City of Dublin
OHIO, USA

Landscape and Tree Preservation Manual

It's Greener in Dublin!

Manual Contents

Planting specifications in this manual represent the accepted industry standards. It is recommended that tree care professionals such as nursery technicians or arborists install and maintain plants within the landscape. It should be noted that all plants required under the Dublin Code must be properly installed and maintained per approved drawings and Dublin City Code.

Important Phone Numbers:
Division of Planning (Zoning Inspector)
Office (614)410-4600 Fax(614)410-4747

Division of Parks (Forester, Horticulturist)
Office (614)410-4700 Fax(614)761-6512

Additional information, including City Code requirements, contact information, and important forms available at our website: **www.dublinohiousa.gov**

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The City of Dublin prides itself on its lush green appearance. We value of green spaces overall and our trees individually. In fact, Dublin has been a Tree City USA since 1994.

TREE CITY USA®

The benefits of trees and other plants include the promotion of the aesthetic appeal, character, and value of the community, as well as a reduction in noise pollution, air pollution, visual pollution, air temperature and light glare. Plants bring natural elements and wildlife habitats into the urban area, which increase the quality of life for residents and patrons of our community. Plants are wonderful!

Purpose: This manual provides information on plant species that have performed well in Dublin, Ohio. The results, from years of landscape inspections performed by the municipality, were used to compile these lists. This manual also describes acceptable installation and maintenance techniques. The purpose of this publication is to promote survivability among landscape plants on non-residential installations. Should there be any questions regarding the landscaping on a property such as installation procedure, plant health, etc., please contact a Zoning Inspector at 614-410-4600.

Non-Residential Landscape Performance & Conformance

- Most plants in this manual have been selected based on good field performance in the local environment. Several species were added to increase the diversity of landscape plants within Dublin. Native species are emphasized for their adaptation to the local climate, as well as disease-resistance. These lists, and the majority of the manual, provide information for non-residential properties. Additional species not included in this manual can be used, subject to approval by City staff.
- Proper performance and conformance of work will be verified by Dublin staff to these standards and the approved landscape plans. City staff also performs periodic landscape inspections on all non-residential properties to ensure required plants are thriving. Unhealthy or missing plants, as assessed by City staff, need to be replaced during the next planting season following an inspection.
- Plant quantities and location on the site must match the approved plans. Changes to the landscaping at a property must first be submitted to the city for review. Please contact the Division of Planning at 614-410-4600 for submittal requirements.

Acceptable Plants: Evergreens

Poor hedge maintenance

Proper hedge maintenance

Acceptable evergreen plants

Evergreen plants may be used from the following list when screening vehicular use areas, mechanical units or service structures from adjacent properties or rights-of-way. Alternative cultivars or species may be used, subject to approval by staff. Evergreen shrubs must be a certain height at installation and must reach the height requirement as described in the Landscape Code within four years. Please consult Dublin Code Section 153.133 for more information. Trees and shrubs must be properly spaced so that they form a complete, 100 percent opaque, hedge within four years. Due to the varying growth rate and spread of trees and shrubs, spacing may vary accordingly.

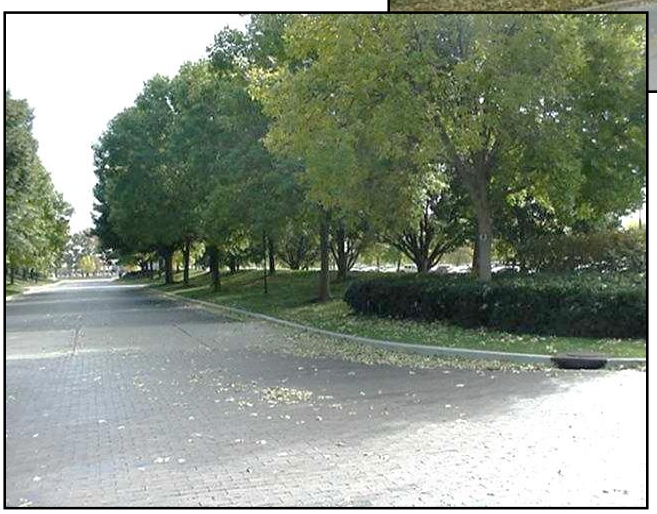
Proper vehicular use area screening

Scientific Name	Common Name
Shrubs:	
• *Buxus microphylla*	Little Leaf Boxwood
• *Buxus sempervirens*	Common Boxwood
• *Chamaecyparis obtusa*	Falsecypress
• *Juniperis chinensis (many cultivars)*	Chinese Juniper
• *Juniperis scopulorum (many cultivars)*	Rocky Mountain Juniper
• *Taxus x media (many cultivars)*	Yew
• *Thuja occidentalis (many cultivars)*	Arborvitae
Trees:	
• *Abies concolor*	White Fir
• *Picea abies*	Norway Spruce
• *Picea glauca*	White Spruce
• *Pseudotsuga menziesii*	Douglas Fir
• Thuja *plicata* x *T. standishii*	Green Giant Arborvitae
• *Tsuga canadensis*	Canadian Hemlock

Evergreen varieties not listed here can be proposed for review. City staff ultimately has final approval on the use of a species. Evergreen trees can not be used to provide screening for vehicular use areas in most cases because they block visibility for safe travel. Evergreen trees do provide an adequate screen for service structures, however. If the lower branches of evergreen trees are removed, increasing visibility through the bottom of the plant, evergreen shrubs will need to be installed to reestablish the opacity requirements.

Acceptable Plants: Deciduous Trees

- Listing all acceptable cultivars of each species is difficult due to the continual introduction of new and improved cultivars. Different species or cultivars on submitted landscape plans to promote increased diversity within the site and throughout the City are encouraged. All trees planted must have a normal, well-shaped, and balanced canopy, free of dead or diseased branches.
- The following list of deciduous trees is subdivided by size: Dublin City Code may require a medium or large deciduous tree in some instances depending on the location. Conversely, the presence of overhead utilities, for instance, may dictate the use of a smaller tree.
- The following trees are suggestions for plan submittal. Some trees may be permitted to fulfill tree replacement inches, but not interior landscape requirements. Additionally this list is subject to change.



