



City of Middletown

DESIGN REVIEW AND PRESERVATION BOARD

LANDSCAPING GUIDELINES & SCORING SYSTEM

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**OBJECTIVES**

Landscaping is an important component for any development. Landscaping protects property values, provides privacy from visual intrusions, light, dirt, and noise, prevent the erosion of soil, and improve the quality of the environment and attractiveness of the commercial corridor.

The point system on the following page will establish the minimum threshold that your landscaping plan should surpass. The theory behind the point system is to provide 1 tree and 3 shrubs for every 500 square feet of property and 1 tree for every 20 parking spaces. However, what makes this point system better than merely mandating the ratios above, is that we allow greater flexibility in design and reward certain design decisions with bonuses. The elements that receive bonuses are planting preferred trees, mature trees, preserving existing trees, street trees, more parking lot trees and leaving large blocks of the property undeveloped.

The following point tables determine the number of points each new and preserved tree, shrub, or undeveloped land are worth. Calculate the total points earned to see if it meets the minimum required by the project.

On the following page is a list of preferred trees and shrubs that should be incorporated into all developments especially along the frontage, in and around the parking area and to screen portions of the structure that should not be seen by the general public.

- Requirement:
- 1) A Landscape Architect needs to develop the landscaping plan based on the characteristics of the property.
  - 2) Non-native invasive species are prohibited.

Definition: CALIPER – The diameter of the tree trunk measured at approximately a height of 4 feet.

1- PURPOSE AND INTENT- Landscaping is an important component for any development. Landscaping protects property values, provides privacy from visual intrusions, light, dirt, prevents the erosion of soil, and improves the quality of the environment and attractiveness of the commercial corridor.

The point system provide in section 3 will establish the minimum threshold that the landscaping plan should surpass. The theory behind the point system is to provide 1 tree and 3 shrubs for every 500 square feet of property and 1 tree for every 20 parking spaces up to the minimum required parking spaces. Proposed parking above the minimum requirement requires an additional 1 tree for every 5 of those parking spaces.

2- APPLICABILITY- This guidelines will be used to review new construction development, renovations or expansions where landscaping is a component of the project or should be considered as a opportunity for improvement as a result any proposed project.

3- CALCULATING MINIMUM LANDSCAPING POINTS THRESHOLD

Number of Parking Spaces \_\_\_\_\_ x 500 = \_\_\_\_\_ Parking Adjustment

Sq. Ft. of the Development Area \_\_\_\_\_ - Parking Adj. \_\_\_\_\_ = \_\_\_\_\_ \* 0.0005 = \_\_\_\_\_ Area points

Minimum Required Number of Parking Spaces \_\_\_\_\_ x 0.075 = \_\_\_\_\_ Parking Minimums points

Number of Parking Spaces over the minimum required \_\_\_\_\_ x 0.3 = \_\_\_\_\_ Excess Parking points

Area points	
Parking Minimum points	
+ Excess Parking points	
Total minimum threshold	

Percentage of points accumulated from trees should be at least 50% of the minimum threshold total points required. Points earned from trees, and bonus points 49.05(A), 49.05(B), 49.05(C) and 49.05(D) apply to this requirement.

A variety of trees and shrubs should be selected. No one species should dominate.

4- POINTS

Tree Points

Min, Size	Bolded Preferred		Preferred List		Other Species	
	New	Preserved	New	Preserved	New	Preserved
5 Inch Caliper or greater	3.5 pts.	4.5 pts.	1.75 pts.	2.25 pts.	1 pt.	1.5 pts.
4½ Inch Caliper	2.5 pts.	3 pts.	1.25 pts.	1.75 pts.	0.25 pts.	0.75 pts.
4 Inch Caliper	2.25 pts.	2.75 pts.	1 pt.	1.5 pts.	0 pts.	0.50 pts.
3½ Inch Caliper	1 pt.	1.5 pts.	0.75 pts.	1.25 pts.	0 pts.	0.25 pts.
3 Inch Caliper	0.5 pts.	1 pt.	0.50 pts.	1 pt.	0 pts.	0 pts.
2½ Inch Caliper or less	0 pts.	0 pts.	0 pts.	0 pts.	0 pts.	0 pts.

