



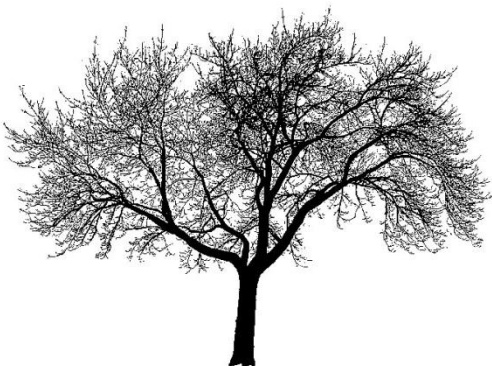
PARKS AND RECREATION DEPARTMENT

City of St. Thomas

TREE PLANTING STANDARDS

For New

Plans of Subdivision



Revised by the Parks and Forestry Division

November 2021

Tree Planting Standards For New Plans of Subdivisions

SUBJECT:

Tree Planting Standards for Developers and Contractors

INTRODUCTION:

The City of St. Thomas encourages and supports the use of street trees in new and existing developments. The goal of the City is to not just have street trees but to have every tree planted be able to reach the desired size and beyond where they are considered to be functional.

Functional street trees are an invaluable asset to the city as they contribute to storm water management, reduce the urban heat island effect and carbon monoxide/dioxide levels, as well as air borne particles; They are visually appealing and provide shade to cool homes, people, and animals/wildlife. They contribute to reducing noise pollution and wind speeds, aid in snow deposition, and give people a sense of security, while creating a healthier and more liveable community.

The city fully believes that if trees are given a good start at the time of planting by following the planting standards as set out in this document, we will succeed in getting the trees we plant today to reach the size needed to become functional trees in the future.

“*Tree*” means any species of perennial woody plant that has or can reach a height of 4.5 meters at physiological maturity. Tree includes root systems and all above ground parts of the tree

“*Street Tree*” means any tree planted within the municipal right-of-way.

1.0 PROCEDURAL GUIDELINES

- 1.1 The Developer shall be responsible for the submission of a detailed Boulevard Tree Planting Plan prepared by a Certified Arborist, Landscape Architect, Certified Horticulturist, or equivalent; in accordance with the Tree Planting Standards for New Plans of Subdivisions as set forth in sections 1 through 8.
- 1.2 The Boulevard Tree Planting Plan is to be shown on the standard plan of subdivision drawing or grading plan prepared by the consulting engineer (appendix 2).
- 1.3 The Boulevard Tree Planting Plan drawing shall:
 - a) Clearly identify the location of the trees,
 - b) Include other relevant infrastructure such as light poles, stop signs, hydro poles, hydrants, or other utilities
 - c) Include a Tree Planting Detail (appendix 3),
 - d) Include a road cross section addressing typical tree planting locations on boulevards with and without sidewalks,
 - e) Include a legend indicating tree species on each lot using both scientific and vernacular names, and proper short-form codes,
 - f) Indicate soil type,
 - g) Be designed and laid out consistent with all other drawings in the subdivision drawing set.

- 1.4 The Boulevard Tree Planting Plan is to be submitted to the City of St. Thomas Parks and Forestry division for approval at the time the subdivision design package is submitted to the Environmental Services department.
- 1.5 This document shall be always adhered to but may be amended by the Parks and Forestry Division at any time given that experience, new research or laws, or whenever circumstances make it advisable, that the approved methods in this document should be amended.
- 1.6 The Parks and Forestry division shall prepare lists of trees acceptable for planting in public spaces, and review at least once every two years, the species, cultivars and varieties included on the approval list to determine if any should be removed for any reason, or if certain new species, cultivars, or varieties of proven dependability and aesthetic value should be added.
- 1.7 The Developer must submit the standard Tree Locations and Species List (appendix 5) to the Parks and Forestry Division for approval prior to planting, as well as a sample of the public notification letter provided to each homeowner (see section 7.1).
- 1.8 The Parks and Forestry division shall be notified at least 48 hours prior to planting to allow for proper inspection of tree planting including the monitoring of the size of excavation, backfill, watering, compaction, tree, and planting quality.
- 1.9 Prior to the final acceptance the developer will be responsible for the removal of all stakes, ties, and tree guards.

2.0 TREE LOCATION AND SPACING

- 2.1 Tree planting is to be undertaken only after the lot has been developed and the final grading and sodding has been completed.
- 2.2 All trees are to be planted on the Municipal right-of-way.
- 2.3 Plant 1 tree per lot, unless property is large enough to allow for multiple plantings of up to three trees, approximately centered in the green space between the side yard property boundaries in accordance with the approved Tree Planting Plan.
- 2.4 No planting shall occur on any boulevards less than 1.8m (6ft) wide unless approved by the Parks and Forestry division
- 2.5 For boulevard tree planting locations where no sidewalk exists, within a 1.8m right-of-way, refer to the Urban Minor Local Road Cross-Section M-1 in appendix 9
- 2.6 For boulevard tree planting locations where a sidewalk exists on both sides of the road refer to the Urban Minor Local Road Cross-Section M-2 in appendix 10
- 2.8 For boulevard tree planting locations where sidewalk exists on one side of the road, refer to the Urban Minor Local Road Asymmetrical Cross-Section M-1A in appendix 11
- 2.9 No trees shall be planted inside the daylight triangle of any intersection and at least two meters (6.6 ft) from driveways and lanes.
- 2.10 No trees shall be planted closer than fifteen meters (15m/49 ft) to a stop sign or traffic signal light.
- 2.11 No tree shall be planted closer than four- and one-half meters (4.5m/15ft) to a utility pole, street light pole, or fire hydrant. Unless a small species tree is selected and approved by the Parks and Forestry division
- 2.12 The developer will only plant species whose nature, size, and planting location will not affect utilities and services below and above ground.

