface at the curb flange. As an absolute minimum, keep the outside 6 feet of the central island free from landscape features to provide a level of roadside safety, snow storage, and unobstructed sight distance.
4. Low-to-the-ground landscape plantings in the splitter islands (see figure 4) and approaches can both benefit public safety and enhance the visual quality of the intersection and the community. In general, unless the splitter islands are very long or wide, they should not contain trees, planters, or light poles. The City would consider alternate treatments as long as the landscape design elements are approved by a qualified roundabout engineer.

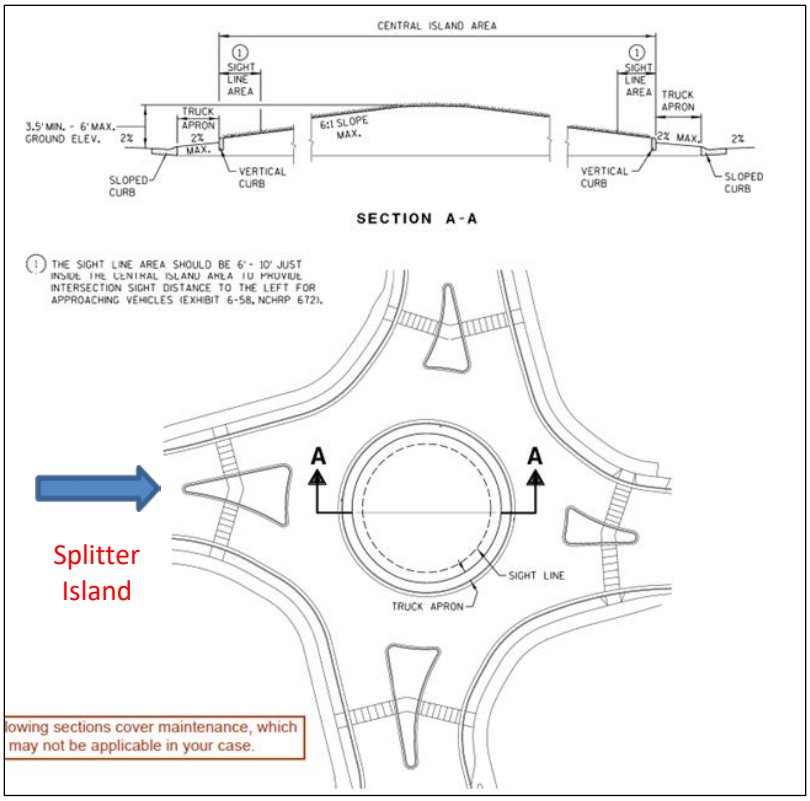


Figure 4: Roundabout sight line areas

4. Landscape Design to Enhance Water Quality

Rain gardens are planted depressions that allows rainwater runoff from impervious urban areas, like roofs, driveways, walkways, and parking lots, the opportunity to be absorbed. The City recognizes and supports the use of rain gardens along public rights-of-way where appropriate, to enhance water quality, to save on irrigation water, and to create beautiful landscapes. Supplemental irrigation to such landscapes may be required to provide adequate water during dry summer months.

Figure 5: Example of a rain garden along rights-of-way

VIII. SURFACE TREATMENTS

Surface or ground-plane treatments consist of irrigated turf and in purposefully natural areas, non-irrigated turf, organic mulches and low height plant materials including ground covers, annuals, and perennials. These treatments are necessary to retain soil porosity, stabilize slopes, reduce erosion, slow evaporation from soils, and aesthetically improve the landscape.
Turfgrass should be specified according to the same criteria as other plants. These guidelines emphasize responsible turf uses and well managed, water efficient irrigation systems to support them.

A. Recommended Turfgrass

1. Use low-water demand grass (requiring less than 1 ½-inches of water per week) in tree lawns, medians, and along rights-of-way.
2. Kentucky bluegrass and turf-type fescues are allowed only in limited areas such as high-pedestrian traffic areas as approved by the City on a case by case basis and are not permitted on slopes with steeper than 3:1 gradient, or in any design configuration that cannot be irrigated efficiently.

B. Topsoil and Soil Amendment Requirements

Organic matter in the soil increases water holding capacity, helps reduce soil compaction and promotes root development in poor soils. Soil preparation can allow moisture to be held in marginal soils up to three times longer, thus resulting in reduced irrigation demand.

1. All soils in which turf or sod is to be installed shall be amended with organic matter such as compost and aged manure. Incorporate a minimum of 4-cubic yards of compost per each 1,000-square feet to a depth of at least 4 to 6-inches by rototilling or other suitable means.

C. Ground Covers

Ground covers are beneficial in solving problematic conditions such as steep slopes or small irregularly shaped areas. They are useful in visually linking larger plant material groupings, providing leaf texture and seasonal color.

Care should be given in selection of ground cover species. They should be appropriate for the intended character of the landscape. Mature height, color, texture, growth habit, disease resistance, hardiness, drought resistance, and maintenance aspects all play a role in the ultimate selections. See Appendix B for specific recommendations.

