The Trees of Toronto Necropolis

Welcome to the Arboretum of the Toronto Necropolis

One of the finest tree collections in North America is to be found in Mount Pleasant Cemetery, in Toronto. The collection at Toronto Necropolis is considerably smaller, but has the same graceful beauty year-round. To make identification easy, sample trees bear small signs with both their botanical and common names.

Located in the historic Cabbagetown area of Toronto, the Necropolis (from the Latin necro: dead & opolis: world of) is the oldest of the ten properties currently operated by Mount Pleasant Group of Cemeteries.

Situated on the west slope of the Don Valley between Winchester and Gerrard Streets, the Necropolis was originally developed in 1850, as the city's second non-sectarian cemetery, by several Toronto businessmen who operated it until 1855.

Many of the trees within the cemetery are as old as 150 years or more; others were planted after its founding. Many, like the Caucasian wingnut, are native to other parts of the world. Others are native to Southern Ontario, but planted since 1850.

Within this booklet you will find photographs, descriptions and locations of a number of the cemetery's finest specimens, as well as a map indicating where they are to enable self-guided tours.

There is a glossary at the end of the document.

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The Benefits of Urban Trees

Providing many benefits to urban dwellers, trees are considered a form of “green infrastructure”:

Health Benefits

- Trees and green spaces are known to help ease the everyday stress and pressures of life;
- Even brief encounters with nature can improve one’s ability to concentrate;
- Trees and other roadside planting and landscaping can lower driver stress;
- Hospital patients with views of trees from their beds spend less time in hospital than those who have no view;
- Trees improve air quality by absorbing air pollutants (filtering particulates out of the air), removing atmospheric carbon dioxide, and producing oxygen. The average urban tree in Canada is estimated to remove about 200 kg of carbon over an 80 year period.

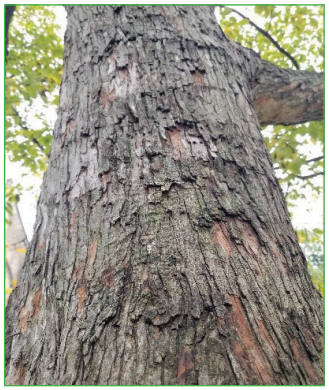
Community and Social Benefits

- Our urban forests improve out quality of life, while beautifying our communities;
- Well-landscaped grounds and trees are among the most important factors considered when people choose a place to live;
- Neighbours enticed outdoors by inviting green spaces, form friendships and community ties;
- Workers who can view nature from their desk are found to have better overall health, greater job satisfaction, lower frustration levels, and increased feelings of satisfaction with life overall;
- Inner city families with trees and greenery in their immediate vicinity have safer domestic environments;
- Well-cared for landscapes contribute to reduced feelings of fear and violence.

Economic and Environmental Benefits

- Properly placed trees can cut air conditioning needs by 30% and can reduce energy used for heating by 20 – 50%;
- Well-landscaped homes can see a 5 – 20% rise in property values;
- Shoppers have been known to spend up to 12% more for products in business districts with attractive urban forests;
- Trees prevent runoff and erosion, which results in improved water quality and reduced storm-water runoff or flooding;
- For every 1,000 trees, almost 3.8 million litres of storm-water runoff is prevented;
- Trees are also known as the carbon sinks of the earth, with the leaf area of each and every tree adding to the environmental benefits in terms of carbon storage;
- Trees are a critical source of habitat for many wildlife.

A Sampling of the Trees of Toronto Necropolis



1. Ironwood, *Ostrya virginiana*
(Section E)

This tough species is known for its dense and resilient wood. The outer bark exfoliates in thin plates that naturally flake off. Ironwood leaves can grow to 13 cm long and feel smooth, almost fluffy to the touch. They are considered an understory species, which means they are slow-growing and rarely reach heights greater than 15 m. They are sometimes referred to as Hophornbeam trees as their fruit resembles hops.

2. Hardy Rubber Tree, *Eucommia ulmoides*
(Section E)

Hardy Rubber Trees, which are native to China, have glossy and thick leaves. Their green flowers are small and often inconspicuous but can be found in bloom from March to May. They are a low growing species and reach a maximum height of 15 m.

3. Japanese Pagoda Tree, *Sophora japonica*
(Section E)

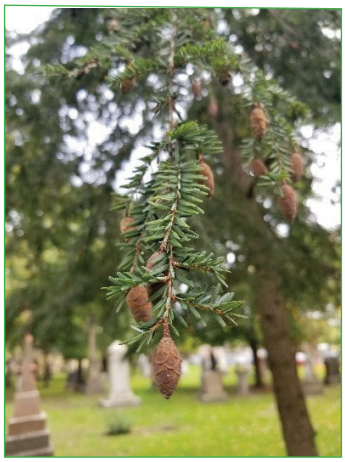
A member of the pea family, Japanese Pagoda Trees are great ornamental shade trees that are capable of tolerating urban conditions and compacted soils. In late summer they produce beautiful white chains of flowers. As they are in the pea family, they produce fruiting pods that resemble edamame

4. Saucer Magnolia, *Magnolia x soulangeana*
(Section E)

Saucer Magnolia is a hybrid Magnolia species that typically grows as a multi-stemmed large shrub or small tree. It was first bred in the early 1800s by a French botanist named Étienne Soulange-Bodin (who also happened to be a retired cavalry officer in Napoleon's army). Its distinct pink and white flowers are shaped like saucers and it can be found growing throughout North America and Europe.

5. Douglas Fir, *Pseudotsuga menziesii*
(Section A)

The needles of Douglas Fir trees are 2-4 cm long and soft to the touch. Their cones have tongue-like bracts that stick out all over and are a great way to differentiate Douglas Fir from other evergreens. It gets its name from a 19th century Scottish botanist named David Douglas who was known for introducing a number of North American tree species to Europe. In Ontario, Douglas Fir are medium-large growing tree, however, on the west coast, they can grow extremely large and up to 120 m tall.



6. Eastern Hemlock, *Tsuga canadensis*
(Section A)

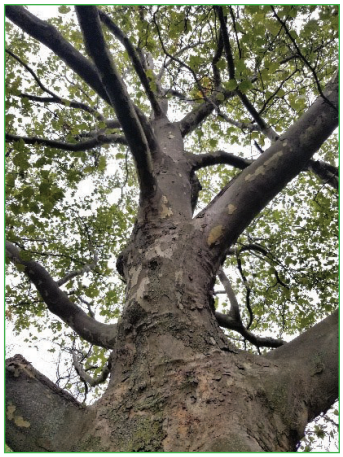
Eastern Hemlock are a coniferous species native to Canada. Their short needles are soft to touch and their small ovoid cones are rarely more than 2.5 cm in length. Eastern Hemlocks are a long-lived species that can commonly grow to be more than 400 years old. They can grow up to 30 m in height and are extremely tolerate of shade. It's not uncommon for a young Eastern Hemlock that's growing in the understory of a dense, shaded forest to eventually make its way to the overstory.

7. Northern Catalpa, *Catalpa speciosa*
(Section B)

You may recognize the long, slender, legume-like pods that this tree drops. Northern Catalpas are native to a small section of the Midwest United States, however, they are commonly planted along streets and in parks in Toronto. Because it is located in a cemetery, this particular tree does not have to deal with the same urban stresses as a tree planted along the street and is therefore able to grow as high as 30 m tall. Its leaves are large and heart-shaped and its flowers are white and trumpet-shaped.

8. Goldenrain Tree, *Koelreuteria paniculata*
(Section C)

The fruit pods of Goldenrain Trees resemble paper lanterns as they ripen from yellow/orange to pink/red in the fall. The leaves are pinnately compound with deeply serrated margins. This small to medium sized species is native to eastern Asia but has since become a popular landscape tree around the world.

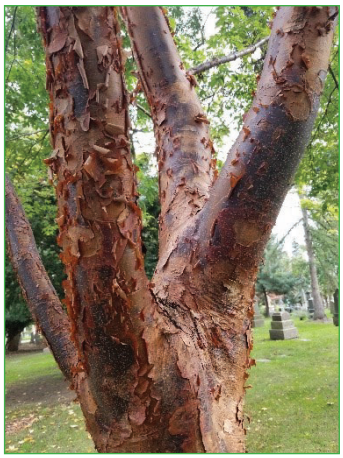


9. London Plane Tree, *Platanus x acerifolia*
(Section T)

London Plane is a hybrid species that was formed by two separate Sycamore species discovered in the 17th century. It has naturally exfoliating bark that looks similar to camouflage print clothing. Its leaves are maple-like and can grow up to 20 cm long. Its fruit are 2-3 cm spheres that are fluffy and easily break apart when dispersed through the wind. London Plane are desirable trees for the urban environment as they are efficient at removing pollutants from the air.

10. Sycamore Maple, *Acer pseudoplatanus*
(Section D)

This large-growing broadleaf species is native to central Europe. Sycamore Maples are known to reach heights of more than 30 m. Although their leaves look similar to those in the sycamore and plane genus (Platanus) they are distantly related. One major difference between the genera is the fact that Sycamore Maple leaves, like all maple leaves, are oppositely attached to the branch, while plane leaves are alternatively attached. The seeds of Sycamore Maples are toxic to horses.



11. Paperbark Maple, *Acer griseum*
(Section D)

Native to central China, Paperbark Maple are a small-sized species that grows no bigger than 9 m tall and 6 m wide. Its distinct red, exfoliating bark adds a great aesthetic to any landscape. Unlike most other maple trees, this species has leaves that are compound with 3 leaflets that range from 3-9 cm in length. Its red, orange, and pink fall foliage contrast beautifully with its bark.

12. Tamarack, *Larix laricina*
(Section D)

Also known as Hackmatack and Larch, Tamarack are deciduous evergreen trees that are native to every province and territory in Canada. It prefers wet, swampy locations but is tolerant of cemetery soil conditions such as this. Its needles are short (2-3 cm long) and exist in shoots of 10-20 needles. Its bark is flakey and plated and is generally considered a specimen tree in gardens or parks. Much like the Dawn Redwood, Tamarack needles turn orange in the fall before dropping.

13. Japanese Zelkova, *Zelkova serrata*
(Section D)

Japanese Zelkova is a medium-sized deciduous species that can grow up to 30 m tall. They have a unique structure that includes a short trunk that splits into many upright and spreading stems. The outer bark is typically gray that naturally exfoliates in patches to reveal orange inner bark. The small line-like bumps on the bark are called lenticels that allow for oxygen and carbon dioxide to enter and exit.

14. Black Locust, *Robinia pseudoacacia)*
(Section K)

In early summer the fragrant white flowers of Black Locust trees begin to bloom. This species is native to the United States and is considered invasive in some areas. Its leaves are pinnately compound with 9-15 leaflets but watch out for the sharp spines that stick out from the leaf base. Like most trees in the pea family, their roots are capable of nitrogen fixation.

15. Ginkgo, *Ginkgo biloba*
(Section K)

Also known as a Maidenhair tree, Ginkgos are a very old species with fossils that date as far back as over 200 million years. They are native to China, but are now widely cultivated around the world. Their fan-like leaves and tall, slender structure give this tree a unique aesthetic. In the fall, their leaves turn bright yellow before quickly dropping. They prefer direct sunlight, however, they are otherwise quite hardy and have wood that is insect and disease-resistant. It is also a long-lived species with some individual specimens around the world that are believed to be more than 2,000 years old.

16. Silver Maple, *Acer saccharinum*
(Section N)

Silver Maples fall under the category of ‘soft maple’ (as opposed to Sugar Maples, which are considered ‘hard maple’). They are a fast-growing species that is native to Ontario. Silver Maples are tolerant of urban conditions and are often planted as street trees, however, the trade-off for fast growth is that its wood is typically not as strong and more easily damaged in storms.

17. Camperdown Elm, *Ulmus glabra 'Camperdownii'*
(Section O)

In the early 1800s, the head forester of the Camperdown House in Dundee, Scotland discovered a genetically mutated Scotch Elm (*Ulmus glabra*) that exhibited weeping and twisted structure. That tree still stands today and every Camperdown Elm, including this one, can be traced back to it. To create this cultivar, cuttings of the original tree are grafted to the trunk of an existing Scotch Elm. The grafting point is clearly visible as an indented line just below where the trunk turns to branches. Camperdown Elms will never grow more than a few meters high and maintain their weeping structure throughout their lifespan.

18. Yellowwood, *Cladrastis kentukea*
(Section O)

Yellowwood trees get their name from their distinctly yellow heart wood. This is a small-growing species that usually grows to 10-15 m in height. Its leaflets are alternately arranged and its fragrant white flowers are reminiscent of wisteria.

19. Persian Ironwood, *Parrotia persica*
(Section L)

A member of the witch hazel family, Persian Ironwoods are wonderfully ornamental trees that are known for their brown/pink exfoliating bark and their ovoid, often lop-sided leaves. This species is native to northern Iran and the Alborz mountain range. When young, this tree grows fast and can eventually reach heights up to 30 m.

20. Amur Cork Tree, *Phellodendron amurense*
(Section Q)

Amur Cork Trees are medium-sized trees with corky bark that is soft and spongey to the touch. Their compound leaves and broad canopy provide great shade and they are tolerant of most urban conditions. Their fruit turn from green to black at the end of the season and resemble currants or small grapes.

21. Kentucky Coffee-Tree, *Gymnocladus dioicus*
(Section M)

Kentucky Coffee-Trees have a native range from the American Midwest up to the southern tip of Ontario. They are considered a Species at Risk in Ontario. They get their name from their pods, but beware that unroasted pods and seeds from this plant are toxic. They are one of the few species with bipinnately compound (double compound) leaves. This means that the middle vein of the leaf has branching secondary veins that also have their own leaflets.

22. Black Walnut, *Juglans nigra*
(Section I)

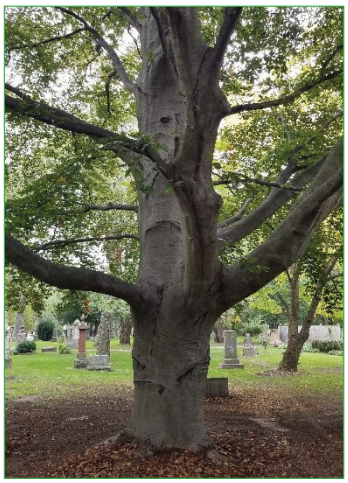
Native to North America, Black Walnut trees can grow up to 40 m tall and are valued for their lumber. Their leaves are compound and their nuts are edible, although they're generally not recommended to be harvested in an urban environment such as this because they can become contaminated if they've already started to decompose. Black Walnuts exhibit a phenomenon known as allelopathy. This means that the roots release a chemical that inhibits growth of nearby plants that share the same soil and are not resistant.

23. Japanese Maple, *Acer palmatum*
(Section I)

As a low-growing species, Japanese Maples are sometimes referred to as shrubs and are regularly planted as a specimen species in a garden. There are a huge variety of Japanese Maple cultivars that vary from knee-high in height with razor-thin leaves to ones that grow 5 m tall and have leaves with thick lobes. They are a popular species for use among bonsai enthusiasts.

24. Ivory Silk Lilac, *Syringa reticulata 'Ivory Silk'*
(Section H)

Ivory Silk Lilac is a low-growing tree that typically grows multiple-stems in an upright structure. Their dense, clustered flowers produce an attractive aroma and are beloved by bees, hummingbirds, and butterflies. The species is native to eastern Asia and is the largest of all lilac species. On average they grow 12 m tall and the trunk rarely exceeds 30 cm in diameter.

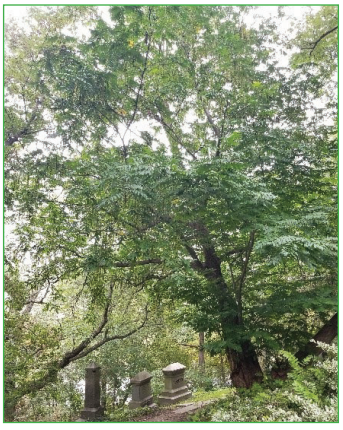


25. European Beech, *Fagus sylvatica*
(Section H)

The bark of European Beech is gray and smooth and some people say the trunk looks like the leg of an elephant. The beech nuts produced by this tree are loved by squirrels and their leaves tend to remain on the stems throughout winter even after they've died through a phenomenon called marcescence. European Beech are capable of growing over 30 m tall and can live up to a few hundred years.

26. Colorado Blue Spruce, *Picea pungens*
(Section F)

Be careful of this tree's needles! Although Colorado Blue Spruce are a beautiful shade of blue, they have sharp, stiff needles that are more prickly to the touch than most other evergreen trees. The tree grows in a pyramidal shape and produces 8-10 cm orange-brown cones. It can tolerate significantly low temperatures and as the name suggests it is native to the Colorado region of the United States.



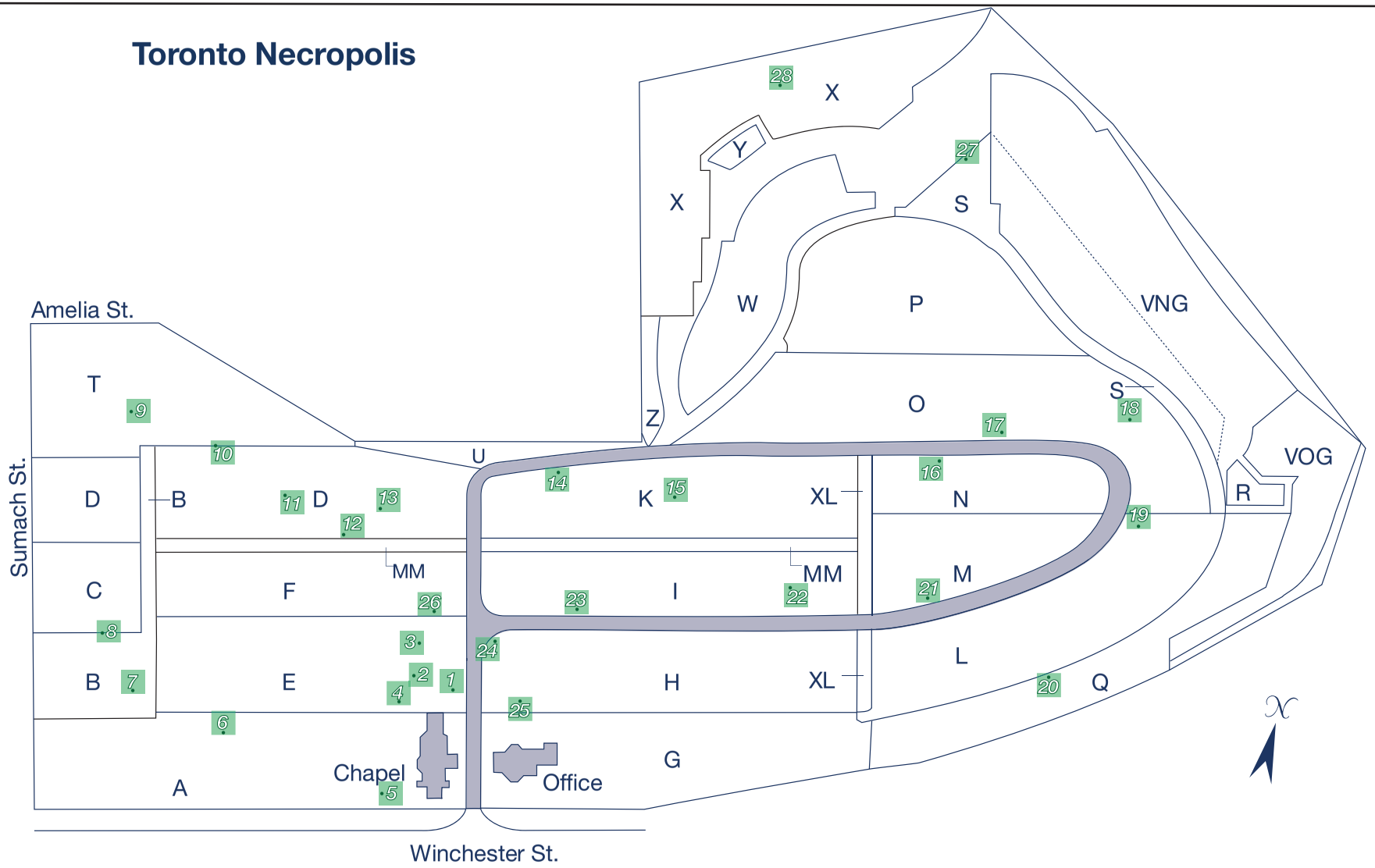
27. Caucasian Wingnut, *Pterocarya fraxinifolia*
(Section S)

The Caucausian Wingnut gets its name from its fruit, which are winged nutlets that hang in chains through the summer and fall. It is native to the Caucasian region of Azerbaijan, Armenia, Georgia, Iran, Russia, Turkey, and Ukraine. This fast-growing species often thrives in moist soils and slopes along river banks.

28. Dawn Redwood, *Metasequoia glyptostroboides*
(Section X)

Originally thought to be extinct, Dawn Redwood trees were first discovered in the mid-1900s in central China and are often referred to as "living fossils." They are closely related to California's giant Redwood Sequoia trees. Dawn Redwood are fast-growing and can reach up to 40 m tall. Their leaves are soft and unlike most coniferous (evergreen) trees, they are deciduous, which means they drop their leaves in the autumn. Their fruit look like cherry-sized pine cones.

Toronto Necropolis



1. *Ironwood*
2. *Hardy Rubber Tree*
3. *Japanese Pagoda Tree*
4. *Saucer Magnolia*
5. *Douglas Fir*
6. *Eastern Hemlock*
7. *Northern Catalpa*
8. *Goldenrain Tree*
9. *London Plane Tree*
10. *Sycamore Maple*
11. *Paperbark Maple*
12. *Tamarack*
13. *Japanese Zelkova*
14. *Black Locust*
15. *Ginkgo*
16. *Silver Maple*
17. *Camperdown Elm*
18. *Yellowwood*
19. *Persian Ironwood*
20. *Amur Cork Tree*
21. *Kentucky Coffee-Tree*
22. *Black Walnut*
23. *Japanese Maple*
24. *Ivory Silk Lilac*
25. *European Beech*
26. *Colorado Blue Spruce*
27. *Caucasian Wingnut*
28. *Dawn Redwood*

GLOSSARY

Acorn - nut-like fruit of an oak with a scaly cap.

Acuminate - tapering gradually to a point.

Alternate leaves - leaves arranged on alternating sides of the twig.

Bark - the protective external layer of tissue on the stems and roots of trees and shrubs.

Berry - an indehiscent fruit, with the seeds immersed in the pulp, for instance tomato.

Bole - also trunk refers to the main wooden axis of a tree.

Bract - modified leaf associated with flower or inflorescence, differing in shape, size or colour from other leaves (and without an axillary bud).

Capsule - dry fruit that splits open, usually along several lines, to reveal many seeds inside.

Catkin - dense, cylindrical, often drooping cluster of unisexual apetalous flowers found especially in willows, birches, and oaks

Compound leaves - leaves with more than one leaflet attached to a stalk called a rachis.

Conifer - trees and shrubs that usually bear their seeds in cones and are mostly evergreen; includes pines, firs, spruces, yews and Douglas fir.

Cross section - surface or section of tree shown when wood is cross-cut; shows the circular growth rings.

DBH, or Diameter at breast height - is a standard method of expressing the diameter of the trunk or bole of a standing tree. DBH is one of the most common dendrometric measurements. The diameter is measured at 1.37 (4.5 ft.) metres above ground.

Deciduous - having leaves that die and fall off trees after one growing season.

Deciduous Conifer - trees form cones and sprout needles like conifer trees. They change colours in the fall and lose their needles every year like deciduous trees.

Dioecious - having unisexual flowers with staminate (male) and pistillate (female) flowers born on different trees.

Drupe - fleshy fruit with a single stone or pit.

Entire margin - leaf margins that are smooth (not toothed).

Evergreen - trees and shrubs that retain their live, green leaves during the winter and for two or more growing seasons.

Family - group of closely related species and genera; scientific name ends in “aceae”.

Genus - a group of one or more species with similar features or ancestry in common.

Globose - spherical.

Habit - the general external appearance of a plant, including its size, shape, texture and orientation.

Husk - the outer shell or coating of a seed.

Inflorescence - the flowering portion of a plant; several flowers closely grouped together to form an efficient structured unit; the grouping or arrangement of flowers on a plant.

Lateral buds - buds found along the length of the twig (not at the tip); they occur where the previous year's leaves were attached.

Leaflets - small blades of a compound leaf attached to a stalk (rachis); without buds where they attach.

Lobe - part of a leaf (or other organ), often rounded, formed by incisions to about halfway to the midrib.

Marcescence - the retention of dead plant organs that normally are shed. It is most obvious in deciduous trees that retain leaves through the winter; withering but not falling off.

Margin - the edge, as in the edge of a leaf blade.

Monoecious - having unisexual flowers with staminate (male) and pistillate (female) flowers borne on the same tree, though often on different branches.

Needles - very thin, sharp, pointed, pin-like leaves; found on pines, firs and some other softwoods.

Nut - hard, dry fruit with an outer husk that sometimes does not split open readily and an inner shell that is papery to woody.

Opposite leaves - leaves arranged directly across from each other on the twig.

Orbicular - circular in outline.

Oval - broadly elliptic, with the width greater than one-half the length.

Palmate - leaf with veins radiating out from a central point (usually at the top of a petiole), resembling spread out fingers pointing away from the palm; having several lobes (typically 5–7) whose midribs all radiate from one point (resembling the palm of a hand).

Panicle - a compound raceme; an indeterminate inflorescence in which the flowers are borne on branches of the main axis or on further branches of these.

Pendulous - hanging, for example an ovule attached to a placenta on the top of the ovary.

Petal - a usually showy part of the corolla of a flower with multiple parts.

Petiole - a slender stalk that supports a simple leaf.

Pinnately compound - compound leaves in which leaflets are attached laterally along the rachis or stalk; leaves may be once, twice, or three-times pinnately compound.

Raceme - an indeterminate inflorescence in which the main axis produces a series of flowers on lateral stalks, the oldest at the base and the youngest at the top.

Rachis - the central stalk to which leaflets of a compound leaf are attached.

Samara - dry fruit with one or two flat wings attached to a seed.

Sapwood - living wood, often light coloured, found between the bark or cambium and the heartwood, usually darker coloured.

Serrate - toothed with asymmetrical teeth pointing forward; like the cutting edge of a saw.

Sessile - attached directly by the base; not raised upon a stalk or peduncle.

Simple leaves - leaves with one blade attached to a petiole, or stalk.

Species - trees with similar characteristics and that are closely related to each other; species is used in both the singular and plural sense.

Stamen - the pollen-bearing (male) organ of a flower.

Terminal bud - bud appearing at the apex, or end, of a twig; usually larger than other lateral buds.

Toothed/serrated margin - leaf margin with coarse, fine, sharp or blunt teeth.

Tree - though no scientific definition exists to separate trees and shrubs, a useful definition for a tree is a woody plant having one erect perennial stem (trunk) at least 7.5 cm in diameter at a point 1.37 m above the ground, a definitely formed crown of foliage, and a mature height of at least 3.9 m.

Toronto Necropolis
Cemetery

GATE CLOSING TIMES:

Daylight Saving Time to September 30th	8:00 p.m.
October 1st to Eastern Standard Time	6:00 p.m.
Eastern Standard Time to DST	5:30 p.m.

200 Winchester Street, Toronto, ON M4X 1B7
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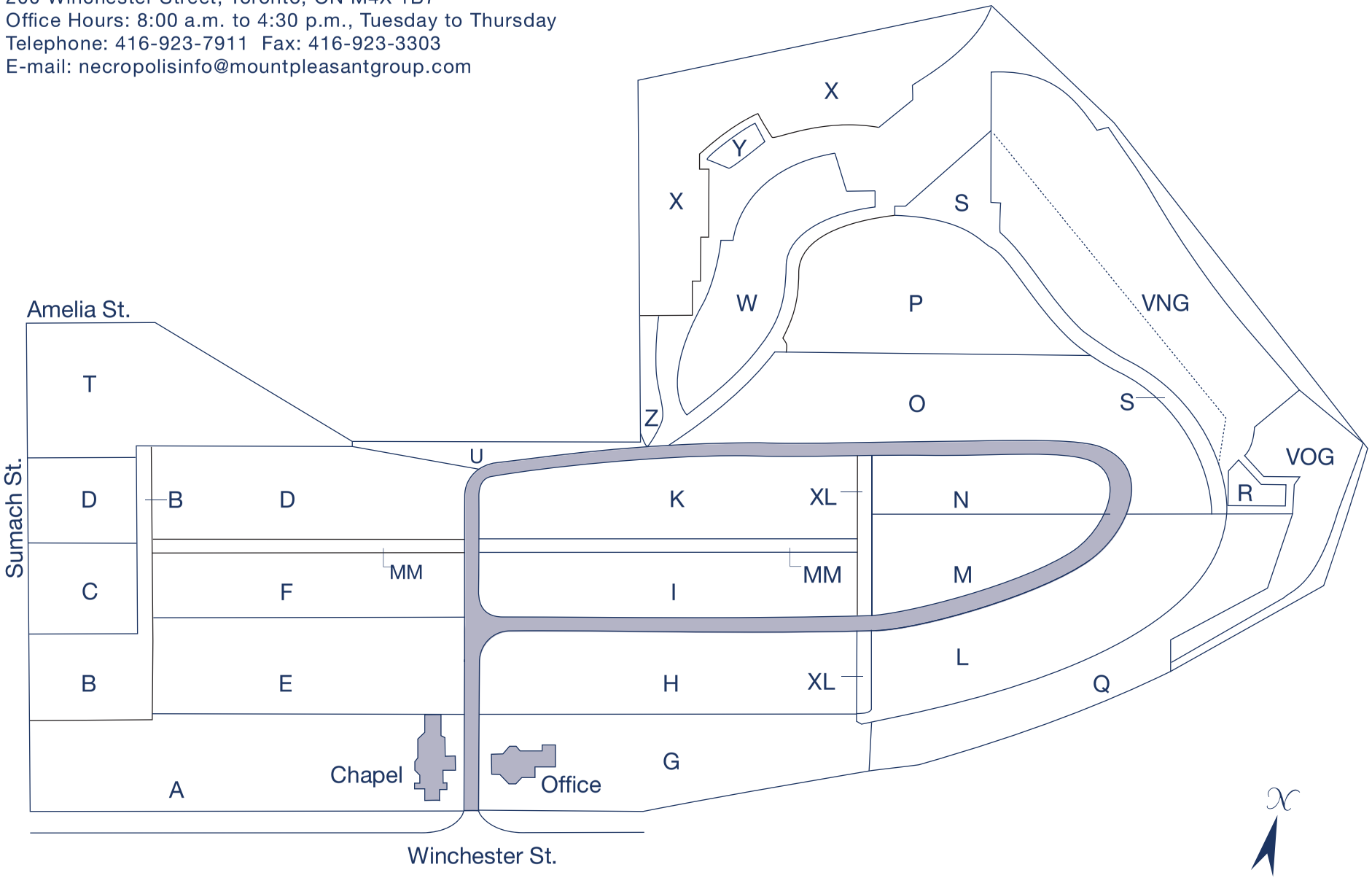

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