

Appendix B

Recommended Native Trees



RECOMMENDED URBAN TREES WILMINGTON, DE AREA (USDA HARDINESS ZONE 7)

BEFORE PLANTING: THINGS TO REMEMBER!

- Street trees provide many benefits beyond beautification of our neighborhoods and city. They can reduce cooling costs in summer, improve property values, attract residents and businesses, and revitalize communities. Contact the **Delaware Center for Horticulture** to learn more about the many benefits of urban trees and to get involved with your own neighborhood street tree project, for further recommendations, or to request a new Wilmington street tree through the DCH Tree Program.
 - **The approval of a Wilmington Street Tree Permit is required before planting any tree in the public right-of-way** (generally determined as between the sidewalk and the curb, in a tree lawn, grass strip or tree pit in sidewalk). According to the Wilmington City Code, Chapter 46 (Vegetation), street tree maintenance is the responsibility of the respective property owner. Contact the Delaware Center for Horticulture or the Wilmington Department of Parks & Recreation for a permit form or for more information.
 - **The selection of an appropriate street tree is essential to its success.** Criteria such as soil space, underground or overhead utilities, sidewalk and curbing considerations, ultimate size, tolerance of urban conditions, and general species information must be considered before selecting a street tree for planting. **Proper care during establishment of a young tree is also crucial and can reduce the need for costly maintenance in the future.**
 - Many popular trees do not appear on this list for a variety of reasons. The Delaware Center for Horticulture does **NOT** recommend nor approve the planting of **Callery pear cultivars** (*Pyrus calleryana*, e.g. **Bradford**) due to overuse, fruit litter, and structural problems. Other popular trees do not appear on this list due to the propensity for insect and disease problems (purple-leaf plum, *Prunus cerasifera*), or due to intolerance of urban conditions (Japanese maple, *Acer palmatum*, and flowering dogwood, *Cornus florida*). Some recommendations of this list are based on information specific to the City of Wilmington based on a street tree inventory completed in 2002.
 - DCH receives many complaints about tree roots damaging sidewalks. By planting an appropriate tree for a given space, this can be greatly reduced. No tree is guaranteed to avoid conflicts with surrounding areas; in fact, the roots of most trees grow solely within the top 12-18" of surface soil. Watering deeply and maximizing soil space can discourage surface roots.
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SMALL TREES – SUITABLE NEAR OVERHEAD UTILITY WIRES (>10')

Acer buergerianum **Trident Maple** **Spring or Fall Planting**
20-25 ft., rounded. Withstands drought and infertile soils and various temperatures. Exfoliating bark is quite striking, coloring gray, orange and brown. Yellow to red fall color.

☼ *Acer campestre* **Hedge Maple** **Spring or Fall Planting**
25-35 ft., rounded. Tolerates wide range of conditions including high soil pH and drought (once established). Relatively pest-free. Moderate road salt tolerance. Yellowish fall foliage drops late in season. Close spacing will create dense shade.

! *Acer ginnala* **Amur Maple** **Spring or Fall Planting**
15-20 ft., rounded. Excellent tolerance to dry and alkaline soils. One of the most cold-hardy and highly adaptable maples. Variable fall color. Has shown invasive tendencies in some areas.

? *Acer griseum* **Paperbark Maple** **Spring or Fall Planting**
20-30 ft., rounded. Extremely tolerant of well-drained acid or alkaline clay soils. No two specimens alike. Reddish-brown exfoliating bark. Brilliant red fall color. Sensitive to urban stress if planted in restricted area.

☼ *Acer triflorum* **Three-flower Maple** **Spring or Fall Planting**
20-30 ft., rounded. Prefers moist, acidic, well-drained soil in sun to part shade. Outstanding yellow to red fall color and exfoliating bark.

Acer truncatum **Shantung Maple** **Spring or Fall Planting**
20-25 ft., rounded. Tolerant of acid, alkaline and dry soils. Yellow flowers emerge before leaves. Variable fall color. Limited availability in nursery trade.

? ! *Aesculus X carnea* **Red Horsechestnut** **Spring or Fall Planting**
30-50 ft., rounded. Prefers moist, deep, well-drained soils, but is widely adaptable to soil types. Susceptible to a fungal disease that may cause browning of leaves. Spectacular rose-red flower.

? ✓ *Carpinus caroliniana* **American Hornbeam** **Spring Planting**
25-35 ft., rounded to spreading. Prefers shaded, moist soils but will tolerate some intermittent drought as well as high pH soil once established. Good orange-red fall color and ornamental, muscle-like bark.