1. Low-growing shrubs and evergreens – These are often ideal selections for coverage, especially on slopes.
2. Perennials – They are especially effective because the local growing season is relatively short and late spring frosts and snow can impact on the bloom of trees and shrubs.
3. Annuals -- These flower plantings enrich median and right-of-way landscapes and the overall richness of the City's streetscape.

D. Mulch

1. Organic mulches shall be applied to a depth of 3-inches in all non-turf planted areas. Use fibrous shredded bark mulch as it holds together better in windy conditions. Exceptions may be made by the City for erosion control in drainage ways. A minimum of 75% of all mulched areas shall be designed to have non-tree vegetative cover of shrubs or ground covers.
2. Use of non-organic mulches (gravel, rock, cobbles and stones) are discouraged around plants, because it raises the overall soil temperature and is generally detrimental to plant growth. For that reason, non-organic mulches are limited to areas around plants in steep slope and hard to access areas for maintenance purposes and are evaluated on a case-by-case basis by the City.
3. Mulch should be selected carefully in areas that may be susceptible to washout such as near road inlets, landscape drains and/or area drains. These areas will require review and approval of the City Engineer to ensure the mulch selected is appropriate for the location.

IX. PLANT MATERIAL SIZE & SHAPE REQUIREMENTS

A. Plant Material Sizes

Minimum planting/installation sizes of plant material should conform to the standards below:

1. Canopy trees – 2 to 3-inch caliper.
2. Deciduous ornamental trees – 2-inch caliper or for median trees, multi-stemmed clump form with a minimum height of 6 to 8-feet.
3. Evergreen trees – 6 to 10-feet in height.
4. Evergreen and deciduous shrubs and vines – 5-gallon size.
5. Ornamental grasses – 1-gallon or 5-gallon size depending on species and availability
6. Ground covers and perennials – no minimum size; spacing should provide 80% coverage within 2 to 3-years.

Stella D'Oro Daylily does well in streetscapes

B. Plant Material Shape/Habit

1. The branching height of mature trees on the traffic side of the street shall be no less than 14-feet above the street. Trees shall be regularly pruned to achieve this affect.
2. The branching height of mature trees on the pedestrian side of the street shall be no less

than 7-feet above the sidewalk. Upon planting, trees shall be pruned to eliminate any hazards to pedestrians.

3. Small varieties of thornless and fruitless trees may be used only in the median areas, traffic islands, or beds where lower branching habit will not interfere with pedestrians, vehicles, or driver visibility.

X. IRRIGATION SYSTEM

Streetscapes should be irrigated with a properly designed irrigation system to cover all plant material in the right-of-way.

A. Irrigation Design

1. Irrigation systems should be designed to permit turf grass to be irrigated separately from all other planting areas. Turf irrigation zones should be further separated by slope, exposure, and turf-type water needs. Automatic irrigation controllers should have repeat cycle capability to permit moisture to penetrate into the soil rather than run-off.
2. Irrigation schedules should be set when pedestrians are not likely to be present.
3. Use rainfall and freeze sensors, weather-based controllers, check valves, pressure reducers and flow sensor valves to reduce water waste.
4. Sprinkler heads in the same zone should have the same precipitation rates. Pop-up heads in turf should have at least a 4-inch riser height.
5. Controllers should have the capability to irrigate shrubs, flowers and trees separately from turf, and have time capability to permit effective use of low volume systems over longer cycles.
6. Perennial and ground cover areas may be irrigated with fixed riser or shrub pop-ups.
7. Pop-up risers should be fitted with low pressure and low volume spray heads. Shrubs and trees may be irrigated by drip or low volume spray heads.
8. Normal spray patterns should be confined to mass vegetated areas or root zones of plants.
9. Spraying of streets, walks, driveways, buildings and fences should be avoided. If spraying of walks and bike ways cannot be avoided, the controller should be timed to spray at night to reduce conflicts with users.
10. Sprinkler system installations shall include a rain sensor that will override the irrigation cycle of the sprinkler system when rainfall has occurred in an amount sufficient to negate the need for irrigation at the scheduled time.

B. General Requirements for the Irrigation Plan

1. The irrigation plan shall be submitted and approved prior to final landscape development plan approval.
2. The irrigation plan shall graphically and through notes depict a water-efficient design consistent with the landscape and grading plans.
3. The irrigation plan shall be prepared at a scale of 1" = 40' or 1" = 20' or another scale approved by staff, which allows for maximum clarity of the proposal.
4. The irrigation plan shall show and note hydrozones. The delineation of hydrozones should take into account like water demand plants, slopes, environmental factors and water pressure.
5. Irrigation systems should conform to the irrigation standards and all other provisions of these guidelines.
6. The irrigation zones on the irrigation plan should substantially correspond to the hydrozones on the landscape plan and be labeled by precipitation rates and method of water application (drip, spray, etc.).

APPENDIX A

DEFINITIONS

Arterial or collector rights-of-way: include such road classifications as set forth in the Douglas County Roadway Design and Construction Standards manual, as adopted by the City of Lone Tree.