Shrub Points

Min. Size	Bolded Preferred		Preferred List		Other Species	
	New	Preserved	New	Preserved	New	Preserved
15 Gallon	0.9 pts.	1.8 pts.	0.8 pts.	1.6 pts.	0.4 pts.	0.5 pts.
5 Gallon	0.6 pts.	1.2 pts.	0.5 pts.	0.8 pts.	0.30 pts.	0.4 pts.
3 Gallon	0.3 pts.	0.6 pts.	0.2 pts.	0.4 pts.	0.1 pts.	0.15 pts.
1 Gallon	0 pts.	0 pts.	0 pts.	0 pts.	0 pts.	0 pts.

## 5- BONUS POINTS

- a. 3 points for each Street Tree along frontage with a municipal street or state highway.
- b. 1 point for each tree located within the parking lot. (Trees on buffers between parking and travel lanes are eligible) (Trees located around the edge of the parking lot or travel lanes are not eligible.)
- c. An additional 1.5 points for each tree within the parking lot over this number (parking spaces / 20)
- d. 5 points for each preserved tree that has a caliper equal to or greater than 3 inches and located within the area cleared for development, as determined by staff.
- e. 10 points for each block of 10,000 sq. ft. of developable property that is preserved with a conservation easement, or establishing a conservation easement on another property in the City that is accepted by the Planning and Zoning Commission in return for the bonus points.
- f. 1.5 points for each 500 sq. ft. of seasonal flower beds.
- g. 6 points for every 576 sq. ft. of landscaped islands in the parking lot, surrounded by four sides by parking or travel lanes and has no building or structure. To be eligible the islands need to be at least equal to or greater than 18 feet in width and have a length equal to or greater than 32 feet.
- h. 6 points for every 576 sq. ft. of bioretention facility or rain garden created. To be eligible bioretention or rain garden must meet standards that are provided in the Low-Impact Development Design Strategies: An Integrated Approach (Washington DC: United States Environmental Protection Agency, June 1999) and the Low-Impact Development Hydrologic Analysis (Washington DC: United States Environmental Protection Agency, July 1999).
- i. 1.5 points for each 500 sq. ft. of open grid pavement system or other pervious pavement or concrete material.
- j. 15 points for a each 500 sq. ft. of vegetated roof that can demonstrate a reduction in stormwater run-off and/or heat island effect.
- k. Bonus points for locating 75% of the parking to the side and rear of the building. Points earned are equal to the following calculation: Parking Minimum points \_\_\_\_\_ / 2 = \_\_\_\_\_.
- l. Bonus points for shorting the walking distance by having 75% of the parking within 120 feet of the site buildings. If shared parking is implemented than all structures associated with the share parking reduction can be used to determine eligible parking distances. Points earned are equal to the following calculation:  
Parking Minimum points \_\_\_\_\_ / 2 = \_\_\_\_\_.
- m. 1 point for each space eliminated from the minimum parking requirements from the adoption of a shared parking plan that is accepted by the Planning and Zoning Commission, as allowed by Section 40 of the Zoning Code. Developments that contain a mix of uses on the same parcel or multiple parcels with shared parking facilities, may reduce the amount of required parking in accordance with the following methodology, based on the shared parking table:
  - 1) Determine the minimum parking requirements in accordance with Section 40 for each land use as if it were a separate use;
  - 2) Multiply each amount by the corresponding percentages for each of the five time periods set forth in the Shared Parking Table.
  - 3) Calculate the total for each time period; and
  - 4) Select the total with the highest value as the required minimum number of parking spaces.

Shared Parking Table					
	Weekday	Weekday	Weekend	Weekend	
Nighttime	(9am-4pm)	(6pm-Mid)	(9am-4pm)	(6pm-Mid)	(Mid-6am)
Land Use	Daytime	Evening	Daytime	Evenings	Nighttime
Office/industrial	100%	10%	19%	5%	5%
Retail	60%	90%	100%	70%	5%
Hotel	75%	100%	75%	100%	75%
Restaurant	50%	100%	100%	100%	10%
Enter./Comm.	40%	100%	80%	100%	10%
Residential*	60%	100%	80%	100%	100%