Large Trees
(50-Feet or taller)

Acer x fremanii **Fremanii Maple (Red/Silver Maple Cross)**
Culture: very tolerant of soil conditions, tolerant of ozone and sulfur dioxide, prefers moist soils
Disease & Insects: can get leaf galls, some scorch during sunny and high temperatures,
Habit: upright oval to rounded; 50'x 40'
Leaf Color: medium to dark green above, gray/silver underneath; great orange-red fall color
Notes: Over used, please limit use

Acer saccharum (irrigated or open areas) **Sugar Maple**
Bark: smooth gray-brown, becoming deeply furrowed, can become scaly
Culture: prefers well-drained soil, pH adaptable, not extremely air pollution tolerant
Disease & Insects: leaf scorch, Verticillium wilt
Habit: upright oval to rounded; 50'x 50'
Leaf Color: medium/dark green in summer; brilliant yellow, orange, and some red in fall
Notes: Native to Ohio

Celtis laevigata **Sugar Hackberry**
Bark: generally smooth, usually devoid of wart-like projections associated with common hackberry
Culture: tolerates wet, clay soils, tolerant of urban conditions, resistant to witches' broom
Fruit: orange-red to blue-black, relished by birds
Habit: rounded to broad-rounded with spreading, pendulous branches; 50'x 50'
Leaf Color: dark green above, paler underneath; good yellow fall color

Celtis occidentalis 'Prairie Pride' **Prairie Pride Hackberry**
Bark: grayish with corky warts or ridges
Culture: grows in a wide range of soils, pH adaptable, full sun, tolerates urban conditions and pollution
Disease & Insects: none serious, resistant to witches' broom
Fruit: fleshy, yellow, orange-red to dark purple, September to October
Habit: oval; 50'x 40'
Leaf Color: thick, leathery, dark green; yellow fall color
Notes: Improved cultivar of Ohio native tree

Cercidiphyllum japonicum **Katsuratree**
Bark: brown, slightly shaggy on older trees
Culture: somewhat difficult to transplant, pH adaptable, full sun, supplemental water during drought
Fruit: small, ¾" long pods, September to October
Habit: pyramidal in youth, pyramidal to spreading on older trees; 50'x 30'
Leaf Color: emerging red-purple, blue-green in summer; yellow to apricot-orange fall color


Eucommia ulmoides **Hardy Rubber Tree**
Bark: gray-brown, ridged and furrowed, attractive
Culture: transplants readily, very soil tolerant, drought resistant, pH adaptable, full sun
Fruit: capsule-like, 11/2" long
Habit: rounded to broad spreading; 50'x 50'
Leaf Color: dark green, handsome in summer; no spectacular fall color

Ginkgo biloba **Ginkgo (plant male forms only)**
Bark: gray-brown ridges with darker furrows
Culture: transplants easily, withstands almost any situation, full sun, very pH adaptable
Diseases and Insects: extremely free of pests
Fruit: *Only females get fruit. Fleshy, putrid covering, surrounding a nut, about ¾", edible
Habit: usually pyramidal, wide spreading, wide variation; 50'x 30'
Leaf Color: bright green in summer; beautiful, showy rich yellow fall color

Gleditsia triacanthos var. inermis **Thornless Honeylocust**
Bark: gray-brown, long narrow scaly ridges; somewhat smooth when young
Culture: readily transplanted, wide range of conditions, drought tolerant, salt tolerant, full sun
Diseases and Insects: leaf spot, cankers, witches' broom (not serious), webworm and spider mites
Habit: usually short-trunked with a rather open-spreading crown; 50'x 30'
Leaf Color: bright green in summer; yellow fall color
Notes: Native to Ohio

Gymnocladus dioicus **Kentucky Coffeetree**
Bark: rough, hard, thin, firm and scaly ridges; very unique bark pattern
Culture: adaptable to different soils, drought, and city conditions, full sun; a good native tree
Fruit: red-brown leathery pod, 5" to 10" long, October
Habit: usually vertically ascending branches, forming a narrow, oval crown; 60'x 40'
Leaf Color: pink to purple tinged, changing to green; yellow fall color
Notes: Native to Ohio

Liquidambar styraciflua **Sweetgum**
Bark: gray-brown to silver, deeply furrowed into narrow, rounded ridges
Culture: full sun, takes awhile to re-establish, does fairly well in urban settings
Diseases and Insects: leaf spots, scale, possibly chlorosis in poor soils
Fruit: capsules, 1" to 1 ½" diameter, persisting into winter; fruits fall over winter
Habit: upright pyramidal with a neat outline; usually a strong, central leader; 60'x 40'
Leaf Color: glossy deep green in summer; very beautiful yellow, purple, orange, red tones in fall
Notes: Native to Ohio

Liriodendron tulipifera **Tuliptree, Yellow Poplar**
Bark: grayish-brown, furrowed into close, interlacing, rounded to flat ridges
Culture: moist, well-drained soil, full sun, pH adaptable,
Diseases and Insects: cankers, leaf spots, Verticillium wilt, aphids, leaf scorch
Flowers: similar to a tulip flower – 6 green-yellow petals, interior is orange, May to early June
Fruit: cone-like aggregate of samaras, 2" to 3" long, October, persisting into winter
Habit: pyramidal in youth maturing to oval-rounded; 70'x35'
Leaf Color: tulip-shaped, bright green in summer; golden yellow to yellow fall color

Metasequoia glyptostroboides **Dawn Redwood (Deciduous)**
Bark: reddish-brown when young, becoming darker; fissured and exfoliating
Culture: easy to transplant, more tolerant of chalky soils than Baldcypress, full sun
Flowers: up to 12" long
Habit: pyramidal, developing a broad-rounded crown with age; 50'x25'
Leaf Color: bright green above, changing to brown; can be excellent orange to red-brown fall color.

Platanus x acerifolia **London Planetree**
Bark: beautiful olive-green to creamy exfoliating strips
Culture: easily transplanted, adaptable to a wide range of soils, pH adaptable, pollution tolerant
Diseases and Insects: anthracnose (usually not serious), frost cracking
Fruit: 1" diameter-ball, October
Habit: pyramidal in youth, developing into a large, open, wide-spreading crown; 50'x35'
Leaf Color: medium to dark green in summer; yellow-brown in fall

Quercus acutissima **Sawtooth Oak**
Bark: deeply ridged-furrowed, corky, ash brown on older trunks
Culture: easily grown, quite adaptable, transplants okay; does well in Dublin
Fruit: acorn, 1" long
Habit: dense, broad pyramidal in youth, oval-rounded to broad-rounded in maturity; 50'x35'
Leaf Color: dark green in summer; good yellow to golden brown fall color

Quercus bicolor **Swamp White Oak**
Bark: flaky, grayish brown, with some white mixed in
Culture: fairly easy to transplant, full sun, good drought resistance
Diseases and Insects: anthracnose, bacterial leaf scorch, galls, gypsy moth, none real serious
Fruit: acorn, 1" long
Habit: broad, round-topped crown; 50'x 40'
Leaf Color: dark green in summer; yellow-bronze fall color
Notes: Native to Ohio

Quercus coccinea **Scarlet Oak**
Bark: grayish brown, thin for oak, relatively smooth
Culture: less tolerant of growing conditions than Northern Red Oak, likes drier sites
Fruit: acorn, ½" to 1" long, oval, red-brown
Habit: similar to Pin Oak, but more rounded with maturity; 50'x 40'
Leaf Color: glossy green in summer; scarlet fall color
Notes: Native to Ohio

Quercus imbricaria **Shingle Oak**
Bark: gray-brown, with broad, low ridges
Culture: easier to transplant than most oaks, full sun, tolerant of dry soils
Fruit: Acorn, ½ " long, red-brown scales on cap
Habit: pyramidal to upright-oval; 50'x 35'
Leaf Color: dark green in summer; yellow to red fall color
Notes: Native to Ohio