Deciduous: A plant with foliage that is shed annually.

Evergreen: A plant with foliage that persists and remains green year-round.

Ground cover: Plants other than turf grass, normally reaching an average maximum height of not more than 18-inches at maturity.

Hydrozone: A portion of a landscape area having plants with similar water needs that are either not irrigated or irrigated by a circuit or circuits with the same schedule.

Hydrozoning: The design practice of grouping plants by similar water requirements to maximize potential efficiency of irrigation.

Irrigation plan: A two-dimensional plan drawn to scale that shows the layout of irrigation components, component specifications, and hydrozones. Layout of pipes may be depicted diagrammatically, but location of irrigation heads and irrigation schedules are specified.

Irrigation system: A permanent, constructed watering system designed to transport and distribute water to landscape plants.

Landscape buffer: Land area with landscape plantings and other components used to visibly separate one use from another or to shield or block noise, lights, or other nuisances.

Landscape plan: A plan drawn to scale that shows the layout of all landscape components and the specifications for a development site.

Colorado Licensed Landscape Architect: A person who is currently licensed in the State of Colorado to practice the profession of landscape architecture.

Median: The area of raised paving or planting running down the center of the street separating the directions of traffic.

Microclimate: The climate of a specific place within a given area.

Mulch: Nonliving organic materials customarily used in landscape design to retard erosion, retain moisture, provide a protective covering around plants to reduce weed growth, and to maintain even temperatures around plant roots.

Ornamental tree: A tree planted primarily for its decorative and/or flowering value, or for screening and that typically does not exceed a height of 30-feet in the Denver area.

Practical turf areas: A landscape design and management concept promoting turf only in areas of the landscape that are functional and can be efficiently watered by a supplemental irrigation system.

Rain sensor or rain shutoff device: A device connected to an irrigation controller that overrides scheduled irrigation when significant precipitation has been detected.

Roundabout: A traffic circle, where three or more roads join and traffic must go around a circular area in the middle, rather than straight across.

Shade tree: A deciduous (or rarely, an evergreen) tree planted primarily for its high crown of foliage or overhead canopy. A major shade tree reaches a height of at least 50-feet.

Shrub: A self-supporting woody perennial plant of low to medium height characterized by multiple stems and branches continuous from the base, usually not more that 12-feet in height at its maturity. It may be evergreen or deciduous.

Site plan: A two-dimensional representation, drawn to scale, of the total area of development project, including building footprints, roadways, and parking areas.

Soil amendment: Organic and inorganic materials added to soil to improve texture, nutrients, moisture-holding capacity, and infiltration rates.

Street right-of-way: The area of land designated for streets, sidewalks, utilities and public use.

Street tree: A tree planted in the street right-of-way (streetscape) between the curb or edge of road and the adjoining property line, or in the median, to provide shade, spatial definition, and human scale, and to enhance the street environment.

Streetscape: That portion of the street right-of-way typically located between the curb and private property line for which the adjacent property owner has the legal responsibility to maintain for the public good. The landscape treatment includes vegetation, sidewalks, streetlights, fencing, signs, utilities, etc.

Tree: A large, woody plant having one or several self-supporting stems or trunks and numerous branches. It may be classified as deciduous or evergreen.

Tree lawn: The strip of land between the roadway curb or edge of road and sidewalk that is generally planted.

Turf/Turfgrass: Continuous plant coverage consisting of hybridized grass that, when regularly mowed, form a dense growth of leaf blades and roots.

Vegetation: Plants in general or the sum total of plant life in a given area.

Xeriscape: A water efficient landscape adapted to the local environment.

Xeriscape principles: Methods of professional landscaping that include: planning and design, soil analysis, efficient irrigation, appropriate plant selection, practical turf areas, use of mulches, and proper maintenance (See Section VI).

APPENDIX B

LIST OF APPROVED PLANTS

All plants and trees should fit the soil, sun, moisture, and maintenance environment in which they are planted. All plants and trees should be able to endure pollution, compacted soils, and require minimal water and low maintenance. The S.T. designation in the chart below identifies trees and plants that are salt tolerant and may better withstand harsh roadside conditions, though there is no evidence that they can withstand concentrations of magnesium chloride applied to streets as a de-icer.

For rights-of-way along commercial properties, select trees that will minimize the obstruction of views of signs. Select trees with appropriate forms and character that enhance the nearby structures and property. The City Forester may consider other species that are recommended for rights-of-way by authoritative sources, such as the Colorado State University Extension, the Colorado Tree Coalition, the Colorado Nursery & Greenhouse Associate, and the Colorado Chapter of the American Society of Landscape Architects. Select trees and plants with a 5b plant hardiness zone as defined by the United States Department of Agriculture.