## 6- LIST OF APPROVED TREES

### Coniferous Trees

#### Cedars

- Atlantic White Cedar (*Chamaecyparis thyoides*)
- Eastern Red-cedar (*Juniperus virginiana*)**
- Lebanon Cedar (*Cedrus libani*)**
- Northern White Cedar (*Thuja occidentalis*)

#### Pines

- Pitch Pine (*Pinus rigida*)
- Red Pine (*Pinus resinosa*)
- White Pine (*Pinus strobus*)

#### Spruces

- Black Spruce (*Picea mariana*)
- Colorado Blue Spruce (*Picea pungens*)**
- Norway Spruce (*Picea abies*)**
- Red Spruce (*Picea rubens*)

#### Hemlock

- Eastern Hemlock (*Tsuga canadensis*)**

### Deciduous Trees

#### Ashes

- Black Ash (*Fraxinus nigra*)
- Green Ash (*Fraxinus pensylvanica*)
- White Ash (*Fraxinus americana*)**

#### Birches

- Black Birch (*Betula lenta*)
- European Birch (*Betula pendula*)**
- Gray Birch (*Betula populifolia*)
- Paper Birch (*Betula papyrifera*)

#### Fruit Trees (*all fruit trees selected for a project should not bear fruit*)

- Allegheny Plum (*Prunus alleghaniensis*)
- American Plum (*Prunus americana*)
- Apple (*Malus domestica*)**
- Black Cherry (*Prunus serotina*)
- Choke Cherry (*Prunus virginiana*)
- Flowering Plum (*Prunus cerasifera*)**

- Pears (*Pyrus communis*)
- Pin Cherry (*Prunus pensylvanica*)

#### Chestnuts

- American Chestnut (*Castanea dentata*)
- American Hybrid-cross (*Castanea spp.*)

#### Cottonwoods/Aspens

- Eastern Cottonwood** (*Populus deltoides*)
- Bigtooth Aspen (*Populus grandidentata*)
- Quaking Aspen (*Populus tremuloides*)
- Swamp Cottonwood (*Populus heterophylla*)

#### Elms

- American Elm** (*Ulmus americana*)
- Japanese Elm** (*Ulmus davidiana*)
- Princeton Elm** (*Ulmus americana*)
- Slippery Elm** (*Ulmus rubra*)

#### Hawthornes

- Cockspur Hawthorne (*Crataegus crus-galli*)
- Dotted Hawthorne (*Crataegus punctata*)
- Fleshy Hawthorne (*Crataegus succulenta*)
- Frosted Hawthorne (*Crataegus pruinosa*)
- Round-leaved Hawthorne (*Crataegus chrysoarpa*)

#### Hickories

- Bitternut Hickory (*Carya cordiformis*)
- Pignut Hickory (*Carya glabra*)
- Mockernut Hickory (*Carya tomentosa*)
- Shagbark Hickory (*Carya ovata*)

#### Maples

- Black Maple** (*Acer nigrum*)
- Boxelder (*Acer negundo*)
- Japanese Maple** (*Acer palmatum*)
- Mountain Maple (*Acer spicatum*)
- Red Maple** (*Acer rubrum*)
- Rock Maple** (*Acer glabrum*)
- Silver Maple** (*Acer saccharinum*)
- Sugar Maple (*Acer saccharum*)

#### Oaks

- Black Oak (*Quercus velutina*)
- Chestnut Oak (*Quercus prinus*)
- Chinquapin Oak (*Quercus muehlenbergii*)
- Northern Red Oak** (*Quercus rubra*)
- Pin Oak** (*Quercus palustris*)
- Post Oak (*Quercus stellata*)
- Scarlet Oak (*Quercus coccinea*)
- Swamp White Oak (*Quercus bicolor*)
- White Oak** (*Quercus alba*)

#### Walnuts

- Black Walnut (*Juglans nigra*)
- Butternut Walnut (*Juglans cinera*)