3.0 TREE SPECIES SIZE AND CONDITION

- 3.1 All street trees are to be deciduous or broad leaved trees climatically hardy to zone 6a, according to C.N.T.A (Canadian Nursery Trades Association) standards. Approved coniferous species can be used in special circumstances only as set out in appendix 8.
- 3.2 All deciduous trees species and their cultivars and varieties, shall conform to C.N.T.A (Canadian Nursery trades Association) standards and have a calliper of at least 50mm measured at 15cm above the root collar and at least two or three meters as a minimum size in height when planted, unless otherwise approved by the Parks and Forestry division.
- 3.3 Unless otherwise approved by the Parks and Forestry division all trees shall have a single stem, comparatively straight trunks, well developed leaders and branches, a well-developed root system characteristic of the species, cultivar, or variety, and show evidence of proper nursery pruning. All trees must be free of insects, disease, nutrient deficiencies, mechanical injury, and other objectionable features at the time of planting.
- 3.4 No trees other than those listed in appendix 8 are to be planted without the approval of the Parks and Forestry division.
- 3.5 The use of single species monocultures shall be avoided to prevent the spread of disease and pests, and the use of a variety of different trees, native to the deciduous forest region shall be encouraged whenever site conditions and design criteria merit such considerations.
- 3.6 All trees must be balled and burlapped or wire basket.
- 3.7 No single species shall exceed 20% of the number of trees in each Master Plan Development. No more than 15% of the total tree stock in any approved plan shall be from the ornamental tree category.
- 3.8 **GUARANTEE:** All trees must be guaranteed for a minimum of two growing seasons from the initial acceptance date (section 6.1). All replacement trees to be guaranteed for two years from the date of the replacement planting.

4.0 PLANTING METHOD

- 4.1 All trees shall be planted in accordance with the specifications set out by the Parks and Forestry division as set below and illustrated in appendix 3.
- 4.2 **PLANTING TIME:** The tree planting season for southern Ontario is generally spring before the leaves begin to bud (mid April to the end of May), and autumn, after the leaves have fallen (mid September to the end of October). Some trees do better when planted in the spring rather than in the fall and vice versa.
- 4.3 **LOCATES:** The Developer is responsible for locating and marking all underground utilities prior to digging. All utilities and infrastructure damaged or disturbed during construction shall be the responsibility of the developer.
- 4.4 **HOLE DIMENSIONS:** Pits dug for planting of balled and burlapped or wire basket trees shall be a minimum of sixty centimetres (60cm/2ft) larger than the root ball to allow for proper backfilling of the tree. Soil in the bottom of the planting pit shall be undisturbed, or firmly tamped to support the root ball and reduce settling.
- 4.5 **PLANTING DEPTH:** Trees shall be planted so that the root flare is level with the finished grade of the surrounding soil. Where heavy clay exists, trees are to be two to five centimetres (1-2 in.) high. Where poorly drained soil is encountered, provision for surface and or below grade drainage shall be made and/or a tolerant species selected.

- 4.6 ROOT BALL: All wire and burlap is to be cut and removed from the base of the trunk and the top 2/3 of the root ball. These items are to be removed after the tree has been placed in the hole.
- 4.7 BACKFILL: Shall be the soil that was excavated from the tree pit, compacted enough to support a free-standing tree, be free of air pockets, and of a loam topsoil mixture with similar properties as surrounding soil if excess soil is required.
- 4.8 WATER: When planting is completed, the entire area shall be saturated with water and a slow-release watering system shall be installed (i.e.: Gator Bag/TreeDiaper®)
- 4.9 FERTILIZER: No fertilizer is required at the time of planting. However, mycorrhizal root treatment is required at time of planting
- 4.10 PRUNING: Pruning practices following transplanting shall consist of the removal of dead, broken, or injured branches only; trees with no leader or which have been “headed-back”, or where branches have been excessively tipped back to meet height/price requirements will **not** be approved.
- 4.11 STAKING: All trees shall be staked according to accepted arboriculture practices. Trees shall be double staked with either Bamboo poles or 50mm x 50mm (2”x 2”) wooden stakes, inserted outside the root ball. Tie the top of the stakes to prevent trunk from hitting the top of the stakes. Stakes are to be located opposite each other, parallel to the road or in the direction of the prevailing winds when the location is exposed to strong winds. Stakes are to be removed by developer prior to the final acceptance (section 6.2).
- 4.12 TIE SUPPORTS: Guy attachments shall be biodegradable, non-abrasive ties or approved alternative. All guy supports shall be placed opposing each other, fastened in a manner so they will not girdle or abrade the tree, endanger public safety, and allow for some movement.
- 4.13 MULCH: All trees shall be mulched, with four inches of composted wood chips, shredded bark or similar organic mulch. Mulch area should include the root ball diameter plus one foot. Ensure mulch is not mounded around tree trunk, and all turf in mulched area is removed to the base of the tree.
- 4.14 TREE GUARD: All trees shall have an approved tree guard placed around the base of the tree of ArborGard+®, all other guards must be approved by the Parks and Forestry division.
- 4.15 All infractions to planting standards indicated on the initial assessment for corrections shall be immediately corrected to allow the trees the best chance at survival.

5.0 GENERAL MAINTENANCE

- 5.1 All maintenance practices shall follow ISA arboriculture practices and standards.
- 5.2 All trees must be thoroughly watered at time of planting by the contractor, and the developer will be responsible for installing a slow-release watering system (i.e.: Gator Bag/TreeDiaper®)
- 5.3 Trees are to be maintained by the developer until final acceptance by the Parks and Forestry division. This includes the tree, watering, mulch and stakes whether destroyed by vandalism or natural causes (section 6.2).

6.0 ACCEPTANCE

- 6.1 INITIAL ACCEPTANCE: The developer is responsible for contacting the Parks and Forestry division at minimum 48 hours prior to the start of planting for purposes as set

out in section 1.8, as well as when tree planting has been completed, so an initial assessment (appendix 6) can be completed on the trees. The initial assessment will ensure all trees meet the planting standards that are set out in this document. Once completed the Parks and Forestry division will notify the developer of any planting infractions that will require immediate corrections, and that the 2-year guarantee period has begun.

The Parks and Forestry division shall have the initial acceptance completed within 30 days after the date of notification that all the trees have been planted.

- 6.2 FINAL ACCEPTANCE will be provided in writing to the developer from the Parks and Forestry division after two full growing seasons from date of planting, and after the Parks and Forestry division has completed the final assessment (appendix 7). The final assessment will only be done during the spring or summer months, after the tree has fully leafed out, and before the leaves change colour in the fall. Depending on the time of planting the two-year guarantee may be extended, or shortened by a maximum of 30 days, to do a proper assessment. Where the health of the tree is in doubt, the Parks and Forestry division reserves the right to extend the guarantee period and or may require replacement plantings.

The Developer is responsible to notify the Parks and Forestry division at the time Environmental Services is notified, that the end of the 2-year guarantee period is approaching. Notification should be received a minimum of 30 days prior to the end of the guarantee period to allow sufficient time for the final assessment to be completed.

7.0 TREE PLANTING NOTIFICATION

- 7.1 The developer is responsible to notify homeowners of the intent to plant trees using the Standard Notification letter provided by the Parks and Forestry division, as set out in appendix 4. This planting notification prepared by the Parks and Forestry division provides information for the homeowner on the importance of watering and the early care of newly planted trees. It should explain the importance of stakes, the wood chip mulch and the serious damage or death caused by mowers and trimmers to young trees. It should ask the homeowner to keep the base of the tree free from weeds and grass and not to mound soil or mulch up around the stem. Information should be provided on the two-year guarantee period, and the necessity to not trim, remove the tree supports or guard or wood chip mulch. A developer contact name and phone number shall be provided should the homeowner encounter any problems such as survival, vandalism, or replacements

The developer is responsible for incorporating their contact information into the letter and submitting it the Parks and Forestry division for reference at the time of delivery.

8.0 The following appendices are attached and form part of this policy;

1. Important information
2. Example Boulevard Tree Planting Plan
3. Tree Planting Detail
4. Standard Notification Letter
5. Tree Locations and Species List
6. Initial Assessment Form
7. Final Assessment Form
8. Approved Tree species list
9. Urban Minor Local Road Asymmetrical Cross-Section – R-02
10. Urban Local Road Cross-Section – R-03
11. Minor Urban Collector Road Cross-Section – R-04

Appendix 1

IMPORTANT INFORMATION:

- 1) All plant materials shall be nursery stock
- 2) Stake all trees
- 3) Dig all tree pits 60cm or 2 feet larger than root ball and place tree in the center of the pit on undisturbed or firmly tamped soil. Back fill with parent material free of foreign objects.
- 4) For grading and drainage see engineering plans prepared by _____
- 5) Specific tree planting locations for each lot are to be determined by the Tree Planting Guidelines set by the city of St. Thomas and as shown on Lot Grading Certification Plans, or Tree Planting Plans
- 6) All tree dimensions are in millimetres unless otherwise noted
- 7) All plant materials are to be guaranteed for two years from the date of the Initial Acceptance by the City of St. Thomas Parks and Forestry Division
- 8) Prior to the commencement of construction, all existing underground utilities within the limits of the construction site shall be located and marked. Any utilities and or infrastructure damaged or disturbed during the construction shall be repaired or replaced to the satisfaction of the City of St. Thomas at the Developers expense
- 9) Plant materials shall be installed as shown; substitutions allowed only after consultations with the Parks and Forestry Division
- 10) Predominant soil type in the area is _____

Appendix 2

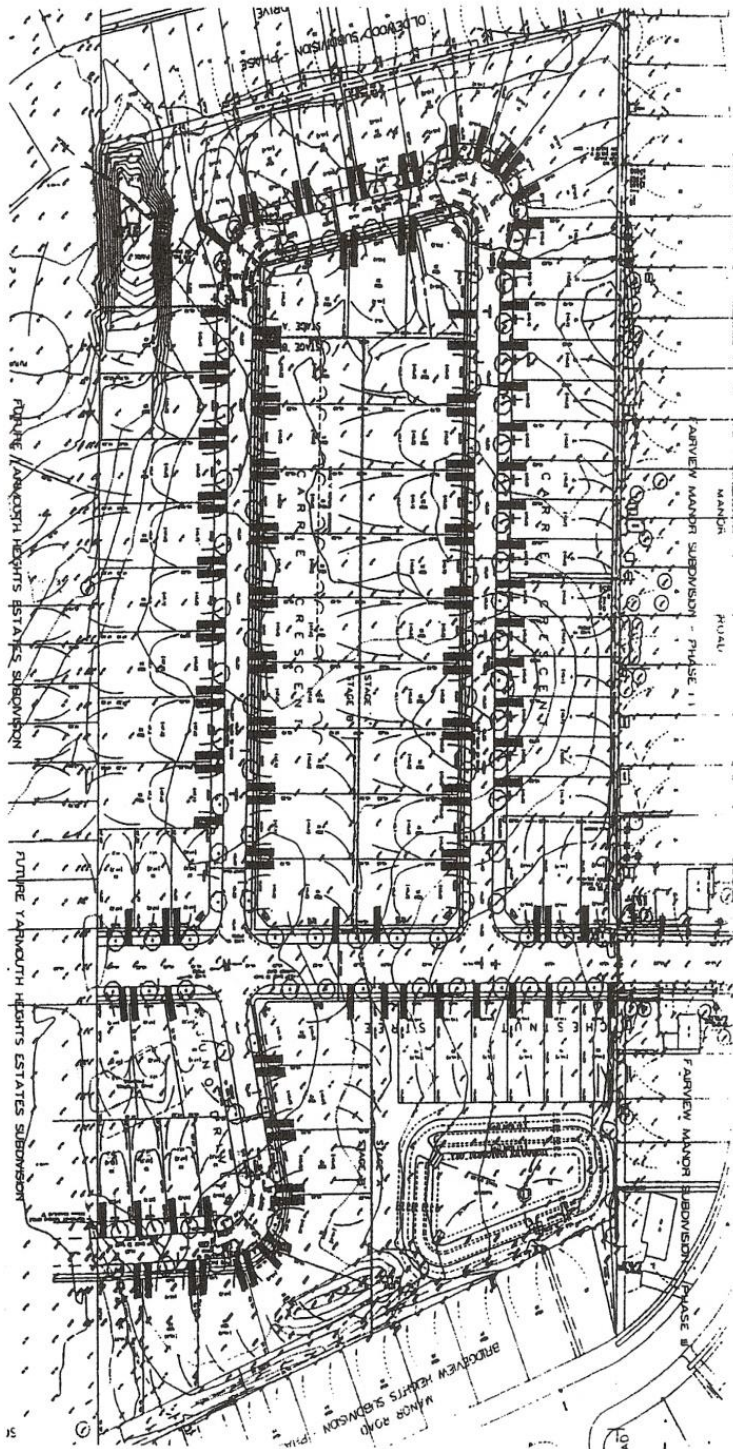
EXAMPLE:

The Boulevard Tree Planting Plan Drawing shall:

- 1. Clearly Identify the location of Trees
- 2. Include the Tree Planting Detail
- 3. Include a Legend indicating trees
scientific name, common name, and size (mm).
- 4. Indicate soil

Soil Type: Silty Clay Loam

Key	Scientific Name	Common Name	Size
As	<i>Acer saccharum</i>	Sugar Maple	50mm
Af	<i>Acer freemanii</i>	Freeman maple	50mm
Qr	<i>Quercus rubra</i>	Red Oak	50mm
Qro	<i>Quercus robur</i>	English Oak	40mm
TcGl	<i>Tilia cordata</i> 'Glenleven'	Glenleven Linden	50mm
Gd	<i>Gymnocladus dioicus</i>	Kentucky coffee Tree	40mm



TREE PLANTING DETAIL

Do not prune the **Central Leader**

Prune only where branches are dead or broken

Stakes shall be bamboo poles or 2in x 2in wooden stakes, inserted outside the root ball and located opposite each other parallel to the road or in the direction of the prevailing wind when location is exposed to strong winds

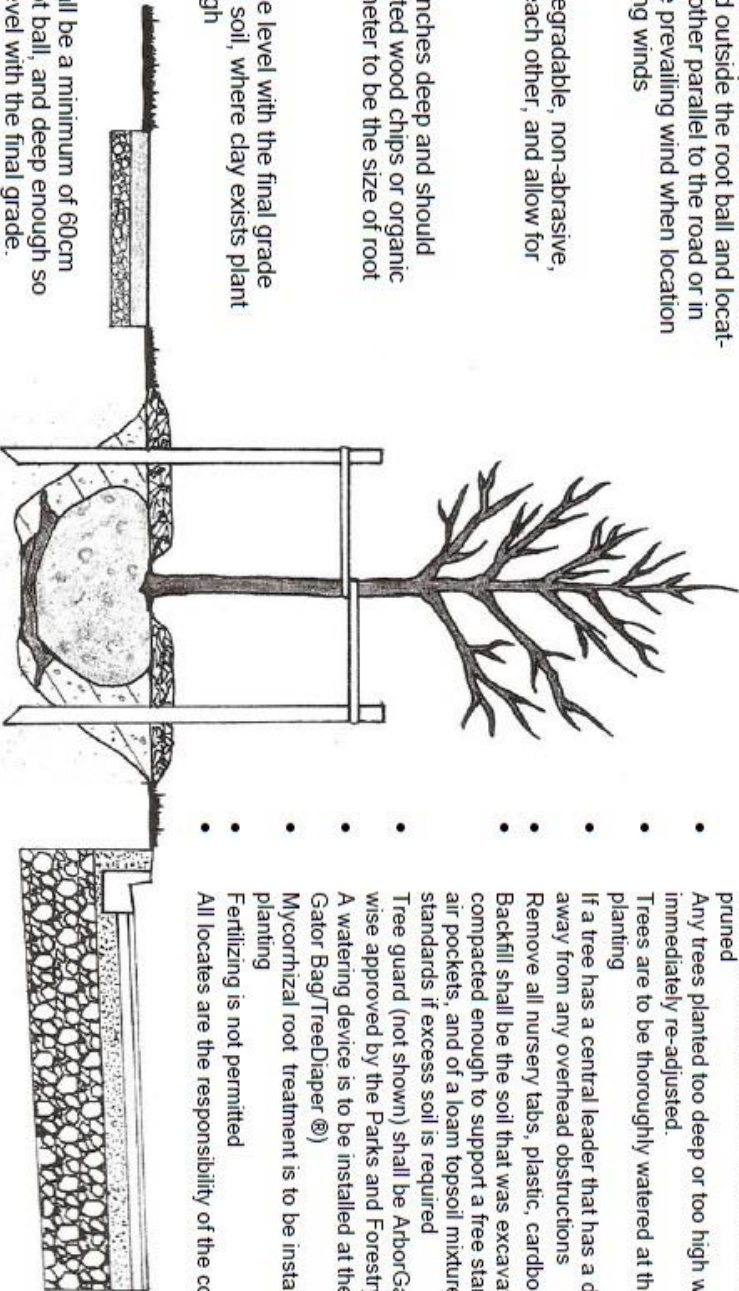
Ties shall be biodegradable, non-abrasive, placed opposing each other, and allow for some movement

Mulch shall be 4 inches deep and should consist of composted wood chips or organic material, at a diameter to be the size of root ball plus 1 foot

Root Flare shall be level with the final grade of the surrounding soil, where clay exists plant 2-5 centimeters high

Planting hole shall be a minimum of 60cm larger than the root ball, and deep enough so the trunk flare is level with the final grade.

Base of the planting hole shall be undisturbed or firmly tampered enough to not allow the root ball to settle



IMPORTANT

- This detail does not represent any particular species
- Trees must be at least 50mm unless otherwise approved by the Parks and Forestry Division
- Will not accept trees with more than 1 leader, no central leader, trees showing signs of stress, nutrient deficiencies, mechanical injury, or trees that have been excessively pruned
- Any trees planted too deep or too high will have to be immediately re-adjusted.
- Trees are to be thoroughly watered at the time of planting
- If a tree has a central leader that has a defined lean, direct away from any overhead obstructions
- Remove all nursery tabs, plastic, cardboard or metal.
- Backfill shall be the soil that was excavated from the tree pit, compacted enough to support a free standing tree, be free of air pockets, and of a loam topsoil mixture equivalent to ISA standards if excess soil is required
- Tree guard (not shown) shall be ArborGard+®, unless otherwise approved by the Parks and Forestry Division
- A watering device is to be installed at the time of planting (ie: Gator Bag/TreeDiaper ®)
- Mycorrhizal root treatment is to be installed at the time of planting
- Fertilizing is not permitted
- All locates are the responsibility of the contractor

Drainage shall be designed to comply with specific road specifications

Keep mulch 1 to 2 inches away from the base of tree

Cut and Remove all wire, burlap, and twine from around the base of the trunk, and the top 2/3 of the root ball. Remove these items after the tree has been placed in the hole



City of St. Thomas Tree Planting Standard

SCALE NTS	REVISED BY CM SR	CHECKED BY JB AJ	LAST REVISION 2021	TEMPLATE 8.5" x 11"	LETTER B
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Appendix 4

STANDARD TREE PLANTING NOTIFICATION 2021

Dear Home Owner/Resident:

This (season), developer name, will be planting a tree on the municipal right-of-way in front of your property.

This service is part of a program to ensure the City of St. Thomas will always be a well-treed city and to increase the urban canopy cover.

The contractor will give the tree its first watering at the time of planting and install a slow-release watering system (i.e.: Gator Bag/TreeDiaper®) Please continue to monitor the watering system to ensure it is releasing the water correctly. The system should be filled weekly from spring through fall and increased to twice weekly if the weather is hot and dry.

Extreme caution should be exercised when mowing and using line trimmers near the base of trees to not injure the stem of a young tree and cause its eventual death. Please remove weeds and grass from around the base of the tree and ensure the mulch remains intact. Mulch is an important part of tree maintenance because it can help cool the soil below when moist, it holds in moisture, controls weeds, and protects the tree from injuries sustained by lawnmowers and trimmers. It is important to not mound the mulch so it is directly touching the base of the stem or to add mulch to exceed the maximum depth of four inches.

The tree in front of your property has a two-year guarantee. Please do not trim the tree or remove the tree supports or tree guards, as this is the responsibility of (developers name). Should the tree begin to show signs of stress, requires maintenance of broken branches, need replacing or the slow-release watering system is not working properly please contact:

(developer/name) at (contact information)

Sincerely

Developer/Contractor name

Appendix 5

Developer:

Subdivision: _____

Phase: _____

Name of Assessor : _____

Date of Assessment : _____

Name of Assessor : _____

Date of Assessment : _____

[illegible]

Appendix 6

Approved Tree Species Listings

A guide to tree species selection for trees planted along the municipal right-of-way.

A Certified Arborist, Landscape Architect, Certified Horticulturist, or equivalent is responsible for proper species selection.

The number of tree species suitable for planting on urban streets is limited to the total known to be hardy to the deciduous forest region as well as in the urban forest. The size, texture and ornamental value of selected species should vary with the scale and function of the street:

The following are suggestions to take into consideration when selecting a tree species:

- Overhead and underground utilities
- Restricted space above or below ground
- Boulevards or front yard size
- Soil quality
- Historic neighbourhoods
- New subdivisions (where compaction and adverse soil conditions exist)
- Older neighbourhoods, quieter streets and neighbourhoods bordering park lands

Tree species shall be chosen for their disease and insect resistance, salt and air pollution tolerance, shape and size at maturity, and their hardiness. They shall be able to resist wind and ice storm damage, and be without excessive litter or have an offensive odour. Each tree species has specific site conditions that they require that shall be considered upon selection.

The use of single species monocultures should be avoided to prevent the spread of disease and pests. The use of native species should be encouraged whenever site conditions and design criteria merit such considerations.



City of St. Thomas Tree Planting List for
Plans of New Subdivisions

Trees are one of our most important landscape features. If a tree is not properly matched to the landscape site, the tree can become more of a liability than an asset. Each tree species requires certain site requirements that should be considered during the planning process. Selection of the right tree species for a particular site is one of the most important decisions to ensure long-term benefits, beauty and satisfaction.

The following considerations should determine the selection of species:

- The size, texture and ornamental value of the selected species should vary with the scale and function of the street.
- Existing conditions including soil type, moisture, available growing space above and below ground.
- Proximity to hydro wires, lighting fixtures, hydrants, vaults, underground utilities, sewers and sidewalks.
- Tree species shall be chosen for their disease and insect resistance, salt and air pollution tolerance and hardiness.

Once the conditions of the site are fully understood, the right tree can be selected. The following is a lists of trees recommended for New Subdivisions in the City of St. Thomas.

* means *Native to the Deciduous Forest Region*

APPROVED TREES FOR PLANS FOR NEW SUBDIVISIONS

The following are a list of tree species proven to be tolerant of urban site conditions:

Large Shade Tree Suggestions:

Freeman Maple*	<i>Acer x freemanii</i>
Sycamore Maple	<i>Acer pseudoplatanus</i>
Native Red Maple*	<i>Acer rubrum</i>
October Glory Red Maple*	<i>Acer rubrum</i> ‘October Glory’
Autumn Blaze Maple*	<i>Acer freemanii</i> ‘Autumn Blaze’
Red Sunset Maple*	<i>Acer rubrum</i> ‘Red Sunset’
Silver Maple*	<i>Acer saccharinum</i>
Common Hackberry*	<i>Celtis occidentalis</i>
Japanese Katsura Tree	<i>Cercidiphyllum japonicum</i>
Turkish Filbert	<i>Corylus columna</i>
Ginkgo	<i>Ginkgo biloba</i>
Princeton Sentry Ginkgo (males only)	<i>Ginkgo biloba</i> ‘Princeton Sentry’
Shademaster Honey Locust*	<i>Gleditsia triacanthos</i> ‘Shademaster’
Amur Cork Tree (males only)	<i>Phellodendron amurense</i>
London Plane Tree	<i>Platanus x acerifolia</i>
American Basswood *	<i>Tilia americana</i>
Accolade Elm	<i>Ulmus</i> ‘Accolade’
Pioneer Elm	<i>Ulmus glabra</i> x <i>carpinifolia</i>
Zelkova	<i>Zelkova serrata</i>
Bur Oak*	<i>Quercus macrocarpa</i>
Blue Ash* ***Must be grown from seed or grafted from Blue Ash***	<i>Fraxinus quadrangulata</i>
Kentucky Coffee Tree*	<i>Gymnocladus dioicus</i>

Medium to Small Tree Suggestions:

Hedge Maple	<i>Acer campestre</i>
Amur Maple	<i>Acer ginnala</i>
Miyabe Maple	<i>Acer miyabei</i>
Thornless Hawthorn	<i>Crataegus crus-galli</i> var. <i>inermis</i>
Oakleaf Mountain Ash	<i>Sorbus thuringiaca</i> 'Fastigiata'
Ivory Silk Lilac	<i>Syringa reticulata</i> 'Ivory Silk'
Little Leaf Linden	<i>Tilia cordata</i>
Glenleven Linden	<i>Tilia x flavescens</i> 'Glenleven'
Greenglobe Linden	<i>Tilia cordata</i> 'Greenglobe'
Greenspire Linden	<i>Tilia cordata</i> 'Greenspire'
Crimean Linden	<i>Tilia x euchlora</i>
Sterling Silver Linden	<i>Tilia tomentosa</i> 'Stirling Silver'
Lacebark Elm	<i>Ulmus parvifolia</i>
Jacan Elm	<i>Ulmus davidiana</i> var. <i>japonica</i> cv 'Jacan'

UNACCEPTABLE TREES Include: Conifers, *Populus*, *Salix*, *Betula*, *Malus*, *Crataegus* with thorns, *Acer platanoides*, *Prunus virginiana*, *Pyrus*, *Fraxinus* other than *quadrangulata*

SPECIAL CIRCUMSTANCES:

Coniferous trees

Although not acceptable to be used as a street tree, in special circumstances such as in the center islands on cul-de-sacs, or as screening, coniferous trees may be accepted with the approval from the Parks and Forestry division.

Species not on the list

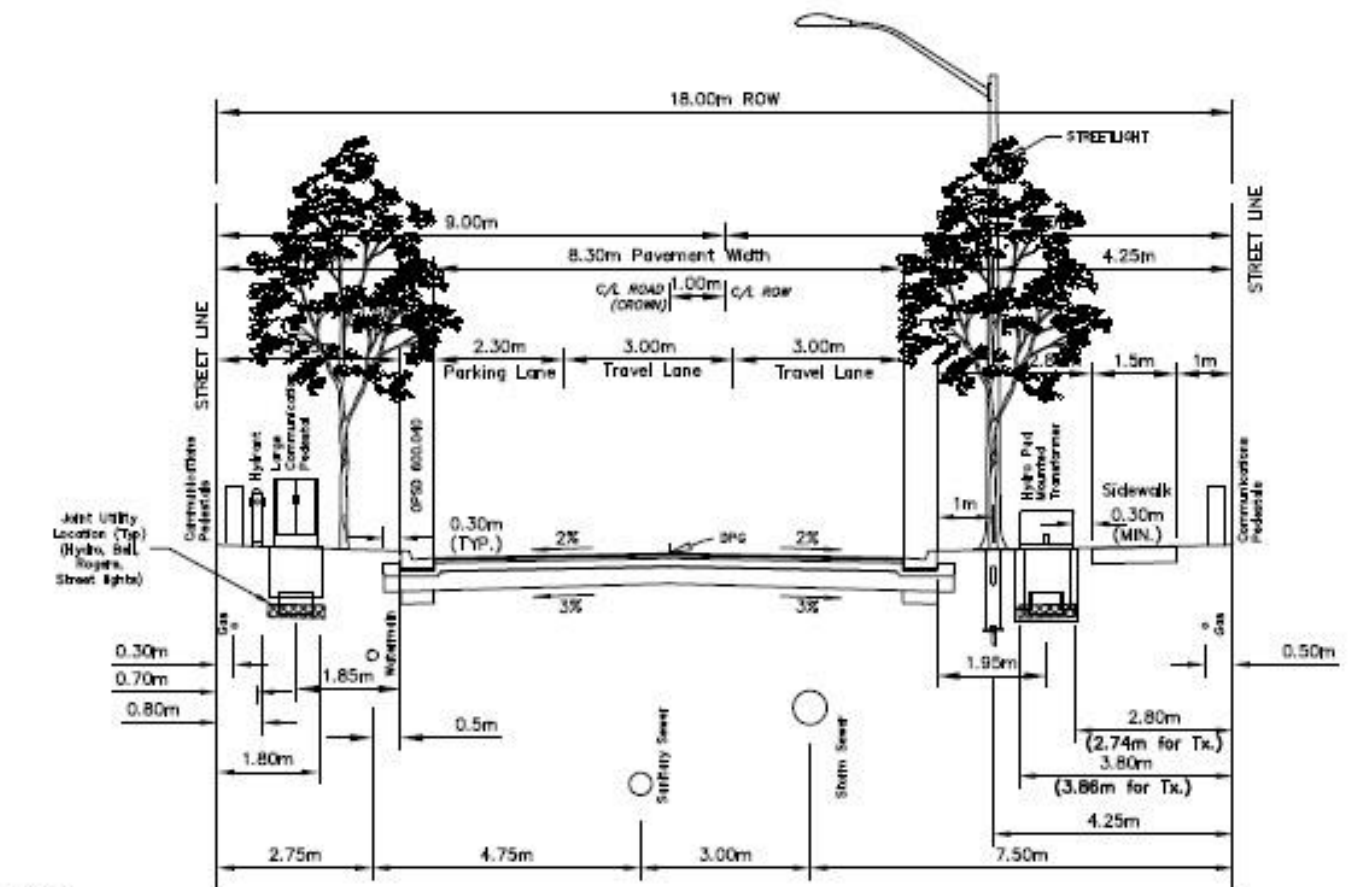
The below tree species are examples that are more specific in their site requirements and may be used if appropriate conditions for each tree can be met. The list is not limited to the species below. Planting these species or any species not listed in the document will require the approval of the Parks and Forestry division.

Sugar Maple	<i>Acer succharum</i>
Tulip Tree	<i>Liriodendron tulipifera</i>
Pin Oak	<i>Quercus palustris</i>
Red Oak	<i>Quercus rubra</i>

* means **Native to the Deciduous Forest Region**

Prepared and revised by the Parks and Forestry division

Last Revision November 2021



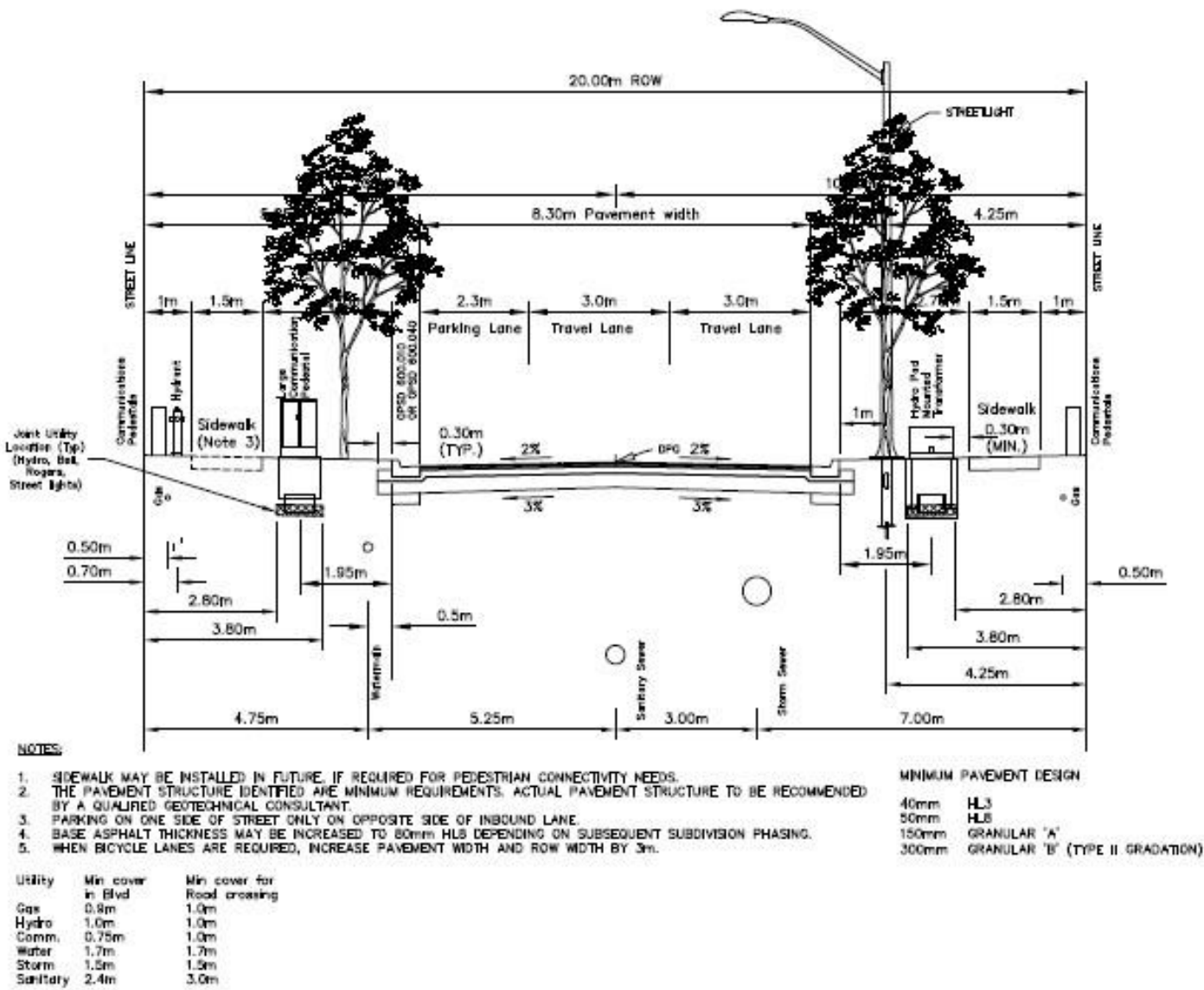
TYPICAL CROSS SECTION

NOT TO SCALE
ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED

CITY OF ST. THOMAS STANDARD DRAWING

**URBAN MINOR LOCAL ROAD
ASYMMETRICAL CROSS-SECTION**

REVISION DATE: JAN 2021
DRAWING #: R-02



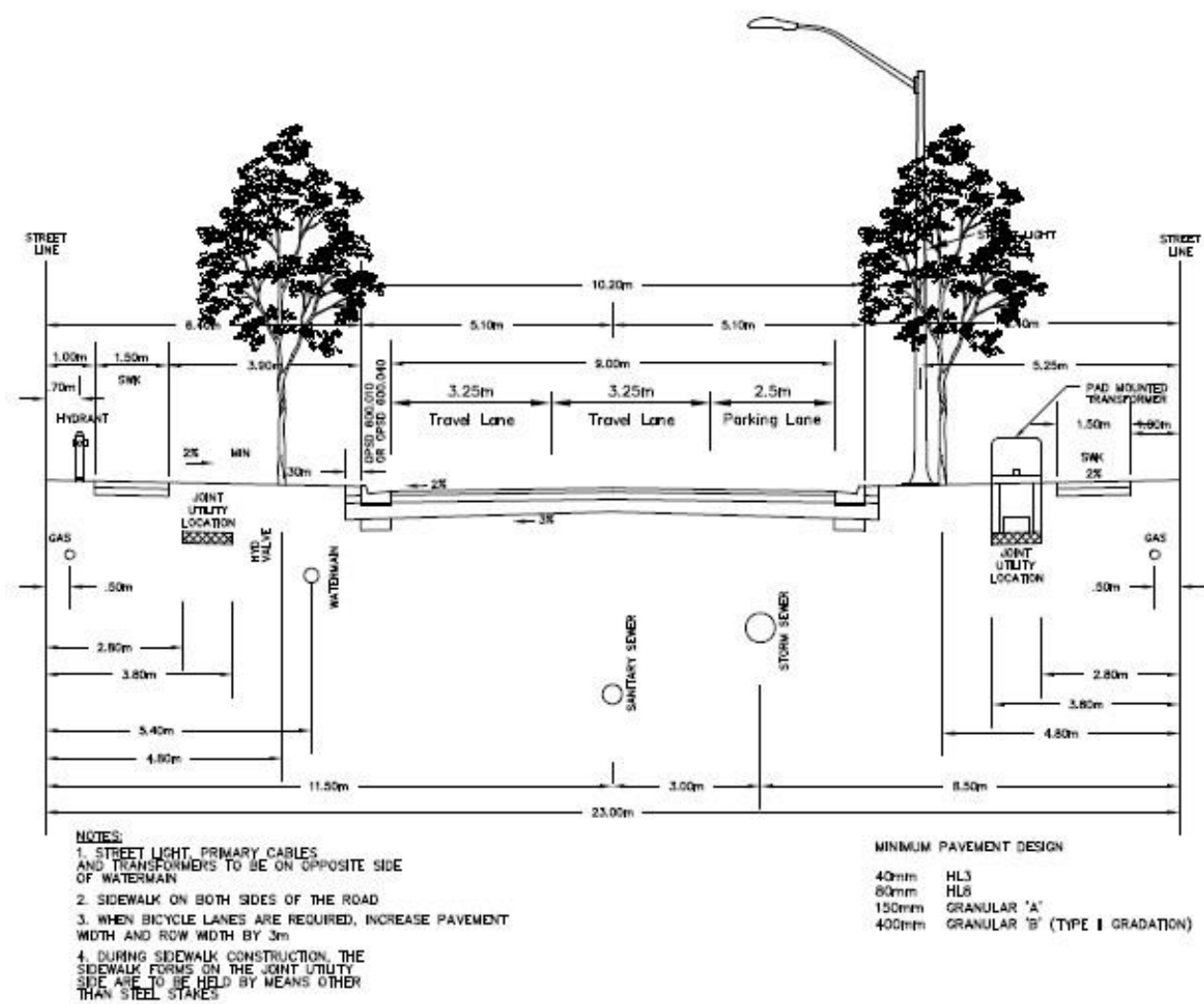
TYPICAL CROSS SECTION

NOT TO SCALE
ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED

CITY OF ST. THOMAS STANDARD DRAWING

URBAN LOCAL ROAD
CROSS-SECTION

REVISION DATE: JAN 2021
DRAWING #: R-03



TYPICAL CROSS SECTION

NOT TO SCALE
ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED

CITY OF ST. THOMAS STANDARD DRAWING

MINOR URBAN COLLECTOR ROAD
CROSS-SECTION

REVISION DATE: JAN 2021
DRAWING #: R-04