List of Trees and Other Plant Materials for Tree Lawns and Medians Where Appropriate

S.T. are Salt Tolerant Species

BOTANIC NAME	*COMMON NAME*	*MEDIAN*	*S.T.*	*TREE LAW*
DECIDUOUS TREES				
Acer ginnala	Amur Maple	X	X	
Acer miyabei	Miyabe Maple	X	X	X
Acer nugundo	Boxelder 'Sensation'	X		
Acer pseudoplantanus	Sycamore Maple	X	X	X
Acer rubrum	Red Maple	X		X
Amelanchier x grandiflora	Autumn Brilliance Serviceberry	X	X	
Amelanchier canadensis	Shadblow Serviceberry	X	X	
Catalpa speciosa	Western Catalpa	X	X	X
Celtis laevigata	Sugar Hackberry	X	X	X
Celtis occidentalis	Common Hackberry	X		X
Crataegus crus-galli var. inermis	Thornless Cockspur Hawthorn	X		
Ginkgo biloba	Ginkgo	X		X
Gleditsia triacanthos 'Imperial'	Imperial Honeylocust	X	X	X
Gleditsia triacanthos 'Shademaster'	Shademaster Honeylocust	X	X	X
Gleditsia triacanthos 'Skyline'	Skyline Honeylocust	X	X	X
Gleditsia triancanthos 'Trueshade'	Trueshade Honeylocust	X	X	X
Gymnocladus dioica	Kentucky Coffeetree	X	X	X
Koelreuteria paniculata	Golden Raintree	X		
Malus spp. (including all Crabapples)	Crabapples (all types)	X		
	'Bechtel'	X		
	'Centurion'	X		
	'Spring Snow'	X		
Platanus occidentalis	American Sycamore	X		X
Pyrus calleryana 'Aristocrat'	Aristocrat Pear	X		
Pyrus calleryana 'Chanticleer'	Chanticleer Pear	X		

Quercus alba[1]	White Oak	X	X	X
Quercus bicolor[1]	Swamp White Oak	X		X
BOTANIC NAME	***COMMON NAME***	***MEDIAN***	***S.T.***	***TREE LAWN***
Quercus macrocarpa	Bur Oak	X		X
Quercus robur	English Oak	X		X
Quercus robur 'Fastigiata'	Columnar English Oak	X		X
Quercus Rubra	Northern Red Oak	X	X	X
Sophora japonica	Japanese Pagoda Tree	X		
Syringa reticulata	Japanese Tree Lilac	X		
Ulmus Americana 'Valley Forge'	American Elm	X	X	X

EVERGREEN TREES				
Juniperus chinensis Hetzi Columnaris	Hetzi Columnaris'	X	X	
Juniperus chinensis 'Keteleeri'	Keteleeri'	X	X	
Juniperus horizontalis	Creeping juniper	X	X	
Juniperus x media 'Pfitzeriana Compacta'	Compact Pfitzer	X	X	
Juniperus scopulorum 'Blue Heaven'	Blue Heaven'	X	X	
Juniperus scopulorum 'Cologreen'	Cologreen'	X	X	
Juniperus scopulorum 'Grey Gleam'	Grey Gleam'	X	X	
Juniperus scopulorum 'Moonglow'	Moonglow'	X	X	
Juniperus scopulorum 'Skyrocket'	Skyrocket'	X	X	
Juniperus scopulorum 'Welchii'	Welchii'	X	X	
Juniperus scopulorum 'Wichita Blue'	Wichita Blue'	X	X	
Juniperus virginiana 'Canaertii'	Canaertii'	X	X	
Juniperus virginiana 'Hillspire'	Hillspire'	X	X	
Juniperus virginiana 'Manhattan Blue'	Manhattan Blue'	X	X	
Picea glauca 'Conica'	Dwarf Alberta Spruce	X		
Picea pungens	Colorado Spruce	X	X	
Pinus aristata	Bristlecone Pine	X		
Pinus edulis	Pinyon Pine	X		
Pinus flexilis	Limber Pine	X		
Pinus mugo- dwarf varieties only	Mugo Pine- dwarf varieties only	X		
Pinus nigra	Austrian Pine	X	X	
Pinus strobiformis	Southwestern White Pine	X		
Pinus ponderosa	Ponderosa Pine	X		
Pinus sylvestris	Scotch Pine	X		

DECIDUOUS SHRUBS				
Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Barberry	X		
Berberis thunbergii 'Rose Glow'	Rose Glow Barberry	X		
Caragana pygmaea	Pygmy Peashrub	X		
Caryopteris clandonensis	Blue Mist Spirea	X	X	
Ceratoides lanata	Winterfat	X		X
Cercocarpus intricatus	Littleleaf Mountain-Mahogany	X		
Cytisus 'Moonlight'	Moonlight Broom	X	X	
Cytisus purgans	'Spanish Gold' Andorra Broom	X	X	

[1] Quercus alba and quercus bicolor are very salt tolerant, yet they are susceptible to problems in alkaline soils. They are also large trees that may be inappropriate to plan in close proximity to buildings.