#### Other Native Deciduous Trees

- American Basswood (*Tilia americana*)
- American Beech** (*Fagus grandifolia*)
- American Holly** (*Ilex opaca*)
- American Hornbeam (*Carpinus caroliniana*)
- American Linden** (*Tilia Americana*)
- American Mountain-ash (*Sorbus americana*)
- American Sycamore** (*Platanus occidentalis*)
- Black Gum (*Nyssa sylvatica*)
- Common Persimmon (*Diospyros virginiana*)
- Crack Willows** (*Salix fragilis*)
- Eastern Hophornbeam (*Ostrya virginiana*)
- European Beech** (*Fagus sylvatica*)
- Flowering Dogwood** (*Cornus florida*)
- Ginkgo** (*Ginkgo biloba*)
- Gray Poplar** (*Populus x canescens*)
- Hackberry (*Celtis occidentalis*)
- Honey Locust** (*Gleditsia triacanthos*)
- London Plane** (*Platanus x hispanica*)
- Redbud** (*Cercis canadensis*)
- Red Mulberry** (*Morus rubra*)
- Sassafras (*Sassafras albidum*)
- Saucer Magnolia** (*Magnolia x soulangiana*)
- Sweetgum (*Liquidambar styraciflua*)
- Tulip Tree** (*Liriodendron tulipifera*)
- Willow (*Salix spp.*)

#### 7-LIST OF APPROVED SHRUBS

##### Dogwoods

- Alternate-leaf Dogwood (*Cornus alternifolia*)
- Gray Dogwood (*Cornus racemosa*)
- Red-osier Dogwood (*Cornus sericea*)
- Roundleaf Dogwood (*Cornus rugosa*)
- Silky Dogwood (*Cornus amomum*)

##### Honeysuckles

- American Fly Honeysuckle (*Lonicera canadensis*)
- Swamp Fly Honeysuckle (*Lonicera oblongifolia*)

##### Laurels

- Bog Laurel (*Kalmia polifolia*)
- Mountain Laurel** (*Kalmia latifolia*)
- Sheep Laurel, Lambkill (*Kalmia angustifolia*)

##### Maples

- Mountain Maple (*Acer spicatum*)
- Striped Maple (*Acer pensylvanicum*)

##### Rhododendrons

- Swamp Azalea (*Rhododendron viscosum*)
- Wild Honeysuckle (*Rhododendron nudiflorum*)

##### Sumacs

- Shining Sumac (*Rhus copallina*)
- Smooth Sumac (*Rhus glabra*)
- Staghorn Sumac (*Rhus typhina*)

#### Viburnums

- American Cranberry Bush (*Viburnum trilobum*)
- Arrowwood (*Viburnum dentatum*)
- Hobblebush (*Viburnum alnifolium*)
- Mapleleaf Viburnum (*Viburnum acerifolium*)
- Nannyberry (*Viburnum lentago*)
- Witherod, Wild Raisin (*Viburnum cassinoides*)

#### Other Native Shrubs

- Bayberry (*Myrica pensylvanica*)
- Black Chokeberry (*Aronia melanocarpa*)
- Bladdernut (*Staphylea trifolia*)
- Bush Honeysuckle (*Diervilla lonicera*)
- Buttonbush (*Cephalanthus occidentalis*)
- Canada Yew (*Taxus canadensis*)
- Common Juniper (*Juniperus communis*)
- Elderberry (*Sambucus canadensis*)
- Highbush Blueberry (*Vaccinium corymbosum*)
- Huckleberry, Maleberry (*Lyonia ligustrina*)
- Jersey Tea (*Ceanothus americanus*)
- Labrador Tea (*Ledum groenlandicum*)
- Leatherleaf (*Chamaedaphne calyculata*)
- Leatherwood (*Dirca palustris*)
- Meadowsweet Spiraea (*Spiraea latifolia*)
- Mountain Holly (*Nemopanthus mucronata*)
- Shadbush, Serviceberry (*Amelanchier canadensis*)
- Shrubby Cinquefoil (*Potentilla fruticosa*)
- Spicebush (*Lindera benzoin*)
- Summersweet or Sweet Pepperbush (*Clethra alnifolia*)
- Sweet Fern (*Comptonia peregrina*)
- Winterberry (*Ilex verticillata*)
- Witch-hazel (*Hamamelis virginiana*)

### 8- INVASIVE SPECIES PROHIBITION AND ERADICATION

The following is a list of recognized invasive species for the State of Connecticut. Their use is prohibited on any proposed development. Developers are also encouraged to eradicate any invasive species known to exist on the property in order to maintain compliance to section 55.10 of this Zoning Code.

#### Trees Species

- Amur Maple (*Acer ginnala* L.)
- Black Locust (*Robinia pseudo-acacia* L.)
- Norway Maple (*Acer platanoides* L.)
- Princess Tree (*Paulownia tomentosa*) a.k.a. *Empress-tree*
- Sycamore Maple (*Acer pseudoplatanus* L.)
- Tree of Heaven (*Ailanthus altissima* (Mill.) Swingle)
- White Poplar (*Populus alba* L.)

#### Shrubs Species

- Amur Honey Suckle (*Lonicera maackii* (Rupr.) Maxim.)
- Autumn Olive (*Elaeagnus umbellata* Thunb.)
- Bell's Honeysuckle (*Lonicera X bella* Zabel) a.k.a. *Belle Honeysuckle*
- Border Privet (*Ligustrum obtusifolium* Sieb. & Zucc.)

- California Privet (*Ligustrum ovalifolium* Hassk.)
- Common Barberry (*Berberis vulgaris* L.)
- Common Buckthorn (*Rhamnus cathartica* L.)
- Dwarf Honeysuckle (*Lonicera xylosteum* L.) a.k.a. *European Fly-Honeysuckle*
- European Privet (*Ligustrum vulgare* L.)
- False Indigo (*Amorpha fruticosa* L.)
- Glossy Buckthorn (*Frangula alnus* Mill., or *Rhamnus frangula*) a.k.a. *European Buckthorn*
- Japanese Barberry (*Berberis thunbergii* DC.)
- Morrow's Honeysuckle (*Lonicera morrowii* A. Gray)
- Multiflora Rose (*Rosa multiflora* Thunb.)
- Rugosa Rose (*Rosa Rugosa* Thunb.) a.k.a. *Beach, Salt spray, Japanese, or Ramanas Rose*
- Russian Olive (*Elaeagnus angustifolia* L.)
- Tatarian Honeysuckle (*Lonicera tatarica* L.)
- Wineberry (*Rubus phenicolasius* Maxim.)
- Winged Euonymus (*Euonymus alatus* (Thunb.) Sieb.) a.k.a. *Burning-bush*

#### Herbaceous Species

- Bittersweet Nightshade (*Solanum dulcamara* L.) a.k.a. *Climbing Nightshade*
- Black Swallow-wort (*Cynanchum louiseae* Kartesz & Gandhi, or *Vinceroxicum*, or *Cynanchum nigrum*)
- Bristled Knotweed (*Polygonum caespitosum* Blume) a.k.a. *Smartweed*
- Canada Thistle (*Cirsium arvense* (L.) Scop.)
- Coltsfoot (*Tussilago farfara* L.)
- Common Kochia (*Kochia scoparia* (L.) Schrad.) a.k.a. *Summer cypress; Fireweed*
- Crested Late-summer Mint (*Elsholtzia ciliate* (Thunb.) Hylander) a.k.a. *Elsholtzia*
- Cup Plant (*Silphium perfoliatum* L.)
- Cypress Spurge (*Euphorbia cyparissias* L.)
- Dame's Rocket (*Hesperis matronalis* L.)
- Fig Buttercup (*Ranunculus ficaria* L.) a.k.a. *Lesser celandine*
- Garden Heliotrope (*Valeriana officinalis* L.) a.k.a. *Valerian*
- Garden Loosestrife (*Lysimachia vulgaris* L.)
- Garlic Mustard (*Alliaria petiolata*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Giant Knotweed (*Polygonum sachalinense*)
- Goutweed (*Aegopodium podagraria* L.)
- Ground Ivy (*Glechoma hederacea* L.) a.k.a. *Run-away robin, Gill-over-the-ground*
- Japanese Hops (*Humulus japonica* Thunb.)
- Japanese Knotweed (*Polygonum cuspidatum* Sieb. & Zucc., or *Fallopia japonica*)
- Jimsonweed (*Datura stramonium* L.)
- Leafy Spurge (*Euphorbia esula* L.)
- Mile-a-minute Vine (*Polygonum perfoliatum* L.)
- Moneywort (*Lysimachia nummularia* L.) a.k.a. *Creeping jenny*
- Narrowleaf Bittercress (*Cardamine impatiens* L.)
- Ornamental Jewelweed (*Impatiens glandulifera* Royle) a.k.a. *Tall impatiens*
- Pale Swallow-wort (*Cynanchum rossicum* (Kleo.) Borhidi, or *Vincetoxicum rossicum*)
- Perennial Pepperweed (*Lepidium latifolium* L.) a.k.a. *Tall pepperwort*
- Ragged Robin (*Lychnis flos-cuculi* L.)
- Scotch Thistle (*Onopordum acanthium* L.)
- Sheep Sorrel (*Rumex acetosella* L.)
- Slender Snake Cotton (*Froelichia gracilis* (Hook.) Moq.) a.k.a. *Cottonweed*
- Spotted Knapweed (*Centaurea biebersteini* DC., or *Centaurea maculosa*)
- Star-of-Bethlehem (*Ornithogalum umbellatum* L.)
- Tansy Ragwort (*Senecio jacobaea* L.) a.k.a. *Stinking Willie*

#### Woody Vine Species

- Japanese Honeysuckle (*Lonicera japonica* Thunb.)

- Kudzu (*Pueraria Montana (Lour.) Merr., or Pueraria lobata*)
- Oriental Bittersweet (*Celastrus orbiculatus Thunb.*) a.k.a. Asiatic bittersweet
- Porcelainberry (*Ampelopsis brevipedunculata*)

#### Grass & Grass Like Species

- Canada Bluegrass (*Poa compressa L.*)
- Common Reed (*Phragmites australis (Cav.) Trin.*) a.k.a. Phragmites
- Drooping Brome-grass (*Bromus tectorum L.*) a.k.a. Cheatgrass
- Eulalia (*Miscanthus sinensis Anderss.*) a.k.a. Chinese or Japanese silvergrass
- Hairy Jointgrass (*Arthraxon hispidus (Thunb.) Makino*) a.k.a. small crapgrass
- Japanese Sedge (*Carex kobomugi Owhi*)
- Japanese Stilt Grass (*Microstegium vimineum*)
- Reed Canary Grass (*Phalaris arundinacea L.*)
- Reed Mannagrass (*Glyceria maxima (Hartman) Holmberg*) a.k.a. Tall mannagrass

#### Aquatic & Wetland Species

- American Water Lotus (*Nelumbo lutea (Wild.) Pers.*) a.k.a. American lotus-lily
- Brazilian Water-weed (*Egeria densa Planchon*) a.k.a. Anacharis, Egeria
- Brittle Water-nymph (*Najas minor All.*) a.k.a. Eutrophic water-nymph
- Common Water-hyacinth (*Eichhornia crassipes (Mart.) Solms*)
- Crispy-leaved Ponderweed (*Potamogeton crispus L.*) a.k.a. Curly or Curly-leaved pondweed
- Eurasian Watermilfoil (*Myriophyllum spicatum L.*)
- European Watercress (*Marsilea quadrifolia L.*) a.k.a. Water shamrock
- Fanwort (*Cabomba caroliniana A. Gray*)
- Flowering Rush (*Butomus umbellatus L.*)
- Forget-me-knot (*Myosotis scorpioides L.*) a.k.a. True forget-me-not, or Water scorpion-grass
- Giant Salvinia (*Salvinia molesta Mitchell complex*)
- Hydrilla (*Hydrilla verticillata (L.f.) Royle*)
- Onerow Yellowcress (*Rorippa microphylla*)
- Parrotfeather (*Myriophyllum aquaticum*)
- Pond Water-Starwort (*Callitriche stagnalis Scop.*)
- Purple Loosestrife (*Lythrum salicaria L.*)
- Variable-leaf Watermilfoil (*Myriophyllum heterophyllum Michx.*)
- Water Chestnut (*Trapa natans L.*)
- Water Lettuce (*Pistia stratiotes L.*)
- Watercress (*Rorippa nasturtium-aquaticum*)
- Yellow Floating Heart (*Nymphoides peltata (Gmel.) Kuntze*)
- Yellow Iris (*Iris pseudacorus L.*)