Quercus macrocarpa **Bur Oak**
Bark: dark gray to gray-brown, rough, with deep furrows
Culture: somewhat difficult to transplant, soil adaptable, tolerant of urban conditions, slow grower
Fruit: acorn, ¾" to 1 ½ " long, with a hairy cup
Habit: weakly pyramidal to oval form; 60'x60'
Leaf Color: dark green in summer; dull yellow to yellow-brown fall color
Notes: Native to Ohio

Quercus rubra **Northern Red Oak**
Bark: flat gray with ridged and furrowed areas, becoming darker
Culture: transplants readily, prefers well-drained soil, acidic conditions
Fruit: acorn, ¾" to 1" long, brown with gray streaks
Habit: rounded, symmetrical; 60'x 60'
Leaf Color: dark green in summer; red to bright red fall color
Notes: Native to Ohio

Quercus shumardii **Shumard Oak**
Bark: grayish brown, thin, narrow ridges with age
Culture: relatively easy to transplant, good drought tolerance
Habit: broad-headed tree, developing into a wide spread; 50'x 40'
Leaf Color: leathery dark green in summer; russet-red fall color
Notes: Native to Ohio

Sophora japonica **Japanese Pagodatree**
Bark: pale grayish brown in color
Culture: prefers well-drained soil, withstands heat and drought, need to train/prune for central leader
Diseases and Insects: twig blight, powdery mildew, nothing real serious
Flowers: white, mildly fragrant, 6" to 12" panicles, July to September-may attract bees
Fruit: bright green-yellow pod, 3" to 8" long, October
Habit: upright spreading, broadly rounded; 50'x 50'
Leaf Color: medium green in summer; occasional muted-yellow fall color

Taxodium distichum **Common Baldcypress (Deciduous)**
Bark: reddish brown, fibrous, exfoliating
Culture: very adaptable to both wet and dry conditions, full sun, good drainage preferred
Diseases and Insects: twig blight, small cankers, cypress moth
Flowers: 4" to 5" long panicles, March to April
Fruit: cones, globular, ½" to 1" long, green to purple, resinous
Habit: pyramidal, lofty; 60'x 30'
Leaf Color: bright yellow-green in spring, darkens in summer; russet, soft brown fall color

Tilia americana **American Linden**
Bark: gray to brown, many long, narrow, flat-topped scaly ridges
Culture: transplants readily, pH adaptable, full sun to partial shade, adaptable to different soils
Diseases and Insects: leaf blight, canker, Japanese beetle, thrips, galls
Flowers: pale yellow, ½" wide, fragrant, mid to late June
Fruit: nut-like structure, ½" long
Habit: tall, stately tree, with low, spreading branches, somewhat rounded crown; 60'x 35'
Leaf Color: dark green above, paler underneath; pale yellow fall color
Notes: Native to Ohio

Tilia tomentosa **Silver Linden**
Bark: light gray and smooth, becoming gray-brown, ridged and furrowed
Culture: : transplants readily, pH adaptable, full sun to partial shade, adaptable to different soils
Flowers: yellowish-white, fragrant, late June to early July
Fruit: egg-shaped, 3/8" long
Habit: pyramidal when young, oval with age; 50' x 40'
Leaf Color: dark green above, silvery-fuzz below; yellow fall color

Ulmus x spp. **Elm Species (general characteristics)**
Bark: dark gray, with broad, deep, intersecting ridges, sometimes scaly
Culture: easily transplanted, tolerant of a wide variety of conditions, good salt/pH tolerance
Diseases and Insects: use cultivars resistant to Dutch Elm Disease
Flowers: green to greenish red, March to April; luster's August to September
Fruit: samara, ½" long May through June; September to October
Habit: vase-shaped form, widely spreading form, and narrow forms; 60'x 45'
Leaf Color: dark green in summer; yellow in fall
Notes: Acceptable cultivars include Lacebark, Heritage, Accolade, Homestead, Urban

Zelkova serrata **Japanese Zelkova**
Bark: cherry-like in youth, red-brown, gray-brown with age
Culture: transplants readily, pH adaptable, wind and drought tolerant, decent pollution tolerance
Diseases and Insects: elm leaf beetle, and Japanese beetle
Fruit: small, kidney bean-shaped drupe, ¼" across, fall
Habit: low-branched, vase-shaped in youth, similar form with ascending branches in maturity; 60'x 40'

Medium Trees
(30-50-feet tall)

Acer campestre **Hedge Maple**
Bark: gray-black, lightly ridged and furrowed
Culture: readily transplanted, extremely adaptable, tolerant of dry soils and compaction, full sun
Fruit: samara, 1 ¼ ″ to 1 ¾ ″ long, horizontally spreading
Habit: usually rounded and dense; 35'x 30'
Leaf Color: dark green in summer; yellow-green to yellow fall color

Acer truncatum **Purpleblow, Shantung Maple**
Bark: often tinged with purple when young, older wood is gray-brown, rough and fissured
Culture: hardy tree, drought tolerant
Flowers: greenish-yellow, May, can be spectacular
Fruit: samara, 1 ¼ to 1 ½″ long
Habit: small, rounded, with a regular branching pattern; 35'x 25'
Leaf Color: red purple when emerging, dark, glossy green in summer; yellow-orange-red fall color

Carpinus betulus **European Hornbeam**
Bark: smooth, steel gray, fluted
Culture: tolerant of soil conditions, full sun to light shade, partially tolerant of difficult conditions
Flowers: 1 ½ ″ long, April
Fruit: small nutlet
Habit: oval rounded to rounded; 30'x 20'
Leaf Color: dark green in summer; yellowish in fall

Cladrastis lutea **American Yellowwood**
Bark: very smooth, gray and beech-like, heartwood is yellowish
Culture: tolerates high pH, full sun, can fix atmospheric nitrogen
Flowers: white, fragrant, 1 ¼ ″ long, April to early May
Fruit: pod, brown, October 2 ½ to 4″ long
Habit: broad, rounded crown; 35' x 35'
Leaf Color: opening bright yellowish green, turning bright green in summer; golden yellow fall color

Corylus colurna **Turkish Filbert**
Bark: pale brown to gray brown, older bark is flaky
Culture: thrives in hot summers and cold winters, tolerant of adverse conditions, full sun, pH adaptable
Flowers: catkins can be appealing, March
Fruit: nut, ½" to 5/8" diameter, September to October
Habit: broad pyramidal, very stately; 40'x 25'
Leaf Color: dark green in summer; yellow to purple fall color

Crataegus phaenopyrum **Washington Hawthorn**
Bark: mottled gray bark exfoliating to show orange inner bark
Culture: transplants readily, thorny tree should not be located in heavy foot-traffic areas
Diseases and Insects: cedar hawthorn rust, fireblight, powdery mildew
Flowers: white, ½" diameter in clusters in early June
Fruit: bright, glossy red, ¼" diameter persisting all winter
Habit: broadly oval, rounded; 25'x 25'
Leaf Color: new growth is reddish purple changing to dark green; orange, red and purple in fall