Fallugia paradoxa	Apache Plume	X		
Holodiscus dumosus	Rock Spirea	X	X	
Ligustrum obtusifolium var. regelianum	Regal Privet	X		
Ligustrum vulgare 'Lodense'	Lodense Privet	X		
Lonicera 'Honeyrose'	Honeyrose Honeysuckle	X	X	
BOTANIC NAME	***COMMON NAME***	***MEDIAN***	***S.T.***	***TREE LAWN***
Lonicera involucrata	Twinberry Honeysuckle	X	X	
Lonicera korolkowii var. floribunda 'Blue Velvet'	Blue Velvet Honeysuckle	X	X	
Lonicera syringantha var. wolfii	Lilac-Flowering Dwarf Honeysuckle	X	X	
Lonicera tatarica 'Arnold Red'	Arnold Red Honeysuckle	X	X	
Lonicera xylosteoides 'Clavey's Dwarf'	Clavey's Dwarf Honeysuckle	X	X	
Lonicera xylosteoides 'Emerald Mound'	Emerald Mound Honeysuckle	X	X	
Perovskia atriplicifolia	Russian Sage	X		
Philadelphus microphyllus	Littleleaf Mockorange	X	X	
Potentilla fruticosa cultivars	Potentilla	X	X	
Prunus besseyi 'Pawnee Buttes'	Pawnee Buttes Western Sandcherry	X		
Prunus virginiana	Native Chokecherry	X		
Prunus virginiana 'Schubert'	Canada Red Chokecherry	X		
Rhus aromatica	Fragrant Sumac	X	X	
Rhus aromatica 'Gro-Low'	Gro-Low Sumac	X	X	
Rhus glabra var. cismontana	Rocky Mountain Sumac	X	X	
Rhus trilobata	Threeleaf Sumac	X	X	
Rhus typhina 'Laciniata'	Cutleaf Sumac	X	X	
Ribes alpinum	Alpine Currant	X	X	X
Ribes hirtellum 'Pixwell'	Pixwell Gooseberry	X		
Spirea Japonica and cultivars	Japanese Spirea	X	X	
Spirea Nipponica "Snowmound"	Snowmound Spirea	X	X	
Spirea trilobata and cultivars	Threelobe Spirea	X	X	
Spirea x bumalda and cultivars	Bumald Spirea		X	
Spirea x vanhouttei	Vanhoutte Spirea		X	
Symphoricarpos chenaultii 'Hancock'	Hancock Coralberry	X		
Symphoricarpos orbiculatus	Red Coralberry	X		
Symphoricarpos oreophilus	Mountain Snowberry	X		
Syringa patula 'Miss Kim'	Miss Kim Lilac	X		

BROADLEAF EVERGREEN SHRUBS				
Buxus koreana	Korean Boxwood	X		
Cotoneaster apiculata	Cranberry Cotoneaster	X		
Cotoneaster horizontalis	Rock Spray Cotoneaster	X		
Cotoneaster microphylla cochleata	Small-leaved Cotoneaster	X		
Euonymus kiautschovica (patens)	Manhattan Euonymus	X		
Euonymus fortunei 'Sarcoxie'	Sarcoxie Euonymus	X		
M. aquifolium 'Compacta'	Compact Oregon Grape	X		

FLOWERS AND GROUNDCOVERS				
Achillea tomentosa and cvs	Woolly Yarrow	X		X

Aegopodium podagraria and cvs.	Snow-on-the-Mountain	X		X
Ajuga reptans and cvs.	Carpet Bugle	X		X
Antennaria spp.	Pussytoes	X		X
Arctostaphylos uva-ursi	Kinnikinnick	X		X
Artemisia schmidtiana	Silver Mound Artemisia	X	X	X
BOTANIC NAME	***COMMON NAME***	***MEDIAN***	***S.T.***	***TREE LAWN***
Callirhoe involucrata	Mallow Poppy	X		X
Convallaria majalis	Lily-of-the-Valley	X		X
Cotoneaster dammeri 'Coral Beauty"	Coral Beauty Cotoneaster	X		X
Delosperma cooperi	Purple Ice Plant	X		X
Delosperma nubigenum	Hardy Yellow Ice Plant	X		X
Duchesnea indica	Mock Strawberry	X		X
Euonymus fortunei sp.	Wintercreeper	X		X
Fragaria vesca (syn. F. americana)	Wild Strawberry	X		X
Galium ordoratum	Sweet Woodruff	X		X
Gypsophila repens and cvs.	Creeping Baby's Breath	X		X
Hemerocallis	Stella D'Oro Daylily	X	X	X
Hedera Helix	English Ivy	X		X
Heuchera sp.	Coral Bells	X	X	X
Lysimachia nummularia	Moneywort	X		X
Mahonia Repens	Oregon Grape	X		X
Penstemon pinifolius	Pine-leaf Penstemon	X		X
Persicaria affinis and cvs. (syn Polygonum affine)	Himalayan Fleeceflower	X		X
Phlox subulata	Creeping Phlox	X		X
Potentilla tabernaemontani 'Nana'	Creeping Potentilla	X		X
Rosa Radrazz	Knockout Rose	X		
Sedum spurium and cvs.	Sedum	X	X	X
Sedum kantschaticum and cvs.	Sedum	X	X	X
Sedum acre and cvs	Sedum	X	X	X
Sempervivum arachnoideum and cvs.	Hen & Chicks, Cobweb Houseleek	X		X
Stachys byzantina and cvs.	Lambs' ear	X		X
Teucrium chamaedrys	Wall Germander	X		X
Thymus serpylum	Creeping Thyme	X		X
Veronica repens and cvs.	Creeping, Speedwell Veronica	X		X
Vinca minor	Periwinkle	X		X
Waldsteinia ternata, W. fragaroides	Barren Strawberry	X		X
Zinnia grandiflora	Paper flower, Wild Zinnia	X		X

