Hoboken Shade Tree Commission

New Street Tree Installation Specifications

1. Permitting

Owner is responsible for obtaining any/all required permits as described in the City of Hoboken Municipal Code, Chapter____62___, Article ____7____ (Trees and Tree Maintenance).

2. Tree Pit Dimensions

The minimum approved tree pit size for the City of Hoboken is fifteen square feet (15 ft^2). However, tree pits measuring less than thirty square feet (30 ft^2) will only be approved in locations where planting buffer (pavers) and/or sidewalk width prohibits larger pit size. Final tree pit size is subject to the approval of the Hoboken Shade Tree Commission (HSTC).

3. Tree Selection

Species

See updated list of approved street trees for the City of Hoboken as provided by the HSTC. It is the general recommendation of the HSTC that species selection match or coordinate (species, variety, canopy shape, growth habits, fall color, flowering/non-flowering) with existing dominant species within two (2) block radius of new planting location. Final tree species selection is subject to the approval of the HSTC.

Caliper

The minimum approved D.B.H. (diameter of tree measured at breast height, approximately four and one-half feet (4.5') from the ground) for the City of Hoboken is two inches (2"). However, trees with calipers less than three inches (3") will only be approved in locations where approved tree pit dimensions measure less than twenty-five square feet (25 ft^2) and pit cannot be expanded. Final tree caliper selection is subject to the approval of the HSTC.

4. Transportation

Trees are to be transported to the site in a covered vehicle that prevents wind and temperature extremes. Trees should be well watered prior to transporting and checked for moisture at arrival. On site plant material is to be maintained under shade and irrigated twice daily. Trees should be protected from extreme temperatures, freezing or extreme heat. Always handle trees by the root ball using straps or powered equipment and do not lift using branches or the trunk. The trunk should be wrapped during shipping and the planting process for protection (all wrapping to be removed after installation is complete).

5. Planting Seasons

Trees may be planted in the fall from October 1st through December 1st and in the spring from March 1st through May 31st. No planting is permitted in the summer.

6. Installation

See ***"New Street Tree Installation Specification"*** (attached).
Tree pit should be dug at least three (3) times wider than the root ball to allow easy access by the roots into the surrounding soil and no deeper than the root ball. Extreme care shall be taken not to excavate to a depth greater than required. All ropes, stones, heavy clay soils, and all other undesirable materials shall be removed from the excavated tree pit before backfilling. All excavated materials shall be removed from the site and disposed of. All known underground utilities to be marked prior to excavation. Where subsurface obstructions (vaults, utilities, sprinklers) are encountered during excavation, and restrict the planting of a tree Contractor shall restore the disturbed area to its original condition. If damage is done to an underground obstruction it is the responsibility of the Contractor to restore the site to its original condition. A new planting location will be designated if conditions permit.

Side walls of tree pit to be "scored" to release compaction, prevent glazing and encourage lateral root growth and proper drainage.

Cut and remove burlap from the top fifty percent of the rootball. Entire wire basket to be removed prior to planting.

The subgrade below the root ball shall be tamped slightly to prevent settlement. Set the tree straight and in the ***center of the pit***. All trees shall sit, after settlement, with the base of the trunk and the beginning of the roots known as the "trunk flare" level with the sidewalk grade. If the top of the rootball is not consistent with this area, soil will be added or removed below the rootball to make it so, and the depth of the planting site adjusted accordingly.

Slice a shovel or spade around the backfill to settle the soil and remove air pockets. Do not step firmly on the backfill, which may cause excessive compaction. At no time should topsoil be mounded to cover the trunk of the tree. **The trunk flare shall always be visible**.

The City of Hoboken and the HSTC requires that new tree installations be insured with ***at least a two (2) year warrantee*** provided by the Contractor/nursery to ensure the healthy established growth of new trees.

7. Backfill

Soil removed from excavation of tree pit to be amended before backfill. Contractor to mix materials on-site so that backfill material is comprised of *two (2) parts native soil, one (1) part screened topsoil and one (1) part peat moss (or HSTC approved alternative)*. All undesirable materials shall be removed from native soil prior to mixing. Amended backfill material to be thoroughly mixed prior to installation.

8. Staking

All staking should be done at the time of planting and shall be maintained for one (1) year after planting date. Stakes shall be white cedar (or approved equal) and show no signs of cracking or decay. All trees shall be supported by two (2) stakes measuring eight (8) feet in length. The diameter of the stake should taper from a maximum of three (3) inches at the butt to at least two (2) inches, no more than two and three quarters (2-3/4) inches in the middle. Stakes shall be white cedar (or HSTC approved equal) and

show no signs of cracking or decay. Stakes shall be located outside of the root ball and hammer driven thirty (30) inches into the ground reaching the undisturbed subgrade of the tree pit. Stakes shall be securely fastened to the tree using ¾" wide, flat, woven Arbortie™ material (or approved equal). Unless directed otherwise by the HSTC, stakes and ties are to be removed after one (1) year and holes left by the stakes to be filled with approved topsoil. After planting, stakes need to be regularly monitored and adjusted to ensure proper growing habits.

9. Mulching

Mulch shall be applied at a uniform depth of three (3) inches with a gap of approximately two (2) inches left between the mulch and "truck flare". Approved bark mulch shall be generally brown or black in color. Mulch should never be mounded above the trunk flare. Conditions such as heavy rain, strong wind and foot traffic may require that mulch be added at other times throughout the year. There should never be a drop in elevation from sidewalk/curb into the tree pit.

10. Pit Guards

Tree pit guards are the best way to protect urban trees and supplemental plantings from compaction, pet damage, garbage collection, etc. It is the general recommendation of the HSTC that tree put guards be installed with all new street tree plantings. Tree pit guards should be black in color and constructed of cast iron, wrought iron or other HSTC approved material. Approved tree pit guards will measure no more than eighteen inches (18") inches and no less than twelve inches (12") in height. In instances where tree pits extend all the way to the curb and on-street parking exists, tree pit guards should be constructed with three (3) sides (2 tapered sides) only.

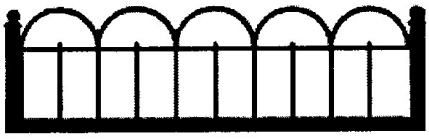
Three (3) sided tree pit guards provide more space for opening car doors and ensure clearance from passing snow plows.

Four (4) sided pit guards will be approved in locations where:

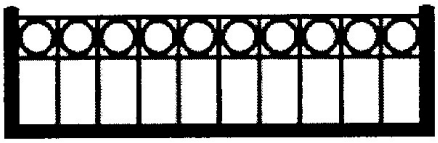
- There is no on-street parking
- There is at least three feet (3') between the curb and the edge of the tree pit

Residents must choose from three (3) tree pit designs approved by the HSTC and City of Hoboken Historic Preservation Commission (see below). Final tree pit guard design selection is subject to the approval of the HSTC.

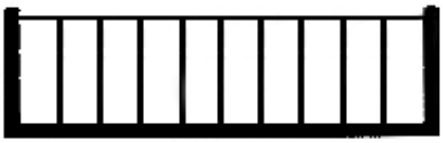
Tree Guard Type A



Tree Guard Type B



Tree Guard Type C



11. Watering

At the time of planting, the soil around each tree shall be thoroughly saturated and twenty (20) gallon "TreeGator" watering bag filled with water. "TreeGator" bags are to be installed May 1st through October 1st (All new plantings to have watering bags installed at time of planting). Suggested watering rate is ten (10) gallons/week per 1" caliper. Watering bags to be installed during specified months for three (3) years after planting. After three (3) years trees should be watered as necessary.

12. Supplemental Plantings

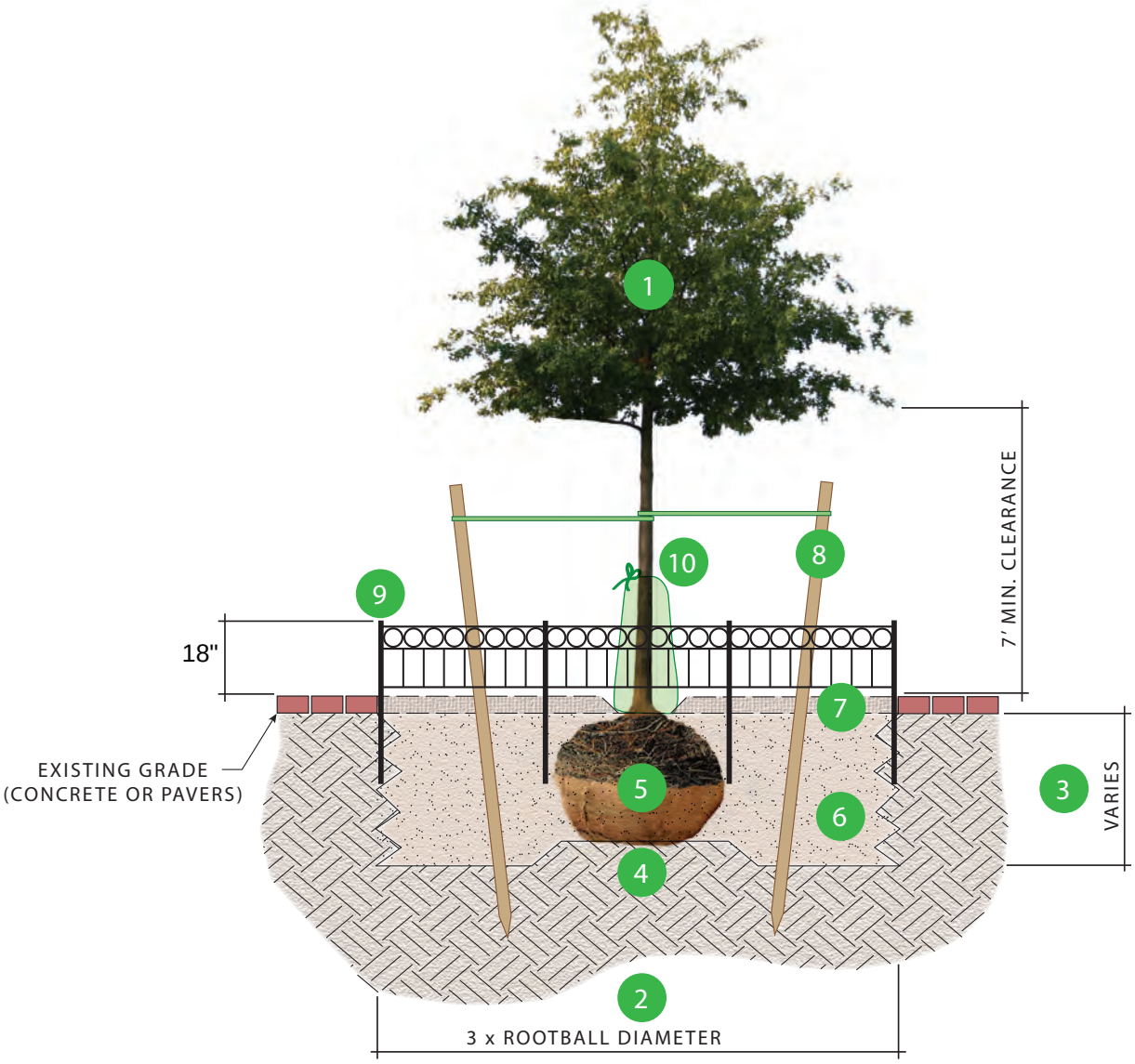
Perennial and annual planting variety/species are subject to the approval of the HSTC. Generally, the HSTC does not recommend planting woody shrubs or vines in tree pits because these plants compete with trees for soil nutrients and water.

13. Maintenance

Proper maintenance is essential for successful urban tree growth. See HSTC ***"Tree Maintenance Recommendations"*** (attached)

FIGURE 1

New Street Tree
Installation Specifications



1. Species/Variety as approved by HSTC (2" MIN. caliper, 7' MIN. clearance from branching)
2. Width of tree pit equal to at least 3x root ball diameter.
3. Depth of pit to vary depending on height of root ball (2' TYP.)
4. Undisturbed/Compacted subgrade as "shelf" for root ball
5. Remove entire wire basket and top 1/2 of burlap from root ball
6. Backfill mixture as specified
   -"Score" sidewalls to release compaction and promote lateral root growth and drainage
7. 3" uniform mulch layer (stopped short of trunk flare approx. 2-3")
8. 3" diameter wood stakes (set outside of root ball) secured with "Arborties"
9. Iron tree pit guard as approved by HSTC (18" height TYP.)
10. 20 gallon "Treegator" bag

HSTC

FIGURE 2:
3 Sided Tree Pit Guard

Hoboken Shade Tree Commission

FIGURE 3
Tree Maintenance Recommendations

1. Watering

At the time of planting, the soil around each tree shall be thoroughly saturated and twenty (20) gallon "TreeGator" watering bag filled with water. "TreeGator" bags are to be installed May 1st through October 1st (All new plantings to have watering bags installed at time of planting). Suggested watering rate is ten (10) gallons/week per 1" caliper. Watering bags to be installed during specified months for three (3) years after planting. After three (3) years trees should be watered as necessary. See suggested watering schedule below for trees under three (3) years of age.

May: Fill bags once every week

June-August: Fill bags twice every week

Sept: Fill bags once every week

All supplemental annual/perennial plantings to be watered as necessary to maintain a healthy soil moisture level (daily watering may be required June-August).

**NOTE: During especially hot/dry or cool/wet periods of weather, watering schedules may need to be increased or decreased accordingly.*

2. Staking

All staking should be done at the time of planting and shall be maintained for one (1) year after planting date. Stakes shall be white cedar (or approved equal) and show no signs of cracking or decay. All trees shall be supported by two (2) stakes measuring eight (8) feet in length. The diameter of the stake should taper from a maximum of three (3) inches at the butt to at least two (2) inches, no more than two and three quarters (2-3/4) inches in the middle. Stakes shall be located outside of the root ball and hammer driven thirty (30) inches into the ground reaching the undisturbed subgrade of the tree pit. Stakes shall be securely fastened to the tree using ¾" wide, flat, woven Arbortie™ material (or approved equal). Unless directed otherwise by the HSTC, stakes and ties are to be removed after one (1) year and holes left by the stakes to be filled with approved topsoil. After planting, stakes to be regularly monitored and adjusted to assure proper growing habits.

3. Aerating/Cultivating and Weeding

All tree pits shall be aerated/cultivated at least twice per year to break up compaction and allow water and oxygen to freely drain to the roots. Soil shall be hand cultivated at a depth of one (1) inch to four (4) inches, depending on the root structure of the tree. Careful attention should be given to protect shallow tree roots. Cultivation should always occur before seasonal mulching but is recommended anytime soil compaction is evident. For compacted soils with existing mulch cover; rake mulch aside before cultivating soil and replace after cultivation. All tree pits shall be kept clean of weeds and other non-approved plantings. Weeding shall be completed at least every three (3) weeks between May 15th and October 31st.

4. Mulching

Approved bark mulch shall be generally brown in color. Mulching should be completed in late fall and supplemented in the spring to assure proper coverage for both the winter and spring/summer seasons. Mulch shall be applied at a uniform depth of three (3) inches with a gap of approximately two (2) inches left between the mulch and truck flare. Mulch should never be mounded above the trunk flare. Conditions such as heavy rain, strong wind and foot traffic may require that mulch be added at other times throughout the year. Tree pits should be checked monthly to ensure a uniform 3” mulch layer exists and that the top of mulch sits flush with the surrounding finish grade. There should never be a drop in elevation from sidewalk/curb into the tree pit.

5. Pruning

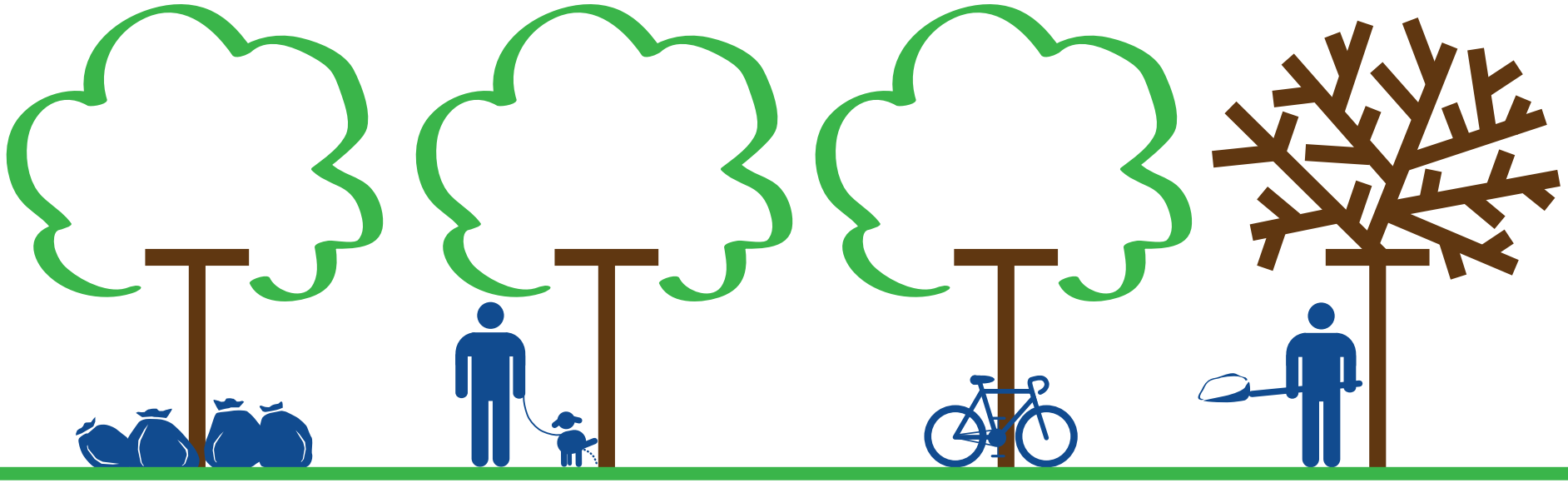
Pruning should not take place until at least 2 years after planting. Anticipated pruning techniques and process shall be approved by the HSTC or its representative as part of the tree permit application process. The ideal time for pruning of live branches is March and early April when pests are at a minimum and pruning wounds can quickly heal as the growing season begins. Dead wood should be removed any time of the year. Root flares and/or suckers should be removed in early summer (after spring growth) as part of the summer maintenance program.

FIGURE 4: Street Trees for Hoboken

This list of tree species is approved by the Hoboken Shade Tree Commission for planting in sidewalk tree pits. Superior cultivars may be substituted with the permission of the Department of Enviornmental Services.
Call (201) 420-2049 to request a tree, for a permit (free) to plant a tree on your own, or to donate money to plant a tree. Permits and other useful information about trees and the Shade Tree Commission can be found here: http://www.hobokennj.org/boards/shade-tree-commission/

	Tree Species		Shape	Size	Growth Rate		Visual Interest		Environmental Tolerances	Environmental Sensitivities	Asian LH Beetle	Notes
	Scientific Name	Common Name			Slow	Medium	Ornamental	Color			Quarantine?	
1	Eucommia ulmoides	Hardy Rubber Tree	Rounded	LG | 50' +	z				Drought / Wide pH / Full Sun			
2	Ginkgo biloba	Ginkgo	Upright	LG | 50' +	z			Yellow	Drought / Salt / High pH	Permanently Wet Soils	No	Male Only - Does Not Bear Fruit Excellent Median Tree
3	Gleditsia triacanthos inermis	Honeylocust	Irregular	LG | 50' +		z		Yellow	Wet or Dry Soils / Salt / High pH		No	Excellent Median Tree
4	Gymnocladus dioicus	Kentucky Coffeetree	Rounded	LG | 50' +		z			Drought / Salt	Needs large pits	No	Male Preferred - Does Not Bear Fruit Tree Does Best in Lawn Pits
5	Liquidambar styraciflua	Sweetgum	Pyramidal	LG | 50' +		z		Yellow Red	Wet or Dry Soils / Full Sun / Pollution	Drought / High pH	No	Plant Spring Only, Messy Fruit Tree Does Best in Lawn Pits
6	Liriodendron tulipifera	Tulip Tree	Pyramidal	LG | 50' +		z		Yellow		Needs space / Drought	No	Plant Spring Only, Tree Does Best in Lawn Pits
7	Metasequoia glyptostroboides	Dawn Redwood	Pyramidal	LG | 50' +		z	Needles	Needles	Wet and Dry Soils / High pH	Salt / Needs Large Pits	No	Can Grow 2 to 3 Feet per Year
8	Quercus bicolor	Swamp White Oak	Rounded	LG | 50' +	z		Bark	Yellow / Red	Wet soils / Acidic Soils	High pH	No	Plant Spring Only
9	Quercus imbricaria	Shingle Oak	Rounded	LG | 50' +		z		Yellow Red	Drought / Wide Range of Soil Condition		No	Plant Spring Only
10	Quercus palustris	Pin Oak	Pyramidal	LG | 50' +		z		Maroon	Wet or dry soils	High pH	No	Excellent Median Tree
11	Quercus phellos	Willow Oak	Rounded	LG | 50' +	z			Yellow Orange	Drought / Wet or dry soils	High pH	No	Plant Spring Only Can Adapt to Almost Any Habitat
12	Quercus rubra	Northern Red Oak	Rounded	LG | 50' +		z		Maroon	Compaction	Drought / High pH	No	Plant Spring Only
13	Quercus spp. 'Fastigiata'	Fastigiata Oak	Columnar	LG | 50' +	z			Maroon	Wet or dry soils	High pH	No	Excellent Median Tree
14	Styphnolobium japonicum	Scholar Tree	Rounded	LG | 50' +		z	Flowers	Cream	Drought / Salt / Compaction		No	Excellent Median Tree
15	Taxodium distichum	Baldcypress	Pyramidal	LG | 50' +		z	Needles	Needles	Wide Range of Soil Conditions	Shade / High pH	No	Plant Spring Only / Ideal For Wet Soils
16	Tilia americana	Basswood / American Linden	Rounded	LG | 50' +		z	Flowers	Cream Yellow / Green	Drought / Wide pH / Wet soils	Salt / Air Pollution	No	Lindens are AKA Lime Trees. Excellent Tree for Partial Shade, Fragrant Flowers
17	Tilia cordata	Littleleaf Linden	Pyramidal	LG | 50' +		z	Flowers	Cream Yellow	Pollution	Salt / Drought	No	Fragrant Flowers
18	Tilia x euchlora	Crimean Linden	Rounded	LG | 50' +		z	Flowers	Cream Yellow	Drought / Pollution		No	Pest Resistant
19	Tilia tomentosa	Silver Linden	Rounded	LG | 50' +		z	Flowers	Cream	Drought / Salt		No	Fragrant Flowers Under Side of Leaf is Silver
20	Zelkova serrata	Japanese Zelkova	Vase-Like	LG | 50' +		z	Bark	Red / Bronze	Drought / High pH / Pollution	Shade	No	Excellent Median Tree
21	Fraxinus pennsylvanica	Green Ash	Pyramidal	LG | 50' +		z	Bark	Ornamental Bark	High pH / Salt	Ash Borer Sensitive	Yes	'Patmore' Cultivar Is Most Hardy
22	Ulmus americana	American Elm	Vase-Like	LG | 50' +		z		Yellow	Drought / Salt / Wide pH		Yes	Only Dutch Elm Disease-Resistant Cultivars
23	Carpinus betulus 'Fastigiata'	European Hornbeam	Narrow	M | 35-50' +	z			Yellow	Wide pH	Salt	No	Can Grow 20-30' Wide with Maturity
24	Carpinus caroliniana	American Hornbeam	Rounded	M | 35-50' +	z			Yellow Orange			No	Plant Spring Only
25	Cercidiphyllum japonicum	Katsura Tree	Rounded	M | 35-50' +		z		Yellow Orange	Light Shade	Drought/Compaction	No	Tree Does Best In Lawn Pits
26	Corylus colurna	Turkish Filbert	Pyramidal	M | 35-50' +		z			Drought / Salt / Wide pH		No	Also Known as Turkish Hazelnut
27	Ostrya virginiana	American Hophornbeam	Rounded	M | 35-50' +	z		Bark	Yellow	Shade / Drought / High pH	Salt	No	Plant Spring Only
28	Pyrus calleryana	Callery Pear	Rounded	M | 35-50' +		z	Flowers	White Maroon	Drought / Salt / High pH / Compaction		No	Do Not Plant 'Bradford' Cultivars 'Cleveland Select' Is Structually Superior
29	Quercus acutissima	Sawtooth Oak	Rounded	M | 35-50' +		z		Yellow	Drought / High pH		No	Plant Spring Only
30	Quercus robur	English Oak	Rounded	M | 35-50' +	z				Drought / Salt / High pH		No	Plant Spring Only
31	Acer rubrum	Red Maple	Rounded	M | 35-50' +		z		Red	Wet Soils		Yes	Tree Does Best In Lawn Pits
32	Celtis occidentalis	Hackberry	Rounded	M | 35-50' +		z			Drought / Pollution / Wide pH		Yes	Native Species
33	Ulmus parvifolia	Chinese Elm	Rounded	M | 35-50' +		z	Bark		Drought / Salt / Wide pH		Yes	Also Known as Lacebark Elm
34	Amelanchier canadensis	Serviceberry	Rounded	SM | <35'		z	Flowers	White Red / Yellow	Wet Soils / Shade	Drought / Full Sun / Compaction	No	Autumn Sunset,' 'Cumulus,' & 'White Pillar' are well suited for Street Trees.
35	Cercis canadensis	Eastern Redbud	Irregular	SM | <35'	z		Flowers	Pink Yellow / Green	Shade / Wide pH	Compaction	No	Useful as Understory Species For Partial Shade Tree Does Best in Lawn Pits
36	Crataegus spp.	Hawthorn	Rounded	SM | <35'		z	Flowers	White Maroon	Drought / Salt		No	Fruits Persist; choose thornless 'Winter King' or 'Princeton Sentry'
37	Koelreuteria paniculata	Goldenraintree	Rounded	SM | <35'		z	Flowers	Yellow	Drought / Salt / High pH / Poor Soils		No	
38	Maackia amurensis	Amur Maackia	Rounded	SM | <35'	z		Flowers/Bark	White	Wide pH		No	Fixes Its Own Nitrogen in the Soil Late Bloomer
39	Malus spp.	Crabapple	Rounded	SM | <35'	z		Flowers	White Red / Yellow	Low pH	Some cultivars disease-prone	No	Fruits Persist Through Winter; choose M. baccata, M. zumi, or 'Donald Wyman'
40	Prunus cerasifera	Purpleleaf Plum	Rounded	SM | <35'		z	Flowers	Pink Maroon		Wet soils	No	'Atropurpurea' and 'Thundercloud' Recommended
41	Prunus 'Okame'	Okame Cherry	Rounded	SM | <35'		z	Flowers	Pink Red / Bronze	Drought / Clay Soils		No	Earliest Blooming Cherry Flowers in Late March - Early April
42	Prunus padus	European Birdcherry	Rounded	SM | <35'	z		Flowers	White Yellow / Bronze			No	One of the First Trees to Leaf Out in the Spring
43	Prunus sargentii	Sargent Cherry	Rounded	SM | <35'	z		Flowers	Pink Red / Bronze			No	'Accolade' is Semi-double Flowering; 'Columnaris' Has a Narrow Vase-shape
44	Prunus serrulata 'Kwanzan'	Japanese Flowering Cherry	Rounded	SM | <35'	z		Flowers	Pink Red / Orange			No	Double-flowering Tree Does Not Normally Fruit
45	Prunus virginiana 'Schubert'	Schubert Cherry	Pyramidal	SM | <35'		z	Flowers	White Maroon	Clay Soils / High pH		No	Excellent Median Tree Leaves Maroon Most of Summer
46	Prunus x yedoensis	Yoshino Cherry	Rounded	SM | <35'			Flowers	White Yellow			No	Tree Does Best in Lawn Pits
47	Syringa reticulata	Japanese Tree Lilac	Rounded	SM | <35'		z	Flowers	White	Drought		No	Extremely Disease-resistant Fragrant Flowers
48	Acer campestre	Hedge Maple	Rounded	SM | <35'	z			Yellow	Wide pH / Drought / Compaction / Pollution		Yes	'Queen Elizabeth' is Most Vigorous Cultivar
49	Acer ginnala	Amur Maple	Rounded	SM | <35'		z	Flowers	Cream Red / Yellow	Drought / Wide pH		Yes	Excellent Median Tree
50	Acer truncatum	Shantung Maple	Rounded	SM | <35'	z		Flowers	Greenish Yellow Red / Yellow	Drought / Wide pH		Yes	Excellent Median Tree Subspecies Mono is Slightly Larger

Please Help Us Protect Hoboken's Trees



Keep Tree Pits Clean

Keep tree pits free from debris and garbage. Garbage bags can compact the soil around trees, which blocks oxygen and water from getting to the roots. Leaked chemicals from disposed cleaning supplies, bleaches, oils, etc. can kill trees.

Keep Dogs Away From Trees

Compaction and waste from walking your dog in tree pits can kill trees. To prevent these issues, consider installing pit guards, plantings and/or mulch. Pet owners tend to respect well cared for tree pits.

Do Not Chain Bikes to Trees

Bikes and their riders cause significant compaction around trees and bike chains can damage the tree trunk. If bike parking is desired, consider installing a bike rack tree guard, which limits compaction and protects the tree trunk.

De-Ice Sidewalk With Salt Alternative

Rock salt (sodium chloride) can kill tree roots and corrode sidewalks. Suggested alternatives include calcium chloride and magnesium chloride. Avoid shoveling snow into tree pits and remove snow build-up from snowplows.

For more information about how to protect Hoboken's trees and to volunteer with The Hoboken Shade Tree Commission go to:
http://www.hobokennj.org/boards/shade-tree-commission

Brought to you by:
The Hoboken Shade Tree Commission

HSTC