Chionanthus retusus **Chinese Fringe Tree** **Spring or Fall Planting**
15-25 ft., rounded. Extremely easy to grow. Withstands acid or alkaline, sandy loam or clay soils. Prospers in sun, but withstands part shade. Early summer white flower clusters.

? Unproven as street tree – proven in urban parks but suggest maximized soil space

☼ Example of species planted at DCH gardens/grounds

✓ Native to Delaware or Eastern U.S.

! Please note: invasive tendencies, disease/insect potential, or over-used in Wilmington area

SMALL TREES – SUITABLE NEAR OVERHEAD UTILITY WIRES (>10')

✿ *Cornus mas* **Corneliancherry Dogwood** **Spring or Fall Planting**
20-25 ft., oval-rounded. Tolerates acid and alkaline soils, as well as heavy clay, better than any other dogwood. Bright yellow flowers in March turn to cherry-red fruit in June and July.

Cornus officianalis **Japanese Cornel Dogwood** **Spring or Fall Planting**
20-25 ft., oval. Similar to *Cornus mas*, although it flowers earlier and the fruit ripen later. Exfoliating bark in gray, orange and brown.

Cotinus obovatus **American Smoketree** **Spring or Fall Planting**
20-30 ft., oval-rounded. Scaly gray-black bark, cloud-like flower panicles and outstanding fall color. Limited availability in tree-form but may be limbed up or pruned.

✿ ✓ *Crataegus viridis* **'Winter King' Hawthorne** **Spring Planting**
20-30 ft., oval. White flowers, red fruit persistent through winter. Tolerant of wide range of soil types. Exfoliating bark in gray, green, orange and brown.

Koelreuteria paniculata **Goldenrain Tree** **Spring Planting**
30-40 ft., rounded. Tolerates drought, heat, wind, alkaline soil, salt and air pollution. Fast-growing in moist, well-drained soil. Mid-summer yellow flower clusters mature to attractive brown, papery capsules. Choose good branch structure at the nursery. Water well to recover from transplanting.

✿ *Maackia amurensis* **Amur Maackia** **Spring or Fall Planting**
20-30 ft., rounded. Adaptable; performs best in loose, acid or alkaline, well-drained soils. Amber-colored bark peels with age. Clean green foliage and summer white, pea-like flowers.

✿ *Magnolia 'Galaxy'* **'Galaxy' Hybrid Magnolia** **Spring or Fall Planting**
25-35 ft., pyramidal. Pinkish-purple flowers open in April. Mildew can be a problem in moist, humid sites. Tendency to develop water sprouts. Deciduous magnolia.

✿ *Malus 'Donald Wyman'* **Flowering Crabapples** **Spring Planting**
25 ft., rounded. High disease resistance. Red buds that unfurl to white flowers. Glossy bright red fruit persist into winter. There are many disease-resistant crabapple cultivars to choose from with varying bud, flower, fruit colors, and growth habits.

✿ ✓ ? *Ostrya virginiana* **American Hophornbeam** **Spring Planting**
25-40 ft., pyramidal to rounded. Tolerates dry, acid and high pH soils. Prospers in full sun and is also an excellent understory tree. Grayish-brown exfoliating bark, hop-shaped seed nutlet is prized by many song birds. May be sensitive to air pollutants and road salts.

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Parrotia persica

Persian Parrotia

Spring or Fall Planting

20-35 ft., upright to rounded. Fantastic exfoliating gray, green white and brown bark. Reddish foliage when emerging changes to dark green in summer and brilliant yellow, orange and scarlet in autumn. Select a single-stem form for street tree use. Highly adaptable and tolerant of urban stresses once established.

Prunus X incam 'Okame' 'Okame' Cherry

Spring Planting

20-30 ft., vase-shaped to rounded at maturity. Excellent heat and cold tolerance. One of the first trees to flower in spring; rich pink flowers appear before the leaves. Excellent bronze-red fall color.

Prunus subhirtella

'Autumnalis' Cherry

Spring Planting

20-40 ft., upright to rounded. Tolerant of urban heat. Pinkish-white flowers appear in fall and spring. One of the longest-lived cherries. Excellent yellow-orange fall color.

Syringa reticulata

Japanese Tree Lilac

Spring or Fall Planting

20-30 ft., oval to rounded. Summer white flower clusters. Easily transplanted and adaptable. Pest-free, although powdery mildew, a common lilac problem, can occur during moist seasons.

MEDIUM to LARGE TREES – NOT SUITABLE NEAR OVERHEAD UTILITIES

! ❄️ ✓ *Acer rubrum*

Red maple

Spring or Fall Planting

40-70 ft. Acid, moist soils a necessity. Sensitive to road salt and drought. Superior cultivars for form (narrow) and fall color are available. Outstanding red fall color. Not recommended for small tree pits, as shallow roots tend to create a mass of roots and possible sidewalk heaving. Somewhat over-used as a street tree in Wilmington.

❄️ ✓ ? *Acer saccharum*

Sugar maple

Spring or Fall Planting

60-80 ft., oval. Sensitive to road salt, urban heat, soil compaction and drought. One of our best native trees for fall color – brilliant yellows, orange and red. Limit use to wide tree lawns and parkways. Many cultivars available, 'Legacy' is reported as the toughest.

❄️ ✓ *Betula nigra*

River birch

Spring or Fall Planting

40-70 ft., oval. Prefers acid, moist soils, but adaptable. Cultivars such as 'Heritage' and 'Little King' are resistant to bronze birch borer. Exfoliating pinkish-white bark. Single-stem forms should be sought for street tree use.

❄️ *Carpinus betulus 'Fastigiata'*

European Hornbeam

Spring or Fall Planting

This upright form in youth becomes pyramidal with maturity, 30-40 ft. Tolerates drought, heavy soil and wide pH range. Water well in spring to overcome road salt intolerance. Clean green foliage turns yellow to brown in autumn.

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MEDIUM to LARGE TREES – NOT SUITABLE NEAR OVERHEAD UTILITIES

! ✓ *Gleditsia triacanthos 'inermis'* Thornless Honey Locust Spring or Fall Planting
30-70 ft., broad oval. Very adaptable to soils, displays excellent road salt tolerance. Select a cultivar to avoid pods. Rich golden yellow fall color, compound leaf canopy produces pleasing dappled shade. Water deeply to avoid surface roots. Somewhat overused as a street tree.

☼ ✓ *Gymnocladus dioica* Kentucky Coffeetree Spring or Fall Planting
50-75 ft., irregular oval. Tolerates drought, alkaline soil and road salt. Pest-free. Grass grows well underneath canopy. Distinctive curled ridges on gray-brown bark. Yellow fall color. Male pod-less cultivars becoming more available. An excellent, under-used street tree.

☼ ✓ ? *Liquidambar styraciflua* American Sweetgum Spring or Fall Planting
50-75 ft., pyramidal to oval. Best on moist, sunny sites, does not tolerate higher pH soils. Brilliant fall colors include yellow, orange, reds, and purples to almost black. 'Rotundiloba' is reportedly seedless. Limit use to areas with plenty of soil space.

***Metasequoia glyptostroboides* Dawn Redwood Spring or Fall Planting**
65-90 ft., pyramidal. Deciduous conifer. Prefers full sun and acid soil. Lower branches need to be removed for street tree use as tree matures. Requires large area. Orange-brown fall needle color.

☼ ✓ ? *Nyssa sylvatica* Black Gum Spring Planting
30-50 ft., pyramidal in youth to spreading with maturity. Lustrous green summer foliage changes to fantastic yellows and oranges to scarlet and purple in autumn. Bluish berry-like fruit is eaten by many bird species and as a result is not usually a litter problem. One of the best, most consistent native trees for fall foliage. Limit use to large areas, wide tree lawns or parkways. Not for heavy road salt use, polluted areas or high pH soils. Pest-free.

? *Pistacea chinensis* Chinese Pistache Spring or Fall Planting
30-50 ft., oval-rounded. Scaly gray bark flakes off to expose orange inner bark. Dark green leaves become brilliant orange-red in fall. Withstands poor, droughty soils and is highly adaptable. Pest-free. Under-used street tree that has great potential.

! *Platanus X acerifolia* London Planetree Spring or Fall Planting
70-90 ft., broad oval. Tolerates compacted soils, drought, road salts and varying pH. Resistant to anthracnose, but cankerstain is a very serious disease potential. Requires large area and is extremely tolerant of urban conditions and heavy pruning. Over-used as a street tree in Wilmington and many other areas. Cream to olive and brown bark can be a litter problem, as can early leaf drop some seasons.