GRASSES				
Agropyron cristatum	Crested Wheat Grass	X		
Calamagrostis acutiflora	Forester's Feather Reed Grass	X	X	X
Elymus arenarius	Blue Lyme Grass	X		X
Imperata cylindrica	Japanese Blood Grass	X		X
Phalaris arundinacea	Ribbon Grass	X		X

APPENDIX C

PROHIBITED TREE AND PLANT SPECIES

The following species of trees are prohibited in the right-of-way and shall not be permitted:

- Any of the poplar species (Populus sp.)
- Any of the willow species (Salix sp.)
- Box Elder (Acer negundo) – please note that the 'Sensation' variety is allowed in medians
- Siberian (Chinese) Elm (Ulmus pumila)
- Silver Maple (Acer saccharinum) or Autumn Blaze Maple (Acer freemanii)
- Fraxinus Ash trees, including Autumn Purple Ash, Empire Ash, Mancana Ash, Marshall's Green Ash, or Patmore Green Ash
- Russian Olive (Eleagnus angustofolia)
- Tree of Heaven (ailanthus altissima)
- Any weeping or pendulous type tree
- Any tree with bushy growth habit which cannot be maintained to a single leader or trunk (with the exception that such trees may be planted in the medians where they do not cause impede sight distance)
- Any tree which would obstruct, restrict, or conflict with the safe use of the right-of-way.
- Artificial trees, shrubs, turf, or plants (City approved art pieces are exempt)

Note: Mexican Feather Grass (Nassella Tenuissima) and all plant materials/trees listed within the Noxious Weed List, Categories A, B, or C, as published by the Colorado Department of Agriculture, are also prohibited and shall not be permitted.

APPENDIX D

PLANTING

Tree Planting

ISA tree planting specifications should be followed based on the site-specific condition, soil condition, and other factors.

APPENDIX E

MAINTENANCE

Tree Establishment and Maintenance

Help ensure tree survivability in this semi-arid environment by providing winter watering the first 3 years and through an evaluation by an arborist in year 3 on structural pruning and pest management. ANSI A300 Standards, developed by the Tree Care Industry Association for maintenance are recommended.

CITY OF LONE TREE
RESOLUTION NO. 20-21

A RESOLUTION ADOPTING THE CITY OF LONE TREE LANDSCAPE DESIGN GUIDELINES AND STANDARDS FOR AREAS IN AND ALONG PUBLIC RIGHTS-OF-WAY

WHEREAS, the City Council for the City of Lone Tree (the "City") is authorized to adopt land use regulations governing development within the City pursuant to its Home Rule Charter and Article 23, Title 31 of the Colorado Revised Statutes; and

WHEREAS, the City previously adopted Landscape Design Guidelines for Public Rights-of-Way via Resolution No. 17-14 ("Landscape Design Guidelines"); and

WHEREAS, the stated goal of the Landscape Design Guidelines is to communicate the aspects of good landscape design for streetscapes, and to provide a process for review and approval of landscaping in public rights-of-way; and

WHEREAS, the City now desires to update the Landscape Design Guidelines to clarify the landscape plan review process and its applicability to new development entryways; and

WHEREAS, the City Council desires to adopt the updated Landscape Design Guidelines as restated in the Landscape Design Guidelines and Standards for Areas in and along Public Rights-of-way ("Updated Landscape Design Guidelines"), attached as **Exhibit A**.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LONE TREE, COLORADO, THAT:

Section 1. The City Council hereby: (a) approves and adopts **The Landscape Design Guidelines and Standards for Areas in and along Public Rights-of-way**, attached as **Exhibit A**; (b) repeals the Landscape Design Guidelines previously adopted pursuant to Resolution No. 17-14; and (c) authorizes the Community Development Director to make minor, non-substantive modifications to the Updated Landscape Design Guidelines to correct clerical errors or information.

Section 2. The Landscape Design Guidelines and Standards for Areas in and along Public Rights-of-way adopted herein shall become effective upon the effective date of Ordinance No. 20-06.

APPROVED AND ADOPTED THIS 15TH DAY OF SEPTEMBER, 2020.