Halesia carolina **Carolina Silverbell**
Bark: gray to brown to black, with flat, somewhat lustrous ridges
Culture: transplants readily from container stock, well-drained, moist soil, full sun to partial shade
Diseases and Insects: exceptionally pest resistant
Flowers: white, bell-shaped, ½" to ¾" long, April to mid-May
Fruit: 1" to 1 ½ " long, effective in September and early fall
Habit: narrow head and ascending branches, forming a rounded crown; 35'x25'
Leaf Color: dark yellow green in summer; yellow to yellow-green fall color

Koelreuteria paniculata **Goldenraintree**
Bark: light gray-brown, ridged and furrowed with age
Culture: transplants well, adaptable to a wide range of soils, drought, wind, heat, pollution tolerant
Flowers: yellow, ½" wide, very showy, July
Fruit: 3-valved capsule, 1 ½ to 2" long, changing from green to yellow to brown, August to October
Habit: beautiful dense tree, rounded, branches spreading and ascending; 35'x 35'
Leaf Color: purplish red initially, changing to a golden yellow in summer; good yellow fall color

Nyssa sylvatica **Black Gum, Tupelo**
Bark: dark gray, brown, black, thick irregular ridges, alligator hide-like appearance
Culture: somewhat difficult to transplant, high pH intolerant, full sun to partial shade
Disease and Insects: cankers, leaf spots, nothing real serious
Fruit: oblong drupe, ½" long, bluish-black, late September to early October, food for wildlife
Habit: beautiful native tree, pyramidal in youth, numerous spreading branches when older; 40'x 25'
Leaf Color: lustrous dark green in summer; orange to bright scarlet to purple fall color
Notes: Native to Ohio

Phellodendron amurense **Amur corktree**

Bark: ridged and furrowed with a cork-like pattern, gray-brown
Culture: transplants readily, adaptable to many soils, drought and pollution tolerant, full sun
Flowers: yellowish-green, late May to early June
Fruit: black, ½" diameter, October into winter
Habit: broad spreading tree, open, rounded crown; 35'x 50'
Leaf Color: deep, lustrous green in summer; yellow to bronzy yellow fall color

Prunus sargentii **Sargent Cherry**

Bark: rich, polished reddish to chestnut brown
Culture: good test plot evaluations
Flowers: pink, 11/2" across, late April to early May
Fruit: 1/3" long, purple-black, June-July
Habit: upright rounded; 40'x 40'
Leaf Color: shiny dark green in summer; bronze to red fall color

Small Trees

(10-30 feet tall)

Acer buergerianum **Trident Maple**

Bark: gray-brown-orange on young trees, develops into platy, scaly character; winter interest
Culture: transplants readily, good drought resistance, full sun, highly regarded
Habit: distinctly oval-rounded to rounded; 30'x 30'
Leaf Color: new growth bronze to purple, glossy dark green in summer; yellow, orange, red fall color

Acer ginnala **Amur Maple**

Bark: gray brown, smooth
Culture: easy to transplant, quite adaptable to soils, pH adaptable, full sun
Flowers: yellowish-white, fragrant, April to May
Habit: rounded outline, shape can be variable; 20' x 25'
Leaf Color: glossy dark green; shades of yellow and red fall color

Acer tataricum **Tatarian Maple**

Culture: tolerant of adverse conditions, more high-pH tolerant
Flowers: green-white, April to May
Habit: rounded to wide-spreading; 20' x 20'
Leaf Color: medium green in summer; yellow, red, reddish-brown fall color

Amelanchier x grandiflora **Apple Serviceberry**

Bark: gray, smooth, ornamental
Culture: full sun to partial shade, adaptable to different soils-prefers moist, well-drained soil
Disease and Insects: rust, powdery mildew, leaf blight, fireblight, nothing serious
Flowers: white, fragrant, ornamental
Fruit: berry-like pome, sweet, edible, good for wildlife
Habit: rounded crown; 20' x 20'
Leaf Color: young leaves are purplish and pubescent; yellow, apricot-orange, red fall color
Notes: Overused

Amelanchier laevis **Allegheny Serviceberry**
Bark: gray, smooth
Flowers: similar to above, mid-April into May
Fruit: sweet, edible, good for wildlife
Habit: upright, oval; 25′ x 15′
Leaf Color: purple bronze when emerging; yellow, apricot-orange, red fall color

Chionanthus virginicus **White Fringetree**
Bark: gray, smooth, ridged and furrowed with age
Culture: moist soils, but is adaptable; full sun to partial shade
Flowers: white, slightly fragrant, May to early June
Fruit: dark blue, fleshy egg-shaped, ½″ long, August to September
Habit: tree form – spreading, open; 15′ x 15′
Leaf Color: medium to dark green in summer; yellow-green to brown fall color, can get golden yellow

Cornus mas **Corneliancherry Dogwood**
Bark: exfoliating, scaly, flaky, gray-brown to rich brown, showy
Culture: transplants well, soil types adaptable, sun to partial shade, durable
Flowers: yellow, March
Fruit: oblong, 5/8″ long, bright cherry red, July
Habit: oval-rounded; 20′x 20′
Leaf Color: dark green, attractive summer foliage;
purple-red fall color

Crataegus crusgalli var. inermis **Thornless Hawthorn**
Bark: gray-brown, exfoliating
Culture: tolerant of many soils, pH adaptable, full sun
Disease and Insects: fireblight, leaf blight, rusts, aphids, plant hopper
Flowers: ½" diameter, white, May
Fruit: ½" diameter, September to October
Habit: broad-rounded; 15' x 12'
Leaf Color: lustrous dark green in summer; bronze-red to purplish-red fall color

Crataegus species (Winter king, Ohio pioneer) **Hawthorn**
Bark: good winter interest, exfoliating creamy, brown, gray, exposing orange-brown trunk
Flowers: white, ¾" diameter, spring
Fruit: ½" diameter, red, good winter interest and food for birds
Habit: rounded, vase-shaped branching structure; 25' x 20'
Leaf Color: lustrous medium green in summer; purple and scarlet fall color

Malus species **Crabapple**
New cultivars of crabapple trees are being developed too often to accurately list all acceptable plants, here are a few. Additional selections are listed on the following page. Base selection on resistance to pests. Suitable crabapples include: Adams, Adirondack, Beverly, Bob White, Callaway, Donald Wyman, Harvest Gold, Indian Summer, Profusion, Purple Prince, Red Splendor, Robinson, Sentinel, Winter Gold

Prunus virginiana **Cherry**
–'Canada Red Select', 'Schubert'
Culture: fast grower, well-drained soil is best
Flowers: 3-6" white racemes in spring
Disease and Insects: keep trees vigorous, some pests (borers, canker)
Habit: oval-rounded or pyramidal habit; 25' x 20'
Leaf Color: green at first, then changing to reddish-purple

Ostrya virginiana **American Hophornbeam**
Bark: gray-brown with exfoliating bark in longitudinal strips
Culture: plant in spring, well-drained soil, somewhat slow to establish, no serious pests
Flowers: visible throughout winter (male catkins) or in spring (female)
Habit: horizontal, drooping habit; pyramidal; 30' x 20'
Leaf Color: dark green in summer, yellow in fall

Prunus virginiana **Cherry**
–**'Canada Red Select', 'Schubert'**
Culture: fast grower, well-drained soil is best
Flowers: 3-6" white racemes in spring
Disease and Insects: keep trees vigorous, some pests (borers, canker)
Habit: oval-rounded or pyramidal habit; 25' x 20'
Leaf Color: green at first, then changing to reddish-purple

Syringa reticulata **Japanese Tree Lilac**
Bark: cherry-like, reddish-brown, gray, scaly older trunks
Culture: easily transplanted, pH adaptable, full sun
Diseases and Insects: bacterial blight, leaf spots, powdery mildew, frost injury if late spring frost
Flowers: creamy white, fragrant, early to mid June
Habit: oval to rounded crown; 25' x 20'
Leaf Color: dark green in summer; no spectacular fall color

Landscape Specifications

Pre-planting Practices

- Contact Ohio Utilities Protection Service at least 48 hours before digging.
- Debris must be removed prior to installation i.e. wood, trash and rocks greater than 1" diameter. All grass and weeds must be removed from the planting bed.
- If soil compaction has occurred in planting areas, tilling or other means to loosen the soil should be performed prior to planting. Extra efforts to ensure plant survival should be specified on the plans, including fencing-off planting areas during construction. The landscape contractor should bring any unfavorable situations to the general contractor's and city Zoning Inspector's attention.
- A soil test should always be performed prior to installation. This a very inexpensive test in relation to the cost of the landscaping, and it could detect some very significant results that need to be addressed.
- Methods should be employed to match the optimal pH levels of the specified plants in the landscape.
- Drainage should be tested by filling a hole with water, letting it drain, filling it again and determining if water drains at a rate greater than 1" per hour. Soil amendments and additional hole width/depth may be requir3ed if the hole does not drain.

Tree and Shrub Planting Guidelines/Tips

- Keep in mind: if a balled and burlapped tree is being planted, that tree's root system has probably been reduced by 90-95 percent of its original size during transplanting. The tree will remain under stress until it's established and all efforts to keep stress to a minimum should be employed, i.e., proper pruning, mulching, and watering.
- The ideal time to plant trees and shrubs is during the dormant season, such as late fall or early spring.
- Dig a shallow, broad planting hole. A healthy tree planted in a poorly-prepared hole will not flourish. If the hole is dug using an auger, it may take two passes to get the hole two to three times wider than the root ball.
- Trees and shrubs must be well adapted to climatic conditions comparable to Dublin for at least two years prior to planting in Dublin. The contractor may have to make available all shipping tags during the landscape inspection.
- To avoid any chance of root burn, it is not recommended to fertilize the backfill. However, due to infertile soils, subsequent top dressings of fertilization should take place, after one full year, in early spring or fall, preferably following a soil test and diagnosis of the plant's health.
- Many recent problems are the result of the root systems of trees buried below grade at planting. The top of the first lateral root should be visible after planting, just below the root flare. Trees will need to be replanted properly if a problem is identified during an inspection.
- Prior to planting trees in the right-of-way (street trees), the City Forester must be notified so that locations and species can be verified. (614-410-4701)

Proper tree planting

- Mulch away from trunk, root flare exposed

Poor tree planting

- Twine still attached, mulch piled high against trunk

Tree and Shrub Planting Guidelines/Tips

- Due to slow degradation, remove all rope from around the base of the tree, and all burlap and wire (basket) from the top 1/3 of the root ball.
- Stake only those trees with the greatest potential of toppling. Stakes and guying must be removed within one year of planting.
- Plants must be watered-in at installation to reduce air pockets, and not stomped or compacted with a foot.
- Plants should not be allowed to dry out during the first year or two of establishment. Adequate watering (8"-deep) during extended periods of drought should be performed as needed throughout the plant's lifetime and may need to be specifically bid. Special bags that hold gallons of water over the root ball are useful and reduce manual watering time, though a well-maintained irrigation system is the best approach.

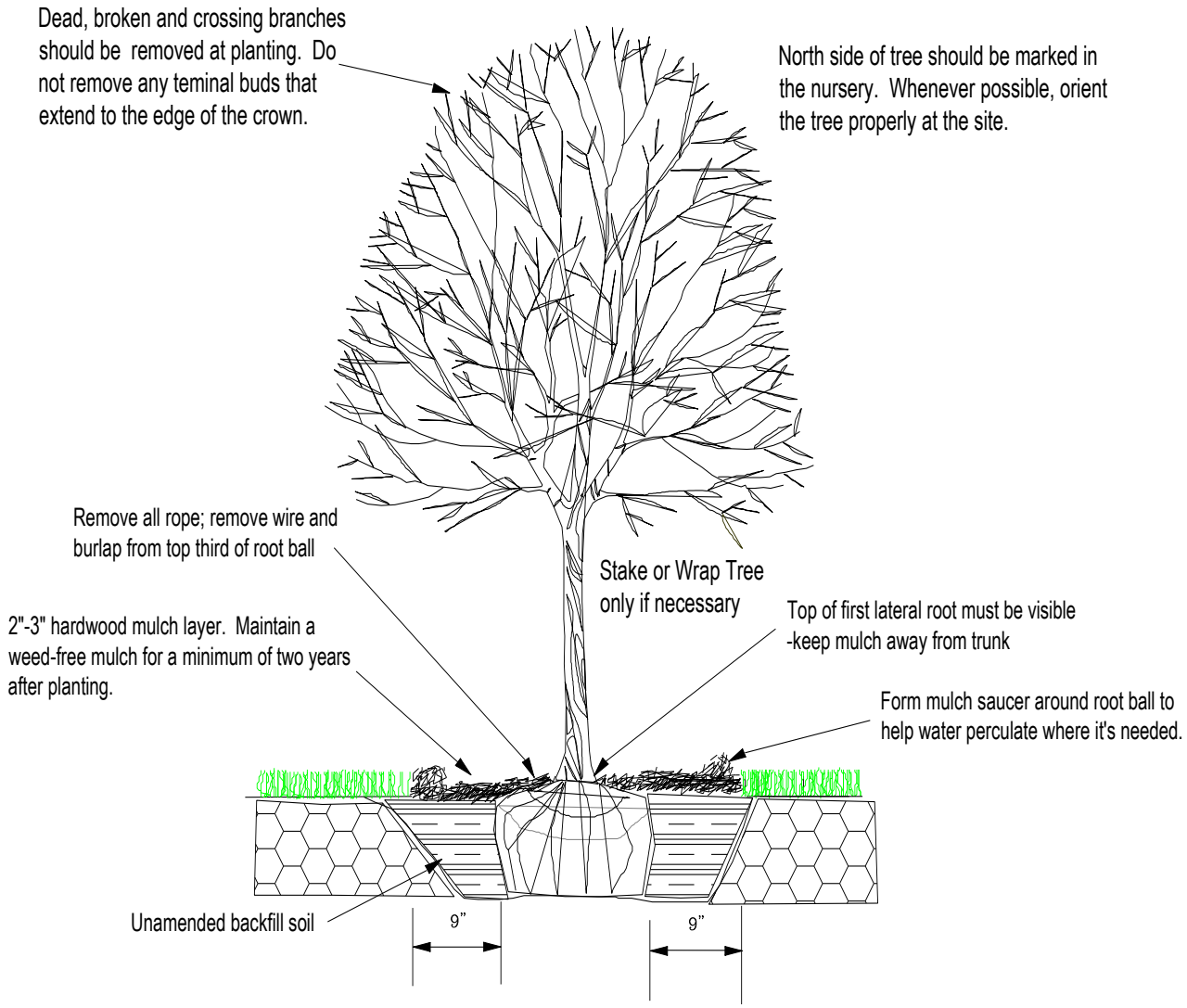
Mulching Practices/Tips

- **Keep mulch a few inches from tree trunks and shrub stems.** Mulch-covered trunks and stems may be prone to disease and rot.
- Mulching properly can improve soil fertility, soil aeration, help conserve soil moisture, and moderate soil temperatures.
- Mulch levels should not exceed 3 inches. Levels greater than three inches may not allow for necessary soil warming in the spring.
- As organic mulch decomposes, mulch should be added to achieve the optimum level of 2-3 inches.
- Prior to the addition of mulch, the existing layer of mulch should be raked and broken-up to prevent the creation of an impervious layer.
- Soil/grass clods shall be disposed of properly and not redistributed on top of the root system of the plant. No soil should ever be placed on top of the root ball. Planting beds shall be kept weed-free.

No Mulch Volcanoes!!

Top of first lateral root

Planting Detail



Planting hole should be at least 18" wider than the root ball. Top portion of hole should be wider than bottom. Place root ball on unexcavated soil so that root flare is barely higher than surrounding grade.

Prohibited Trees

These trees, for a variety of reasons, cannot be used to meet Code requirements. Trees listed below are not suitable due to weak wood, messy fruit, invasive root systems, pest problems and other reasons.

Scientific Name	Common Name
• *Acer negundo*	Box Elder
• *Acer saccharinum*	Silver Maple
• *Ailanthus altissima*	Tree of Heaven
• *Betula papyrifera*	Paper Birch
• *Betula pendula*	European White Birch
• *Catalpa speciosa*	Northern Catalpa
• *Fraxinus sp.*	Ash
• *Ginkgo biloba*	Ginkgo (female)
• *Maclura pomifera*	Osage-orange
• *Malus pumila*	Apple
• *Morus species*	Mulberry
• *Pinus nigra*	Austrian Pine
• *Populus species*	Poplar
• *Pyrus calleryana*	Callery Pear
• *Robinia pseudoacacia*	Black Locust
• *Salix species*	Willow (acceptable near ponds)
• *Sorbus aucuparia*	European Mountain Ash
• *Ulmus pumila*	Siberian Elm

Deer Resistant Trees

The following list was compiled through research of various resources and represents plants less commonly perused by deer. Few plants are completely deer-proof, but a number of species are undesirable enough to be left alone as long as other food is available. Drought and other situations that create a serious food shortage can cause deer to lose their inhibitions and eat otherwise less desirable plants -- including most of those listed below.

Scientific Name	**Common Name**
• *Acer species*	Maple
• *Amelanchier arborea*	Downy Serviceberry
• *Amelanchier canadensis*	Shadbush
• *Betula spp.*	River Birch
• *Carpinus spp.*	Hornbeam
• *Cercis canadensis*	Redbud
• *Cornus spp*	Dogwood
• *Crataegus spp.*	Hawthorn
• *Fagus spp.*	Beech
• *Ginkgo biloba*	Ginkgo
• *Gleditsia triacanthos*	Honeylocust
• *Liquidambar styraciflua*	Sweetgum
• *Liriodendron tulipifera*	Tuliptree
• *Magnolia spp.*	Magnolia
• *Nyssa sylvatica*	Blackgum
• *Picea spp.*	Spruce
• *Platanus spp.*	Sycamore
• *Pseudotsuga menziesii*	Douglas Fir
• *Quercus spp.*	Oak
• *Salix spp.*	Willow
• *Taxodium distichum*	Baldcypress
• *Tilia spp*.	Linden
• *Ulmus spp.*	Elm

Deer Resistant Shrubs

Scientific Name	Common Name
• *Aronia arbutifolia*	Red chokeberry
• *Berberis spp.*	Barberry
• *Buxus spp.*	Boxwood
• *Chaenomeles spp.*	Quince
• *Chamaecyparis pisifera*	Japanese Falsecypress
• *Clethra spp.*	Summersweet
• *Cotoneaster spp.*	Cotoneaster
• *Forsythia spp.*	Forsythia
• *Hamamelis spp.*	Witchhazel
• *Hydrangea spp.*	Hydrangea
• *Ilex glabra*	Holly
• *Juniperus spp.*	Juniper
• *Kerria japonica*	Japanese Kerria
• *Ligustrum spp.*	Privet
• *Lonicera*	Honeysuckle
• *Myrica pennsylvanica*	Bayberry
• *Pinus mugo*	Mugo Pine
• *Potentilla spp.*	Potentilla
• *Pyracantha spp.*	Firethorn
• *Spiraea spp.*	Spirea
• *Syringa vulgaris*	Common Lilac
• *Viburnum spp.*	Viburnum

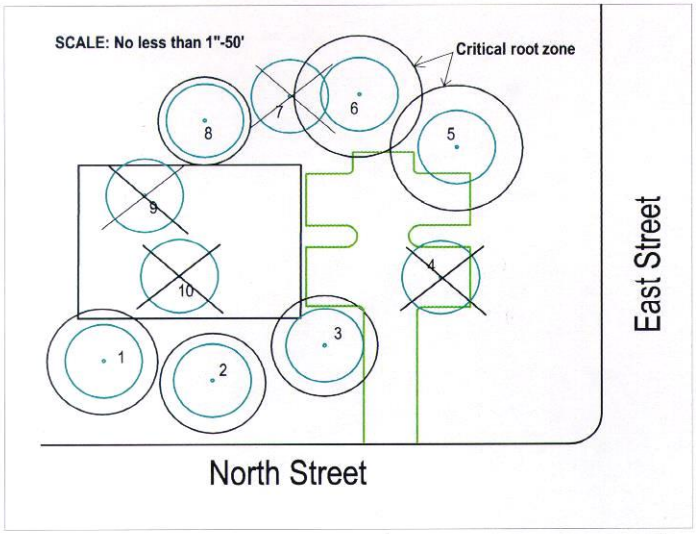
Tree Preservation Plans

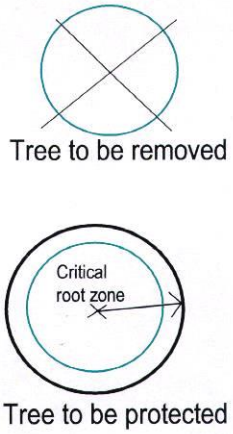
The following sample plans represent information required for submittal when working on a site containing protected trees. Please refer to the Dublin Landscape Code provisions for further information regarding tree preservation. Tree preservation measures start at the design phase when buildings, parking areas and utilities are located in such a way as to minimize disturbance to existing trees.

When healthy protected trees are removed (trees 6" or greater DBH), they must be replaced on an inch-for-inch basis. For example, if a healthy 22" walnut tree is removed, 22" of replacement trees must be installed on the property, or a fee may be paid if planting would result in overcrowding. The total number of tree replacement inches is a separate requirement from other planting requirements, including but not limited to, perimeter and street trees, additional site plantings, etc. A tree removal permit must be filed with the Planning Division prior to the removal of any protected tree.

Tree protection fencing must be installed as per the approved plan. A request for a tree fencing inspection must be called into the Planning Division prior to any construction activity (614-410-4600). In most cases, the inspection will take place the same day. Tree fencing must remain intact until permission has been granted by the Zoning Inspector to remove or relocate any portion. Removal or relocation of the fence or any encroachment thereof, without permission, will be subject to fines and a stop work order may be issued until City staff has determined compliance with code.

Example Tree Survey





TREE SURVEY DATA

NUMBER	DCH*	SPECIES	CONDITION AND TREATMENT
1	12"	Hackberry	Good-No treatment needed
2	15"	Hackberry	Good-Selectively Prune
3	15"	Red oak	Good-Root prune if damage occurs
4	8"	Red oak	Remove and replace
5	8"	Hackberry	Good-Root prune if necessary, deadwood
6	15"	Hackberry	Fair-Selectively prune
7	15"	Elm	Poor-Remove, replacement not required
8	20"	Elm	Fair-Remove deadwood
9	30"	Hackberry	Good-Remove and replace
10	30"	Basswood	Poor-Remove, replacement not required

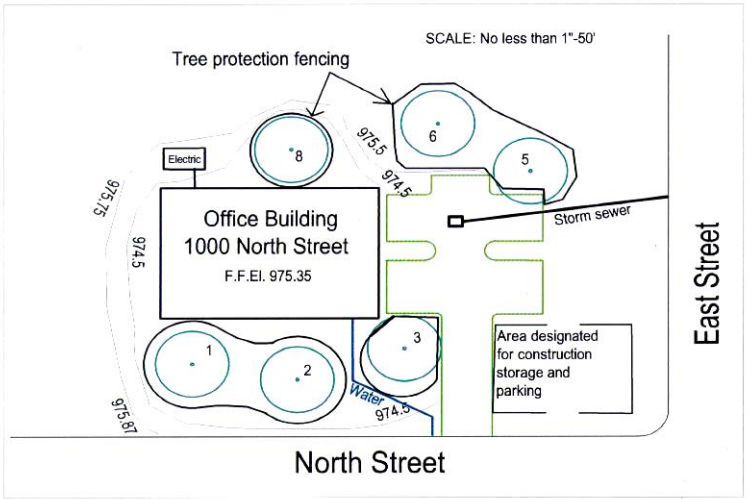
*DCH-Diameter at chest height

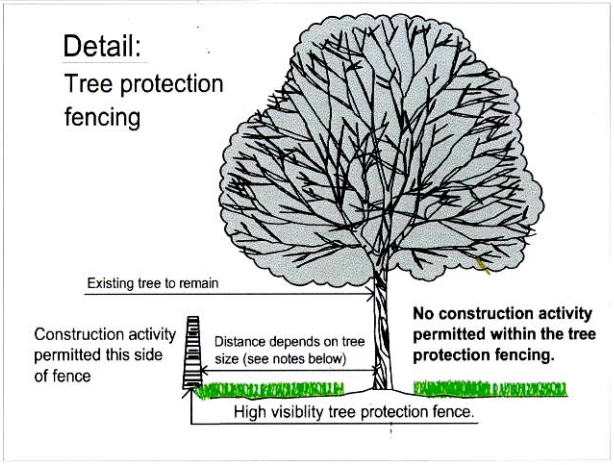
TREE REMOVAL DATA

38" to be replaced- Please refer to tree replacement plan.

*Critical root zone is the area inscribed by an imaginary line on the ground beneath a tree having it center point at the center of the trunk and having a radius equal to one foot for every inch of diameter chest height.
*A tree removal permit must be obtained from the Planning Division prior to the removal of any trees.
*Root pruning will be performed on any root damaged within the critical root zone as per the International Society of Arboriculture accepted standards.
*No work shall begin until plan approval and field verification by City staff.

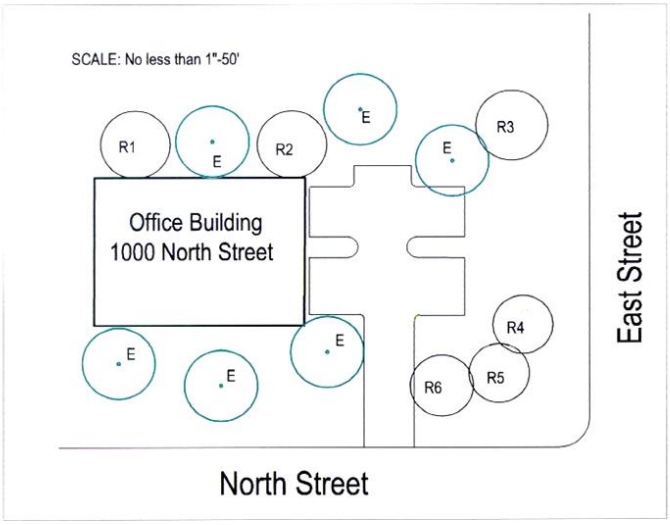
Example Tree Preservation Plan





*All trees not specifically designated for removal shall be preserved. Trees to be preserved shall be protected with high visiblity tree protection fencing placed at critical root zone, or 15 feet from the tree trunk, whichever is greater.
*Owner shall be responsible for the construction, erection, and maintenance of protection fencing. Fencing must remain in place during all phases of construction.
*Any change in placement of fencing must be approved by City staff.
*It is unlawful to fail to abide by the tree preservation plan or tree removal permit.
*Utilily locations are as identified. Any field change that affects the location of the tree protection fencing will be reflected on revised plans and coordinated with the Divison of Planning.

Example Tree Replacement Plan



TREE REPLACEMENT DATA

*Tree replacement species to be medium or large deciduous trees. Approval by City staff is required prior to installation.

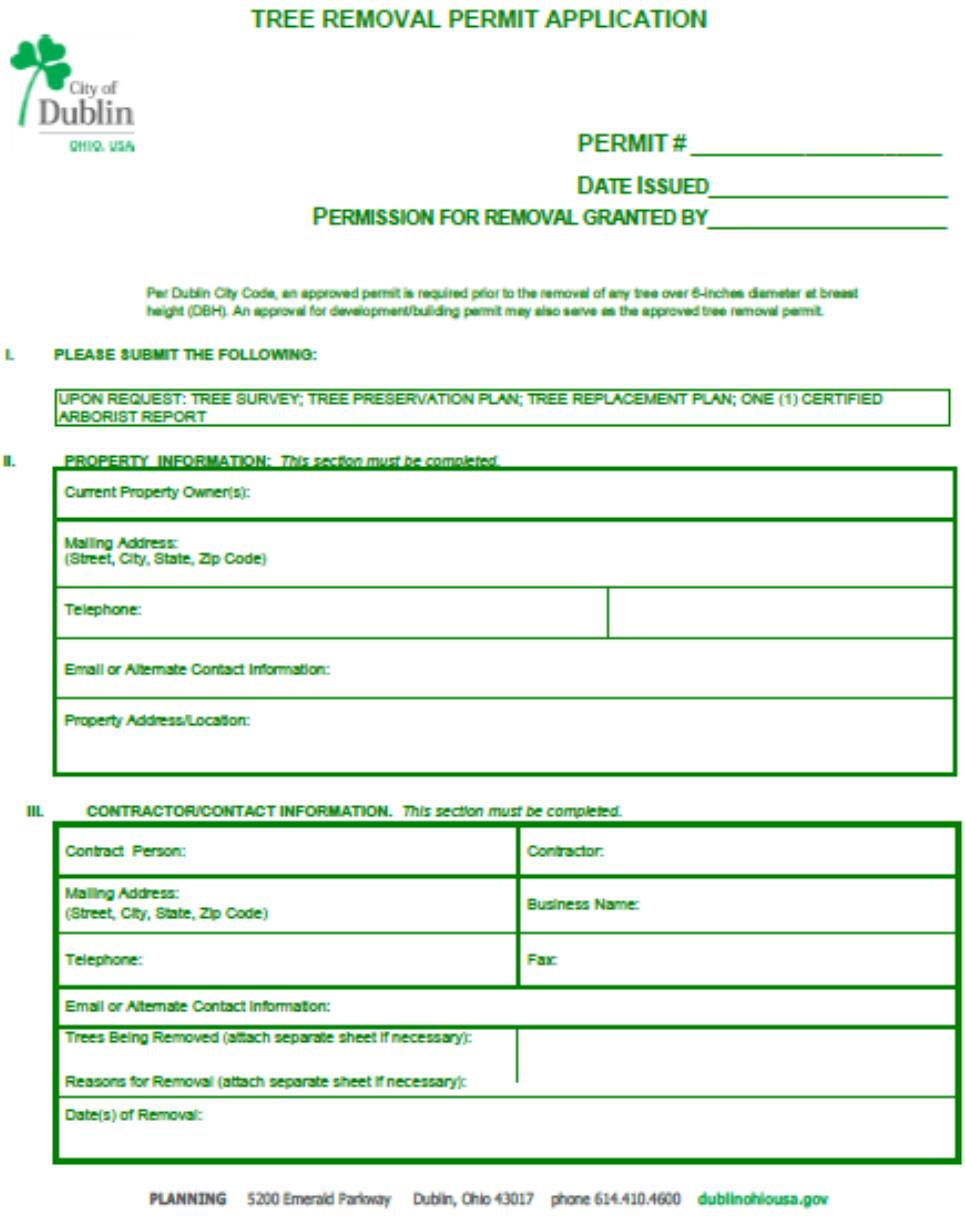
	CALIPER	SPECIES
E		Existing trees
R1	4"	*Fraxinus pennsylvanica* Green ash
R2	4"	*Phellodendron amurense* Amur corktree
R3	3"	*Quercus rubra* Red Oak
R4	3"	*Cercidiphyllum japonicum* Katsuratree
R5	2.5"	*Cercidiphyllum japonicum* Katsuratree
R6	2.5"	*Cercidiphyllum japonicum* Katsuratree
Total	19"	

Fee paid in lieu of replacing remaining19"= $1900

*Full tree replacement would result in overcrowding of the site. A fee for the remaining 19 inches (38" removed-19" replaced on site) to be paid to the City of Dublin through the Planning Division.
*Tree replacements to be planted within one year of removal of the protected trees.
*Health of the replacement trees will be assessed by the landscape contractor within the one-year warranty period and replaced if deemed unhealthy.
*Replacement trees can not be used to fulfill landscape code requirements. Existing trees may be used to meet landscape code requirements.
*Trees and shrubs required in the Landscape Code are not shown on this plan.

Tree Removal Permit

A tree removal permit shall be procured from the Planning Division prior to the removal of any protected tree (6" or greater DCH) as defined by Ordinance within the corporate limits of the City. Tree preservation plans, tree replacement plans, arborist reports and/or a site visit may be required prior to removal. City staff must approve and process the permit prior to removal. A permit can be downloaded from our website as well. **www.dublinohiousa.gov**



TREE REMOVAL PERMIT APPLICATION

City of Dublin
OHIO, USA

PERMIT # _____

DATE ISSUED _____

PERMISSION FOR REMOVAL GRANTED BY _____

Per Dublin City Code, an approved permit is required prior to the removal of any tree over 6-inches diameter at breast height (DBH). An approval for development/building permit may also serve as the approved tree removal permit.

I. **PLEASE SUBMIT THE FOLLOWING:**

UPON REQUEST: TREE SURVEY; TREE PRESERVATION PLAN; TREE REPLACEMENT PLAN; ONE (1) CERTIFIED ARBORIST REPORT

II. **PROPERTY INFORMATION:** *This section must be completed.*

Current Property Owner(s):	
Mailing Address: (Street, City, State, Zip Code)	
Telephone:	
Email or Alternate Contact Information:	
Property Address/Location:	

III. **CONTRACTOR/CONTACT INFORMATION.** *This section must be completed.*

Contract Person:	Contractor:
Mailing Address: (Street, City, State, Zip Code)	Business Name:
Telephone:	Fax:
Email or Alternate Contact Information:	
Trees Being Removed (attach separate sheet if necessary): Reasons for Removal (attach separate sheet if necessary):	
Date(s) of Removal:	

PLANNING 5200 Emerald Parkway Dublin, Ohio 43017 phone 614.410.4600 dublinohiousa.gov

Canada Geese Eradication

Over the years, the increase in population of Canada Geese on commercial properties in the City of Dublin has required owners to initiate eradication methods to keep these birds from damaging properties. According to their website, the Ohio Department of Natural Resources estimates a 500% increase in the population since 1979.

Techniques deployed for goose eradication can not include physical abuse. These migratory birds are protected by the U.S. Fish and Wildlife Service meaning it is a violation to harm or destroy and migratory bird, their nest or their eggs outside of regular hunting seasons. A permit to do so must be obtained from the ODNR, and there is more information on their website, **https://ohiodnr.gov/home .** Keep in mind, geese can become aggressive particularly when protecting their nesting locations, their young gosling or their breeding mates. Some of the information below can be found at the ODNR website.

- Using noisemakers
- Installing fencing around or across ponds
- Leaving a barrier strip of tall grass around ponds
- Using reflective materials at goose-eye level
- Discouraging people from feeding the geese
- Removing any potential nesting material
- Using Border Collies to chase away the geese
- Using Swan and Mallard decoys to discourage goose habitation
- Applying a biodegradable spray to the turf to give it an unpleasant taste

Prior to the use of any of these techniques, please contact the City of Dublin Planning to ensure compliance with applicable codes. (614-410-4600)