***Prunus sargentii* Sargeant Cherry Spring Planting**
25-40 ft., vase-shaped. 'Columnaris' is considered one of the best flowering cherries for street tree use. Pink flowers and bronze-red fall color. Prefers acid soil and full sun.

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! *Quercus acutissima* **Sawtooth Oak** **Spring Planting**
40-50 ft., pyramidal to broad-rounded. Tolerates city conditions, including dry soils. Reasonably pest-free. Transplants more readily than most oaks. Acorn production can be heavy some years. Possibly invasive near open areas.

☼ ✓ *Quercus bicolor* **Swamp White Oak** **Spring Planting**
50-80 ft., pyramidal to rounded. Easier to transplant than other white oaks. Tolerates drought, road salts and soil compaction in urban areas. Clean green summer foliage changes to yellow and red-purple in autumn. Requires acid soil.

✓ *Quercus imbricaria* **Shingle Oak** **Spring Planting**
40-65 ft., pyramidal to rounded. Copper-tan fall color that persists into winter. Tolerant of urban conditions. A good, Delaware-native substitute for sawtooth oak, willow oak or pin oak.

! ✓ *Quercus palustris* **Pin Oak** **Spring Planting**
50-70 ft., pyramidal to oval. Tolerates a wide range of soils, but prefers acid soil and full sun. Moderate salt tolerance. Red-brown fall color. Lower branches hang down and can be a clearance problem. Bacterial leaf scorch (BLS) is a recent disease problem that has been found in Wilmington and affects other red oaks. Over-used as a street tree in many areas.

✓ *Quercus phellos* **Willow Oak** **Spring Planting**
55-75 ft., pyramidal to oval. Prefers acid soil and full sun. Withstands temporary flooding and dry soils. Yellow-brown to red fall color. Higher pH soils and road salts may cause chlorosis (yellowing of leaves).

***Quercus robur* ‘Fastigiata’** **Fastigate English Oak** **Spring Planting**
Distinctly upright, a 50-60’ tree may be only 10-20 ft. wide. Widely used as a street tree in Europe. Tolerant of a wide range of soil conditions. Clean, dark blue-green foliage in summer.

! ✓ *Quercus rubra* **Northern Red Oak** **Spring Planting**
60-80 ft., rounded. Tolerates urban conditions along streets with heavy traffic. Red to golden-brown fall color. Bacterial leaf scorch (BLS) is a recent disease problem that has been found in Wilmington and affects other red oaks. Many of Wilmington’s largest street trees are red oaks.

☼ ✓ ? *Taxodium ascendens* **Pond Cypress** **Spring Planting**
70-80 ft., more columnar than *T. distichum*, otherwise very similar. Limited availability.

✓ *Taxodium distichum* **Common Baldcypress** **Spring or Fall Planting**
50-80 ft., columnar to pyramidal. Adaptable to a wide range of soil conditions, except high pH. Deciduous conifer with orange-brown fall color. Reddish-brown fibrous bark. Fast growth.

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! *Tilia cordata* Littleleaf Linden Spring or Fall Planting
60-80 ft., dense pyramidal, many good cultivars. Best on moist, well-drained soils. Poor salt and drought tolerance, and urban heat may cause leaf scorching. Adaptable to wide soil pH range. Will withstand moderate soil compaction. Early summer yellow flowers. Yellow fall color. Over-used as a street tree, and aphid residue may cause litter on cars.

***Tilia tomentosa* Silver linden Spring or Fall Planting**
60-70 ft., pyramidal. Tolerates drought and heat better than *T. cordata*. Attractive white underside of leaves. Tolerant of high soil pH and less susceptible to Japanese beetles than other lindens.

! *Ulmus americana* hybrids American elm hybrids Spring or Fall Planting
70-90 ft., upright spreading, vase-shaped. Select ONLY Dutch elm disease-resistant hybrids. High tolerance of urban conditions. Described as “majestic” and “gracefully beautiful.” Yellow fall color. Do not plant in large groupings or entire blocks.

☼ *Ulmus parvifolia* Lacebark Elm Spring or Fall Planting
50-75 ft., rounded. Has proven highly resistant to Dutch elm disease. Attractive exfoliating bark. High degree of urban stress tolerance. Yellow to wine-red fall color.

! ☼ *Zelkova serrata* Japanese Zelkova Spring or Fall Planting
50-70 ft., vase-shaped. Adaptable to soil pH, compaction, pollution, partial shade and drought once established. Flaky bark with orange patches. Excellent bronze-red fall color. Widely planted and somewhat over-used as a street tree in Wilmington.

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