CITY OF LONE TREE

By: _____
Jacqueline A. Millet, Mayor

ATTEST:

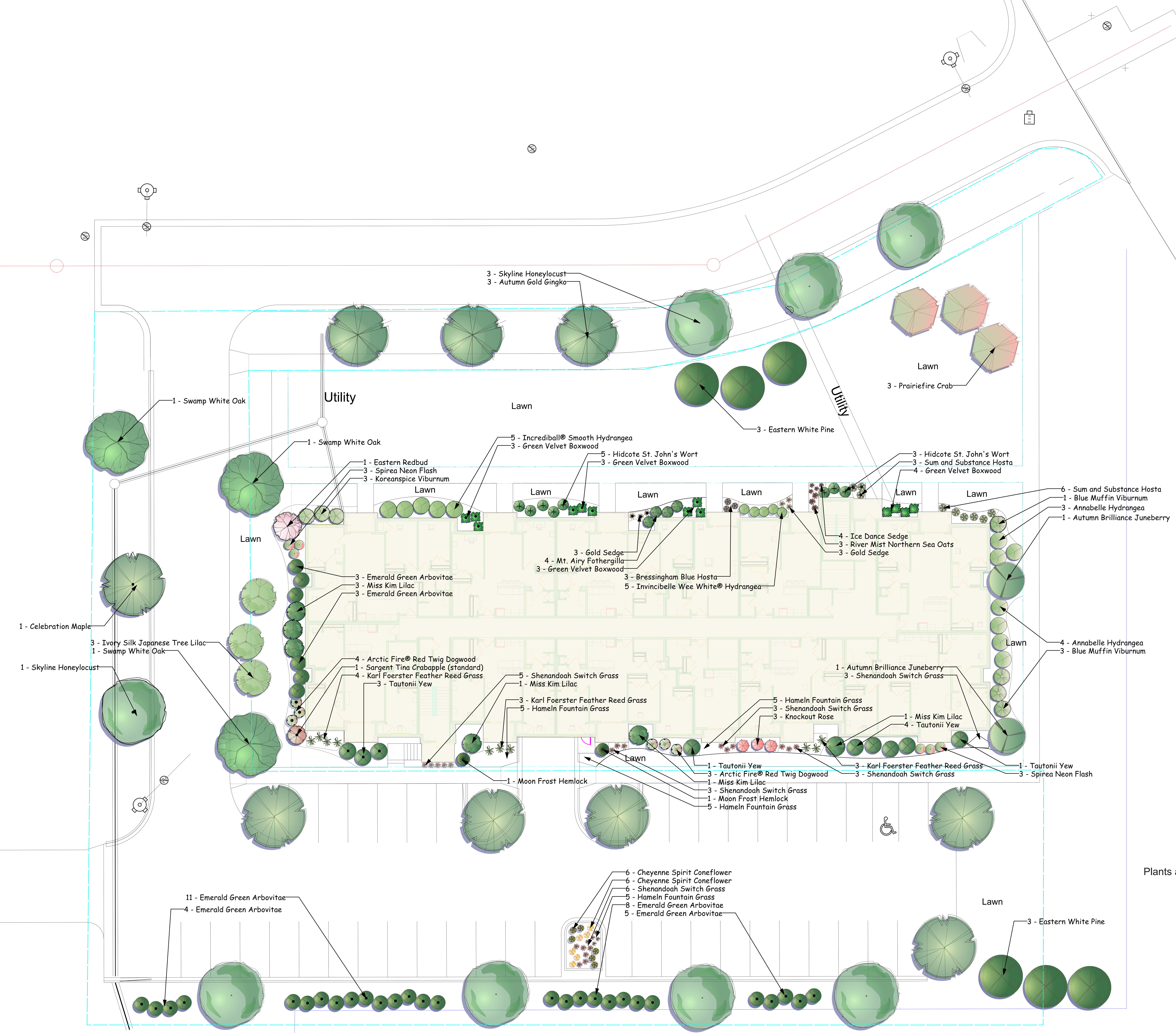
_____
Jay Robb, City Clerk

(SEAL)

EXHIBIT A

CITY OF LONE TREE LANDSCAPE DESIGN GUIDELINES AND STANDARDS FOR AREAS IN AND ALONG PUBLIC RIGHTS-OF-WAY

The attachment documents have yet to be executed/recorded.
When they are finalized this document will be updated.



LANDSCAPE POINT CALCULATIONS					
Paved areas: 1 large deciduous tree + 60 points / 1500 sq ft paved area Total 20 trees + 1198 pts					
Sidewalk: 4,958 sq ft = 3 trees plus 198 points					
Park and drive: 18,342 sq ft = 12 trees + 733 points					
Building foundation: 160 points / 100 ft Site measurements: 669'9" (linear feet) X 100 = 1,071.6 pts required				2470 pts	15 trees
PLANT LIST					
Latin Name	**Common Name**	**Quantity**	**Scheduled Size**	**Points Per Plant**	**Total Points**
Parking Area (15 Trees and 931 pts)	Park and drive: 18,342 sq ft = 12 trees +733 points		Sidewalk: 4,958 sq ft = 3 trees plus 198 points		
Acer x freemanii 'Celebration'	Celebration Maple	5			
Gleditsia triacanthos inermis 'Skyline'	Skyline Honeylocust	7			
Gingko biloba 'Autumn Gold'	Autumn Gold Gingko	3			
		15			
Quercus bicolor	Swamp White Oak	2	2in BB	300	300
Gingko biloba 'Autumn Gold'	Autumn Gold Gingko	3	#15	0	0
Thuja occidentalis 'Smaragd'	Emerald Green Arbovitae	28	#15	80	560
Gleditsia triacanthos inermis 'Skyline'	Skyline Honeylocust	8	3in BB	20	20
Acer x freemanii 'Celebration'	Celebration Maple	6	2in BB	20	20
Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass	5	1 Gal	0	0
Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	6	1 Gal	0	0
Hemerocallis 'Stella de Oro'	Stella de Oro Daylily	6	4.5in Pot	0	0
Echinacea 'Cheyenne Spirit'	Cheyenne Spirit Coneflower	6	4.5in Pot	0	0
		Perennials	144 Sq Ft	20 Pts/20 Sq Ft	144
				Total Points:	**1044**
Foundation	Requirement: 160 points / 100 ft Site measurements: 669'9" (linear feet) X 100 = 1,071.6 pts required				
Spiraea bumalda 'Neon Flash'	Spirea Neon Flash	6	15-18in	40	120
Hydrangea arborescens 'Invincibelle Wee White®'	Invincibelle Wee White® Hydrangea	5	#3	20	100
Buxus x sempervirens 'Green Velvet'	Green Velvet Boxwood	13	#2	80	260
Syringa 'Miss Kim'	Miss Kim Lilac	6	2-3ft	80	120
Cornus stolonifera 'Farrow' P.P. #18523	Arctic Fire® Red Twig Dogwood	7	3-4ft	40	140
Hypericum x 'Hidcote'	Hidcote St. John's Wort	8	5 Gal Pot	40	160
Tsuga canadensis 'Moon Frost'	Moon Frost Hemlock	2	24"	20	20
Taxus x media 'Tautonii'	Tautonii Yew	9	#5	80	180
Rosa 'Knockout'	Knockout Rose	3	2 Gal	20	60
Rudbeckia fulgida 'Goldsturm'	Goldsturm Black Eyed Susan	3	4.5in Pot	0	0
Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass	30	1 Gal	0	0
Echinacea 'Cheyenne Spirit'	Cheyenne Spirit Coneflower	3	4.5in Pot	0	0
Hemerocallis 'Stella de Oro'	Stella de Oro Daylily	3	4.5in Pot	0	0
Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	3	1 Gal	0	0
Thuja occidentalis 'Smaragd'	Emerald Green Arbovitae	6	#15	40	120
Viburnum carlesii	Koreanspice Viburnum	3	#5	40	120
"Hydrangea arborescens 'Abetwo' pp#20,571, cbr#41	Incrediball® Smooth Hydrangea	5	#1 Grade	20	100
Fothergilla gardenii 'Mt. Airy'	Mt. Airy Fothergilla	4	#5	40	160
Viburnum dentatum 'Christom'	Blue Muffin Viburnum	4	2-3ft	40	80
Hydrangea aborescens 'Annabelle'	Annabelle Hydrangea	7	#1 Grade	40	140
Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Juneberry	2	6ft BB	120	120
Malus sargentii 'Tina'	Sargent Tina Crabapple (standard)	1	3-4ft	60	60
Hosta 'Bressingham Blue'	Bressingham Blue Hosta	6	1 Gal	0	0
Carex elata 'Bowles Golden'	Gold Sedge	9	1 Gal	0	0
Chasmanthium latifolium 'River Mist'	River Mist Northern Sea Oats	3	1 Gal	0	0
Carex morrowii 'Ice Dance'	Ice Dance Sedge	4	4.5in Pot	0	0
Hosta 'Sum and Substance'	Sum and Substance Hosta	9	1 Gal	0	0
Calamagrostis acutifolia 'Karl Foerster'	Karl Foerster Feather Reed Grass	10	1 Gal	0	0
Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	17	1 Gal	0	0
			263 Sq Ft	20 Pts/20 Sq Ft	263
				Total Points:	**2323**
Yard requirements: 200 pts/5,000 sq ft total site area					
Yard: 5,000 sq ft = 200 pts					
Malus 'Prairiefire'	Prairiefire Crab	3	2in BB	60	180
Pinus strobus	Eastern White Pine	3	6ft BB	60	180
				Total Points:	**360**

Plants around the West, South, and East sides will be placed around AC units and gas/electric meters.

LANDSCAPE ARCHITECTURE, LLC
Artistic Landscape Design and Project Management

Phone: 608.798.1840
www.landscapearc.com
P.O. Box 46129 Madison, Wisconsin 53744

2014 Total Landscape Care landscaper of the Year finalist

LANDSCAPE PLAN

HUGHES & COYLE

WHITEWATER, WISCONSIN

WISCONSIN JOSEPH C HANAUER LA-286 MADISON WIS. LANDSCAPE ARCHITECT

NORTH

0 16 32 48 64 FT

SCALE	1/16"=1'-0"
DATE	July 1, 2021
DESIGN	jch
REVISION	
	L-1

Important Note: