



City of Vernon

***LANDSCAPE
STANDARDS
BYLAW
#5015***

Consolidated for Convenience

THE CORPORATION OF THE CITY OF VERNON

BYLAW NUMBER 5015

A bylaw to require owners or occupiers to install landscaped areas on property that they own or occupy according to standards

WHEREAS pursuant to Section 15-2 of the *Community Charter*, Council may require persons to apply a standard for the purposes of installation of **landscape areas** on the property that they own or occupy;

AND WHEREAS Council deems it necessary to require owners or occupiers of real property to meet requirements for **landscape areas** on property that they own or occupy through standards for **plant materials**, **lawn areas**, **natural areas**, irrigation, **edging**, **weed barrier**, and **ground cover materials**;

NOW THEREFORE the Council of the Corporation of the City of Vernon, in open meeting assembled, hereby enacts as follows:

1. This bylaw may be cited as “City of Vernon Landscape Standards Bylaw No. 5015, 2006”. The Landscape Standards Materials Selection Guide is attached as Schedule ‘A’.
2. In this bylaw:
 - (a) “**edging**” shall mean materials of treated wood, stone, concrete, metal or plastic installed to separate landscape areas of differing **ground cover material** and to separate landscape areas from other uses on the property.
 - (b) “**ground cover materials**” shall mean materials utilized for the covering of weed barrier in **landscape areas**, and/or acting as a weed barrier. Materials include but are not limited to Ogo-grow, fine fir mulch, bark mulch, and rock.

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- (c) “**irrigation**” shall mean the system for the distribution of water to **plant materials**.
- (d) “**landscape areas**” shall mean areas of planted materials including lawn areas.
- (e) “**landscape professional**” shall mean the property owner, an accredited arborist, horticulturist, or landscape architect; or a person or persons possessing a minimum of five years experience in **plant material** installation and or **plant material** maintenance; or under the direct supervision of an accredited arborist, horticulturist, or landscape architect.
- (f) “**lawn areas**” shall mean areas on a property seed planted or of sod that is comprised of grass species plant materials, areas are intended to be mowed, irrigated, and otherwise maintained as required.
- (g) “**legacy tree**” shall mean a tree suitably located, and provided sufficient suitable landscape area, to grow to full maturity.
- (h) “**natural areas**” shall mean areas of undisturbed vegetation comprised entirely of, or dominated by (greater than 60% of biomass) natural vegetation species from the areas natural eco-system. Buffer creation adjacent to natural areas will need to be addressed on a site by site basis to ensure that the natural features, species complement and habitat protection measures appropriate for each project are addressed. Preliminary information for the identification of project specific considerations is to be taken from the EMA Strategy and the Hillside Guidelines.
- (i) “**plant materials**” shall mean trees, shrubs, grasses, vines, perennials, lawns, and annuals installed or planted by persons.
- (j) “**pruning**” shall mean the cutting of shrub or tree materials according to the appropriate time of year and species requirements as determined and conducted by a landscape professional.
- (k) “**root guard**” shall mean manufactured material approved for the protection of adjacent structures due to tree root growth.

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- (l) “**sod**” shall mean plant materials consisting of grass species that are grown on a commercial for the purposes packaging (cut into strips and rolled) for installation at another location.
- (m) “**suitable irrigation**” shall mean the provision of either drip **irrigation**, sprinkler **irrigation**, or hand watering at a water volume and interval appropriate for the healthy growth of **plant materials, including the allowance for reduced irrigation during natural dormancy periods**. All irrigation systems are to be designed to ensure that the watering needs for new landscaping can be met without unnecessary watering of surrounding impervious areas, neighbouring properties or other inappropriate spaces. In addition, irrigation systems should be designed for short term use with the intention that all landscape plantings are to be self sustaining after a specific period of time after planting. The duration of necessary irrigation is to be determined on a project basis as there are many different irrigation requirement conditions throughout Vernon.
- (n) “**suitable soil**” shall mean soil that is free from weeds and consisting of a soil texture, pH level , nutrient content level, and organic material appropriate for the vigorous growth of **plant materials**.
- (o) “**Vernon Landscape Standards Materials Selection Guide**” attached as Schedule ‘A’, shall mean a guide developed and maintained by the City of Vernon that provides specific species requirements according to the property zone, location, and use.
- (p) “**weed**” shall mean **plant materials** not installed by a person on the land and also includes all noxious weeds as defined under the Weed Control Act, R.S.B.C. 1996, c 487.
- (q) “**weed barrier**” shall mean a layer of fabric or suitable mulch material that inhibits the growth of weeds in **landscape areas**.
- (r) “**xeriscape landscaping**” shall mean landscape areas of **plant materials, soils, irrigation, and ground cover materials** intended to

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reduce the amount of water the **landscape areas** require while still presenting an aesthetically pleasing landscape.

3. The owners and occupiers of any and all real property within the following zones as per Zoning Bylaw #5000, as amended shall comply with the requirements of this bylaw:

- (a) R5 – Four-Plex Residential
- (b) R5A – Semi-Detached Residential
- (c) RM1 – Row Housing Residential
- (d) RM2 – Multiple Housing Residential
- (e) RH1 – Low-Rise Apartment Residential
- (f) RH2 – Stacked Row Housing Residential
- (g) RH3 – High-Rise Apartment Residential
- (h) HR2 – Hillside Residential Multi-Family
- (i) HR3 – Hillside Residential Apartment
- (j) C1 – Neighbourhood Commercial
- (k) C2 – Transitional Commercial
- (l) C3 – Mixed Use Commercial
- (m) C4 – Street-Oriented Commercial
- (n) C5 – Community Commercial
- (o) C6 – Village Commercial
- (p) C7 – Heritage Business District
- (q) C8 – Central Business District
- (r) C9 – Regional Commercial C10 – Tourist Commercial
- (s) C11 – Service Commercial
- (t) C12 – Convention Hotel
- (u) RTC – Resort Commercial
- (v) CD1 – Comprehensive Development Area
- (w) CD2 – Comprehensive Development Area 2
- (x) CD3 – Comprehensive Development Area 3
- (y) I1 – Light Industrial
- (z) I2 – Airport Industrial

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- (aa) I3 – Heavy Industrial
- (bb) I4 – Business Park
- (cc) I5 – Extraction Industrial
- (dd) P1 – Parks & Open Space
- (ee) P2 – Public Institutional
- (ff) P3 – Private Institutional
- (gg) P4 – Utilities
- (hh) P5 – Private Park

4. All properties where there are three or less residential units the following uses as defined by Zoning Bylaw #5000, as amended are exempt from the requirements of this bylaw:

- (a) single detached housing
- (b) semi-detached housing
- (c) duplex housing
- (d) three-plex housing

5. The owners and occupiers of any and all real property shall utilize a **landscape professional** for the planning, installation and maintenance of all **landscape areas**.

6. The owners and occupiers of any and all real property shall install **xeriscape landscaping** utilizing the following:

- a. use of appropriately drought resistant **plant materials**.
- b. use of soils with a composition and nutritional value that act as an appropriate growth media for **plant material**, and maintain soil moisture.
- c. **irrigation** will be conducted at times of day when evaporation will be limited.
- d. **landscape areas** shall be comprised of a maximum of 30% **lawn areas**.
- e. **landscape areas** shall be planned to use tree **plant materials** to create microclimate for the protection of other **plant materials**.

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- f. daily water provisions for **plant materials** are to be provided in a one or two applications in order to ensure water penetrates into the soil to a depth sufficient to create deeper **plant materials** rooting.

7. **Landscaping** in riparian areas – **Landscaping** in riparian areas must be undertaken in conformance with the policies and best practices outlined in the Riparian Areas Regulation (RAR). This is to include review of the species selection and planting plan as part of an RAR variance approval. Setback requirements, planting plan requirements and a preliminary species list appropriate for use in a riparian area is available at http://www.env.gov.bc.ca/habitat/fish_protection_act/riparian/documents/Implementation_Guidebook.pdf.

8. Sustainable materials: As much as possible, in areas where materials other than **plants** and soil are to be used in the creation of a **landscape** design, materials should be chosen which maximize rainwater infiltration, are inert, are complementary to the surrounding ecosystems and are made of recycled, reclaimed or reused materials.

9. The owners and occupiers of any and all real property shall install all **landscape areas**, with the exception of **lawn areas** on the property and within the adjacent road boulevard according to the following requirements:

- a. minimum width for **landscape areas** containing **plant materials** shall be 1.2 meters.
- b. minimum width for **landscape areas** containing **plant materials** including trees shall be 1.8 meters.
- c. all **landscape areas** are to have suitable excavation of parent soils to ensure proper drainage of **landscape areas** and to ensure sufficient **suitable soil** can be provided for all **plant materials**.
- d. all **landscape areas** are to have an adequate amounts of **suitable soil** utilized during the installation of **plant materials**.
- e. all **landscape areas** are to include drip irrigation, all irrigation is to take place between the hours of 7:00 p.m. and 7:00 a.m. in order to reduce water loss through evaporation into the air.

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- f. **weed barrier** and **ground cover materials** are to be installed for all **landscape areas**.
 - g. Fabric **weed barrier** is to be of a quality that it will retain its weed inhibiting characteristics for a minimum of 15 years, and is to be over-lapped a minimum of 30 centimeters at all seams.
 - h. mulch **weed barrier** is to be of a minimum depth of 15 centimeters.
 - i. **landscape areas** with a width greater than 2 meters and/or a length of greater than 10 meters shall utilize a minimum of two different types of **ground cover materials**.
 - j. **ground cover materials** 5 centimeters or smaller shall be separated by **edging** from areas of other **ground cover materials**.
 - k. **ground cover materials** are to be of a coloration and character complimentary to the coloration and character of the development on the property.
 - l. **landscape areas** are to be separated from **lawn areas** and permeable surface materials with **edging**.
 - m. **edging** is to be of a type and quality that its separating characteristics will be retained for a minimum of 15 years.
 - n. all **landscape areas** are to contain **plant materials** selected according to the **Vernon Landscape Standards Materials Selection Guide**.
 - o. all **landscape areas** are to be maintained according to the Landscape Maintenance Bylaw #5014.
 - p. all **landscape areas** are to meet the requirements of the Zoning Bylaw #5000, as amended.
10. The owners and occupiers of any and all real property shall install all **lawn areas** on the property and within the adjacent road boulevard according to the following requirements:
- a. shall be a minimum of 1.2 meters in width and a minimum of 3.0 meters in length.

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- b. shall be **sod, lawn areas** exceeding 100 square meters in size and having a minimum width of 2.0 meters can be seeded.
 - c. all **lawn areas** are to have a minimum of 15 cm of **suitable soil** graded and rolled prior to installation of **plant materials**.
 - d. all **lawn areas** to have **suitable irrigation** consisting of sprinkler **irrigation**, where the adjacent roadway does not have a curb and or sidewalk the sprinkler heads are to be installed a minimum of 0.5 meters from the edge of the road surface. All **irrigation** is to take place between the hours of 7:00 p.m. and 6:00 a.m. in order to reduce water loss through evaporation into the air.
 - e. all **lawn areas** are to be soded with, or seeded with grass species suitable to the local area, and suitable to the micro site of the **lawn areas**.
 - f. grass species are to be selected according to the **Vernon Landscape Standards Materials Selection Guide**.
 - g. all **lawn areas** are to be maintained according to the Landscape Maintenance Bylaw #5014.
 - h. **Lawn** areas shall only be permitted where they serve an active and/or passive recreation use for the public, residents, customers and/or employees.
11. The owners and occupiers of any and all real property shall select and install **plant materials** classified as trees according to the following requirements.
- a. all deciduous trees are to have a minimum caliper of 6 centimeters, and a clear stem of minimum of 1.5 meters, multi-stemmed deciduous trees shall have a minimum cumulative caliper of 10 centimeters and do not require a clear stem.
 - b. all coniferous trees are to be a minimum height of 2.5 meters.
 - c. all trees are to be provided with a minimum of one micro sprinkler or two drip **irrigation** heads per tree. Micro sprinkler heads are to be located between 20 centimeters and 30 centimeters from the tree stem, and drip heads are to be located on opposite sides of the tree stem.

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- d. all trees are to be provided a minimum of 5 liters of water per day during the months May through to and including October, from the time of planting for a minimum of three years to assist in tree establishment. Watering may be provided every second day with a minimum of 10 liters, or every third day with a minimum of 15 liters. After three years **suitable irrigation** is to be provided according to the requirements of the tree.
- e. coniferous trees shall be installed a minimum of 2.5 meters from roads, curbs, sidewalks, walkways, driveways, parking areas, and patios.
- f. all trees installed within 2.5 meters of roads, curbs, sidewalks, walkways, driveways, parking areas, and patios shall be installed with **root guard** protection for those structures.
- g. all trees species are to be selected according to the **Vernon Landscape Standards Materials Selection Guide**.
- h. all trees are to be maintained according to the Landscape Maintenance Bylaw #5014.
- i. all **landscape areas** are to meet the requirements of the Zoning Bylaw #5000, as amended.

12. In addition to the requirements of Section 9, the owners and occupiers of any and all real property shall select and install all **legacy trees** according to the following additional requirements:

- i. siting is to be suitable for tree growth to full maturity, therefore **legacy trees** are to be in locations that minimize the potential for conflict with future on-site and off-site development.
- ii. minimum landscape area to be provided is 16 m² with a minimum width of 4.0m.
- iii. landscape area is to be excavated and provide soil suitable for tree growth to a minimum depth of 1.2m.
- iv. species selected are to have medium to large crown widths and heights at maturity.
- v. species selected are to have a life expectancy of 75+ years.

13. The owners and occupiers of any and all real property shall select and install **plant materials** classified as shrubs according to the following requirements.

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- a. all shrubs are to be of a minimum #2 pot size.
- b. all shrubs are to be provided with a minimum of one drip **irrigation** head per shrub. Heads are to be located between 5 centimeters and 10 centimeters from the shrub centre.
- c. all shrubs are to be provided a minimum of 1 liter of water per day during the months May through to and including October, from the time of planting for a minimum of three years to assist in shrub establishment. After three years **suitable irrigation** is to be provided according to the requirements of the shrub.
- d. shrubs shall be installed a minimum of 0.5 meters from roads, curbs, sidewalks, walkways, driveways, parking areas, and patios.
- e. all shrub species are to be selected according to the **Vernon Landscape Standards Materials Selection Guide**.
- f. all shrubs are to be maintained according to the Landscape Maintenance Bylaw #5014.
- g. all **landscape areas** are to meet the requirements of the Zoning Bylaw #5000, as amended.

14. The owners and occupiers of any and all real property shall select and install **plant materials** classified as ground cover plants, ornamental grasses, herbs, perennials, and vines according to the following requirements.

- a. ground cover plants, ornamental grasses, herbs, perennials, and vines are to be of a minimum #1 pot size.
- b. all ground cover plants, ornamental grasses, herbs, perennials, and vines are to be provided with a minimum of one drip **irrigation** head per shrub. Heads are to be located a maximum of 10 centimeters from the **plant materials**.
- c. all ground cover plants, ornamental grasses, herbs, perennials, and vines are to be provided a minimum of 0.5 liters of water per day during the months May through to and including October, from the time of planting for a minimum of three years to assist in tree establishment. After three years

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suitable irrigation is to be provided according to the requirements of the **plant materials**.

- d. all ground cover plants, ornamental grasses, herbs, perennials, and vines shall be installed a minimum of 0.5 meters from roads, curbs, sidewalks, walkways, driveways, parking areas, and patios.
- e. all ground cover plants, ornamental grasses, herbs, perennials, and vines species are to be selected according to the **Vernon Landscape Standards Materials Selection Guide**.
- f. all ground cover plants, ornamental grasses, herbs, perennials, and vines are to be maintained according to the Landscape Maintenance Bylaw #5014.
- g. all **landscape areas** are to meet the requirements of the Zoning Bylaw #5000, as amended

15. The owners and occupiers of any and all real property shall take remedial action against pests and disease infestation on any and all **plant materials**. Remedial action is to be conducted or prescribed by a **landscape professional** or certified individual if required.

16. All **natural areas** with a depth of greater than 5 meters and a length of greater than 7 meters, and **natural areas** within 15 meters of a watercourse are exempt from the requirements of this bylaw. All **natural areas** and **landscaped areas** within 15 meters of a watercourse are to be maintained according to the Ministry of Water, Land and Air Protection best management practices.

17. The City Planner; Manager of Planning and Building Services; Manager of Operation Services; City Arborist, and Manager of Bylaw Enforcement are authorized to enforce the provisions of this bylaw.

18. The City Planner; Manager of Planning and Building Services; Manager of Operation Services; Planning Assistant; City Gardener; City Arborist, Manager of Bylaw Enforcement;

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and Bylaw Enforcement Officers may enter onto any land at all reasonable hours in order to inspect the same and to ascertain whether the provisions of this bylaw have been meet.

19. No person shall interfere with or obstruct the entry of the City Planner; Manager of Planning and Building Services; Manager of Operation Services; Planning Assistant, City Gardener, Manager of Bylaw Enforcement, and Bylaw Enforcement Officers onto any land at all reasonable hours in order to inspect the same and to ascertain whether the provisions of this bylaw have been meet

20. If any section or part of this bylaw shall be held to be invalid by a Court of competent jurisdiction, the said invalid portions shall be severed from the remainder of the bylaw.

READ A FIRST TIME this 11th day of September, 2006.

READ A SECOND TIME this 11th day of September, 2006.

RESCIND SECOND READING this 12th day of February, 2007.

READ A SECOND TIME, AS AMENDED, this 12th day of February, 2007.

PUBLIC INPUT held March 12th, 2007.

READ A THIRD TIME this 26th day of March, 2007.

ADOPTED this 10ay of April, 2007.

Mayor:

City Clerk:



CITY OF VERNON

***LANDSCAPE STANDARDS BYLAW
#5015 SCHEDULE 'A'***

***LANDSCAPE
STANDARDS
MATERIALS
SELECTION
GUIDE***



CITY OF VERNON LANDSCAPE MATERIALS SELECTION GUIDE

Purpose:

The Landscape Standards Materials Selection Guide is intended to provide guidance for the type, quality, form, character, and continuity of landscape materials and landscape areas in the City of Vernon. In selecting landscape materials according to guidelines and installing the materials suitably, the beautification of the City will not only move forward but will also continue to be an aesthetic asset to the community into the future. These guidelines will not only assist in the quality of landscape areas in the City but also ensure these areas maintain these qualities into the future and ensure that future quality issues or financial issues do not arise.

As landscaping is directly connected to the health of a community the value of the landscaping within the community is in its aesthetic qualities, environmental values, economic values, and community pride.

Further this guide is intended to provide additional details, clarification, and instruction related to the Landscape Maintenance Bylaw #5014, and Landscape Standards Bylaw #5015.

The City of Vernon encourages all landscape designs to utilize the principles of water efficient landscaping or xeriscape landscaping throughout landscape areas, the following are the seven principle as provided by the Greater Vernon Garden City Society and the Water Stewardship Committee through their booklet 'Water Efficient Plants for the North Okanagan':

- 1) **Planning and Design** – Take into consideration the regional and microclimatic conditions, existing vegetation and topographical conditions, grouping of plants by water needs.
- 2) **Soil Analysis** – Proper selection of plants for soil type. When appropriate, enhance soil by improving drainage or water holding capacity.
- 3) **Appropriate Plant Selection** – Based on the plants adaptability to the landscape, desired effect, colour, texture, and plant size.
- 4) **Practical Turf Areas** – Turf provides many practical benefits in a landscape. How and where it is used can significantly reduce water use.
- 5) **Efficient Irrigation** – Watering only when plants need water. Watering deeper encourages deeper root growth, resulting in a healthier drought-tolerant landscape.
- 6) **Use of Mulches** – Mulches applied and maintained at appropriate depths in planting beds will assist soils to retain moisture, reduce weed growth , and prevent erosion.
- 7) **Appropriate Maintenance** – Proper landscape and irrigation maintenance will preserve and enhance a quality water efficient landscape.

In addition landscape materials must be selected according to the requirements of the specific site and the unique set of characteristics for the landscape area.

Approval of landscape materials and landscape design by the City of Vernon is still required prior to installation.

1.0 - PLANT MATERIALS

For the purposes of this guide, plant materials have been divided into the following categories: trees, shrubs, grasses & vines, perennials, and annuals. Species native to the North Okanagan are to be used preferentially in all landscaping works as appropriate to the land use and to the available water to be determined on a project basis. Species selection is specific to the location of each project and is to be sensitive to the areas surrounding each project.

1.1 - Trees

Trees are perennial woody plants that generally consist of a single stem with branches extending laterally for the stem. Trees grow to a height of at least 4.0 meters.

1.1.1 – Tree Selection

All trees are to be of good form and vigor, deciduous trees are to have a minimum caliper of 6cm (dbh – diameter at breast height) (multi-stem deciduous trees are to have cumulative caliper minimum of 10cm), and a clear stem of 1.5m, coniferous trees are to be a minimum height of 2.5m. All trees selected must meet the requirements of the British Columbia Landscape Standard.

To ensure diversification of tree species, trees selected for roadway frontages are not to be used for other landscape areas. The objective is to ensure that a single species does not consist of greater than 25% of the total number of trees on the property, and a single genus does not consist of greater than 40% of the total trees on the property.

1.1.2 - Tree Design Standard Corridors

Required trees located within required landscape buffers are to be selected according to the property location within the City of Vernon. The following corridors have tree species selections that are to be installed in all landscape buffer areas adjacent to roadways. Areas of high vehicle traffic, have a single species selected, areas adjacent to linear trails, with slow moving traffic, and with high pedestrian traffic have between 2 and 5 species selected.

Additional corridors will be developed as a function of development along additional corridors throughout the City.

Road or Road Section	Tree Species Latin	Common Name	Corridor use
Anderson Way	Quercus Rubra	Red Oak	Vehicle
Highway 97 - 48 th Ave north to Railway	Acer freemani jeffershed Acer rubrum 'Red Sunset' Ginko biloba	Autumn Blaze Maple Red Sunset Maple Maidenhair Tree	Pedestrian/ Vehicle
Highway 97 - 48 th Ave South to 43 rd Ave	Plantanus acerifolia 'Bloodgood'	London Planetree	Vehicle
27 th St – 43 rd Ave north to City boundary	Fraxinus pennsylvanica lanceolata 'Patmore'	Patmore Green Ash	Vehicle
48 th Avenue	Tilia flavescens 'Dropmore'	Dropmore Linden	Vehicle
58 th Avenue	Acer freemani Jeffersred	Autumn Blaze Maple	Vehicle
24 th Street – 48 th Ave north to 58 th Ave	Acer freeman Jeffersred	Autumn Blaze Maple	Vehicle
43 rd Ave	Acer platanoides	Norway Maple	Vehicle
29 th St – 43 rd Ave to 48 th Ave	Acer freeman Sienica	Sienna Glen Maple	Vehicle
Highway 6 - 25 th Ave to Kalamalka Lake Road	Quercus Rubra	Red Oak	Vehicle
Highway 6 – Kalamalka Lake Rd east to City Boundary	Tilia Americana 'Redmond'	Redmond Linden	Vehicle

1.1.3 - Tree Species Selection Guidelines

Trees for selection in areas not adjacent to the above noted roadways are to be selected from the following list. Trees species not listed below require the approval of the City.

DECIDUOUS TREES FOR BOULEVARDS AND PARKING AREAS	
Tree Species Latin	Common Name
Acer freeman Sienica	Sienna Glen Maple
Acer freeman Jeffersred	Autumn Blaze Maple
Acer freeman Morgan	Morgan Maple
Acer platanoides	Norway Maple
Acer platanoides Columnare	Columnar Norway Maple
Acer platanoides 'Emerald Queen'	Emerald Queen Maple
Acer rubrum 'Autumn Spire'	Autumn Spire Maple
Carpinus betulus	Hornbeam
Fraxinus 'Northern Treasure'	Northern Treasure Ash
Fraxinus mandshurica	Manchurian Ash

DECIDUOUS TREES FOR LANDSCAPE AREAS	
Tree Species Latin	Common Name
Aesulus Glabra	Ohio Buckeye
Acer freeman Sienica	Sienna Glen Maple
Acer freeman Jeffersred	Autumn Blaze Maple
Acer freeman Morgan	Morgan Maple
Acer ginnala	Amur Maple
Acer negundo	Manitoba Maple
Acer platanoides	Norway Maple
Acer platanoides Columnare	Columnar Norway Maple
Acer platanoides 'Emerald Queen'	Emerald Queen Maple
Acer rubrum 'Autumn Spire'	Autumn Spire Maple
Betula papyrifera	Paper Birch
Betula pendula	Weeping Birch
Carpinus betulus	Hornbeam
Celtris occidentalis	Hackberry
Crataegus crus-galli Inermis	Thornless Cockspur Hawthorn
Crataegus laevigata 'Crimson Cloud'	Crimson Cloud Hawthorn
Crataegus mordenensis 'Toba'	Toba Hawthorne
Crataegus oxyacantha 'Paul's Scarlet'	Paul's Scarlet Hawthorne
Elaeagnus angustifolia	Russian Olive Tree
Euonymus europaea	European Spindle Tree
Fraxinus 'Northern Treasure'	Northern Treasure Ash
Fraxinus mandshurica	Manchurian Ash
Fraxinus pennsylvanica Heuver	Foothills Green Ash
Fraxinus pennsylvanica lanceolata 'Patmore'	Patmore Green Ash
Fraxinus pennsylvanica 'Rugby'	Praire Spire Green Ash
Ginko biloba	Maidenhair Tree

Phellodendron amurense	Cork Tree
Plantanus acerifolia 'Bloodgood'	London Planetree
Quercus ellipsoidalis	Northern Pin Oak
Quercus macdenielli Heritage	Heritage Oak
Quercus macrocarpa	Burr Oak
Quercus palustris	Pin Oak
Quercus Rubra	Red Oak
Syringa reticulata	Japanese Tree Lilac
Syringa reticulate 'Ivory Silk'	Ivory Silk Lilac
Tilia Americana 'Redmond'	Redmond Linden
Tili cordata 'Greenspire'	Greenspire Linden
Tilia x euchlora	European Linden
Tilia tomentosa	Silver Linden
Tilia flavescens 'Dropmore'	Dropmore Linden
CONIFEROUS TREES	
Tree Species Latin	Common Name
Picea glauca	White Spruce
Picea pungens	Colorado Spruce
Picea pungens 'Glauca'	Colorado Blue Spruce
Pinus flexilis 'Vanderwolf's Pyramid'	Vanderwolf's Pyramid Limber Pine
Pinus nigra	Austrian Pine
Pinus ponderosa	Ponderosa Pine
Pinus sylvestris	Scotch Pine
Pseudotsuga menziesi	Douglas Fir
Abies	Balsam Fir

1.1.4 – Tree Installation

As the health and performance of trees is greatly determined by how they are planted and what they are planted in the following practices are recommended.

- a. location – select a location that is suitable to the tree, and conversely select a tree suitable to the location.
- b. Ensure trees are properly cared for between delivery to site and installation. Ensure sufficient water is provide, select a storage location out of direct sun, and avoid placing trees on concrete or asphalt surfaces.
- c. Water the tree thoroughly one day prior to planting, then do not water again until planting is complete.
- d. Excavation for planting should be no deeper than the root ball height or pot soil surface height. The excavation radius should be a minimum of two times the diameter of a root ball or diameter of the pot.
- e. Soil around the excavation should not be compact and may require cultivation to allow for water and root penetration. A minimum ten square metre growing area is to be provided for each tree.
- f. Testing of water penetration of the excavated hole should be conducted prior to planting to ensure adequate drainage, different tree species have different drainage requirements, seek assistance from a Landscape Professional as to the requirements of the tree being installed.
- g. Trees in plastic or metal containers shall have these containers removed at the time of planting.
- h. Trees in perishable containers such as fibre or peat pots shall have the container removed, unless the tree has been planted bare root in the container within the same growing season. If the tree is planted in the perishable container, the container rim is to be cut flush with the soil.
- i. All string, rope, twine and burlap or other restricting elements shall be cut and removed to the outside perimeter of the rootball.
- j. Wire baskets should be left in place during planting, however portions more than 10 cm below the final grade of soil must be cut and removed or folded back.
- k. Back fill soil should include an organic component, the mix and composition should be determined according to the requirements of the species.

- l. Once backfilled the soil surface should be the same as the height of the soil in the pot or the height of the root ball. A planting saucer with a minimum height of 10 cm and a diameter equal to the rootball shall be provided for each tree.
- m. Water trees thoroughly to assist in compacting loose soil and assist in tree establishment.
- n. If landscape fabric and rock ground cover is to be used a minimum 5 cm layer of organic mulch should be installed beneath fabric to assist in water retention. Ensure mulch is not placed within 15 cm of the tree stem.
- o. If necessary stake tree with a minimum two stakes located outside of the excavated hole.
- p. Install a minimum of two drip irrigation heads per tree on opposing sides of the tree root ball.

1.1.5 – Tree Maintenance

A tree maintenance plan shall be developed by a Landscape Professional in conjunction with the development of the original landscape plan. Maintenance is to be conducted according to the requirements of the Landscape Maintenance Bylaw #5014, and as provided in the British Columbia Landscape Standard. Trees located within the City Boulevard are to be maintained according to a tree maintenance plan approved by the City of Vernon Public Works Division.

1.1.6 – Existing Trees Protection

If an existing tree is healthy, in sound condition, and suitably located saving these trees during development or re-development can be of great asset to both the property being developed and to the community as a whole. The following practices if implemented during development activities on the property will improve the chances of tree survival:

- a. Utilize a Landscape Professional to select trees for retention that present the best opportunity for protection, have the best chance of survival, and have the greatest benefit to the property and the adjacent area; thereby focusing efforts.

- Trees where more than 1/3 of the root system will be damaged or removed during construction should not be considered for retention.
- b. Design works on the site in consideration of existing trees wherever possible maximizing the opportunity for tree survival.
 - c. During construction activities ensure barriers are installed with clearly visible no entry signage around the tree drip line.
 - d. Where entry into the area of the tree drip line with construction equipment is required install plywood sheets or a layer of wood chip material (min 15 cm deep) to prevent compaction of the soil and damage to the root system.
 - e. Where utilities must cross through the tree drip line area utilize tunneling or boring instead of trenching to minimize root impact.
 - f. Roots that require removal should be cut with sharp tools.
 - g. Maintain the existing soil grade within the tree drip line area.
 - h. Ensure suitable irrigation is provided to the tree during and after construction activity on the property.

1.2 – Shrubs

All shrubs are to be of good form and vigor, and be of a minimum #2 nursery pot size. All shrubs selected must meet the requirements of the British Columbia Landscape Standard. There are a large number of species suitable for the Vernon area therefore the selection of individual shrubs should be conducted by a landscape professional to ensure the shrub is suitable for the landscape area it is to be installed into.

Shrubs are to be selected from the following list. Shrub species not listed below require the approval of the City.

DECIDUOUS SHRUBS	
Tree Species Latin	Common Name
Aronica meloncarpa 'Autumn Magic'	Glossy Black Chokecherry
Berberis thunbergi	Barberry

Schedule "A"
Attached hereto and forming
Part of Bylaw Number 5015

Buddleia alternifolia	Butterfly Bush
Buxus x 'Green Gem'	Green Gem Boxwood
Buxus x 'Green Velvet'	Green Velvet Boxwood
Caragana arborescens	Common Caragana
Cornus alba	Dogwood
Cotinus coggygria	Smoke Bush
Cotoneaster acutifolius	Peking Cotoneaster
Cytissus nigricans 'Cyni'	Cyni Broom
Diervila lonicera	Dwarf Bush Honeysuckle
Euonymus alata	Winged Burning Bush
Eunoymus alata 'compacta'	Dwarf Burning Bush
Euonymes fortunei	Euonymus
Forsythia ovata	Forsythia
Genista lydia	Dwarf Broom
Haimodendron halodendron	Salt Bush
Hippophae rhamnoides	Sea Buckthorn
Hydrangea arborescens grandiflora 'Annabelle'	Annabelle Hydrangea
Hydrangea paniculata 'Grandiflora'	P.G. Hydrangea
Kerria Japonica	Kerria
Kolkwitzia amabilis	Beauty Bush
Ligustrum vulgare	Privet
Lonicera tatarica 'Arnold Red'	Asrnold's Red Honeysuckle
Lonicera maximowicizi var. sachalinensis	Sakhalin Honeysuckle
Lonicera caerulea edulis	Sweetberry Honeysuckle
Philadelphus	Mock Orange
Physocarpus opulifolius	Ninebark
Potentilla fruticosa	Potentilla
Prunus besseyi	Western Sand Cherry
Rhododendron	Hardy Rhododendron
Rhododendron Azalea	Hardy Azalea

Rhus aromatica	Fragrant Sumac
Rhus typhina	Staghorn Sumac
Ribes alpinum	Alpine Current
Rosa	Hardy Roses
Salix 'Hakuro Nishiki' shrub form	Hakuro Nashiki Willow
Sambucus	Elder
Shepherdia argentea	Silver Buffalo Berry
Sorbaria sorbifolia	Ashleaf Spirea
Spiraea	Spirea
Symphoricarpos albus	Snowberry
Syringa	Lilac
Taxus media	Yew
Vaccinium vitis-idea	European Red Lingonberry
Viburnum Lantana	Wayfaring Tree
Viburnum lentago	Nannyberry
Viburnum opulus 'Compactum'	Compact European Cranberry
Vibunum opulus 'Roseum'	Snowball Viburnum
Viburnum trilobum 'Bailey Compact'	Bailey Compact American Cranberry
Weigela florida	Weigela
Yucca	Yucca

EVERGREEN SHRUBS

Tree Species Latin	Common Name
Chamaecyparts pisifera filifera 'Sungold'	Sungold Threadleaf Cypress
Chamaecyparis pisifera 'Mops'	Mops Threadleaf Cypress
Daphne cneorum	Rose Daphne
Juniperous chinensis 'Monlep'	Mint Julep Juniper
Juniperus horizontalis 'Andorra'	Youngstown Juniper
Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper
Juniperus horizontalis 'Hughes'	Hughes Juniper
Juniperus horizontalis 'Prince of Wales'	Prince of Wales Juniper

Juniperus horizontalis 'Wiltonii'	Wiltoni Carpet Juniper
Juniperus sabina	Savin Juniper
Juniperus Sabina 'Broadmoor'	Broadmoor Juniper
Juniperus Sabina 'Buffalo'	Buffalo Juniper
Juniperus Sabina 'Monna'	Calgary Carpet Juniper
Juniperus Sabina 'Tamariscfolia New Blue'	New Blue Tamarix Juniper
Juniperus scopulorum 'Gray Gleam'	Gray Gleam Juniper
Juniperus scopulorum 'Moonglow'	Moonglow Juniper
Juniperus virginiana 'Skyrocket'	Skyrocket Juniper
Mahonia aquifolium	Oregon Grape
Picea abies 'Nidiformis'	Nest Spruce
Pinus mugo	Mugo Pine
Pinus sylvestris 'Glauca Nana'	Dwarf Blue Scotch Pine
Thuja occidentalis 'Brandon'	Brandon Pyramidal Cedar
Thuja occidentalis 'Little Giant'	Little Giant Cedar
Thuja occidentalis 'Smaragd'	Emerald Cedar
Thuja occidentalis 'Woodwardii'	Globe Cedar

1.2.1 – Shrub Installation

As the health and performance of shrubs is greatly determined by how they are planted and what they are planted in the following practices are recommended.

- a. location – select a location that is suitable to the shrub, and conversely select a shrub suitable to the location.
- b. Ensure shrubs are properly cared for between delivery to site and installation. Ensure sufficient water is provided, select a storage location out of direct sun, and avoid placing shrubs on concrete or asphalt surfaces.
- c. Water the shrub prior to planting, and immediately after planting.
- d. Shrubs with dense rooting should be sliced vertically and the roots loosened immediately prior to planting.
- e. Excavation for planting should be twice the diameter of the shrub root ball and a minimum of twice the root ball height in depth..

- f. Soil around the excavation should not be compact and may require cultivation to allow for water and root penetration.
- g. Testing of water penetration of the excavated hole should be conducted prior to planting to ensure adequate drainage, different shrub species have different drainage requirements, seek assistance from a Landscape Professional as to the requirements of the shrub being installed.
- h. Do not remove shrubs from pots until immediately prior to planting.
- i. Back fill soil should include an organic component, the mix and composition should be determined according to the requirements of the species.
- j. If landscape fabric and rock ground cover is to be used a minimum 5 cm layer of organic mulch should be installed beneath fabric to assist in water retention.

1.2.2– Shrub Maintenance

A shrub maintenance plan shall be developed by a Landscape Professional in conjunction with the development of the original landscape plan. Maintenance is to be conducted according to the requirements of the Landscape Maintenance Bylaw #5014, and as provided in the British Columbia Landscape Standard. Shrubs located within the City Boulevard are to be maintained according to a shrub maintenance plan approved by the City of Vernon Public Works Division.

1.3 - Vines and Ornamental Grasses:

All vines and ornamental grasses are to be of good form and vigor, and be of a minimum #1 nursery pot size. All vines and ornamental grasses selected must meet the requirements of the British Columbia Landscape Standard. There are a large number of species suitable for the Vernon area therefore the selection of individual plants should be conducted by a landscape professional to ensure the plants are of sound quality. All vines and ornamental grasses selected must be suitable for the region and suitable to the location proposed.

1.3.1–Vine and Ornamental Grass Maintenance

A vine and ornamental grass maintenance plan shall be developed by a Landscape Professional in conjunction with the development of the original landscape plan. Maintenance is to be conducted according to the requirements of the Landscape Maintenance Bylaw #5014, and as provided in the British Columbia Landscape Standard. Vines and ornamental grasses located within the City Boulevard are to be maintained according to a vine and ornamental grasses maintenance plan approved by the City of Vernon Public Works Division.

1.4 - Perennials:

All perennials are to be of good form and vigor, and be of a minimum #1 nursery pot size. All perennials selected must meet the requirements of the British Columbia Landscape Standard. There are a large number of species suitable for the Vernon area therefore the selection of individual plants should be conducted by a landscape professional to ensure the plants are of sound quality. All perennials selected must be suitable for the region and suitable to the location proposed.

1.4.1–Perennial Maintenance

A perennials maintenance plan shall be developed by a Landscape Professional in conjunction with the development of the original landscape plan. Maintenance is to be conducted according to the requirements of the Landscape Maintenance Bylaw #5014, and as provided in the British Columbia Landscape Standard. Perennials located within the City Boulevard are to be maintained according to a perennial maintenance plan approved by the City of Vernon Public Works Division.

1.5 - Annuals:

As these plant materials are replaced on an annual basis the species selection should be driven by the characteristics of the location the materials are proposed for such as soil, exposure, orientation, and water availability.

1.5.1–Annuals Maintenance

An annuals maintenance plan shall be developed by a Landscape Professional in conjunction with the development of the original landscape plan. Maintenance is to be conducted according to the requirements of the Landscape Maintenance Bylaw #5014, and as provided in the British Columbia Landscape Standard. Annuals located within the City Boulevard are to be maintained according to a annuals maintenance plan approved by the City of Vernon Public Works Division.

2.0 - LAWN MATERIALS

Installation of lawn areas utilizes a variety of grass species in a variety of species compositions dependent upon several site specific characteristics related to the size of the lawn area, use of the lawn area, exposure of site, site soil conditions, site topography, water availability, and proposed maintenance plan. Species selected shall be appropriate to the proposed lawn location and are to be listed on landscape plans. Lawn areas shall only be permitted where they serve an active and/or passive recreation use for the public, residents, customers and/or employees.

2.1 – Sod Lawn Areas

Lawn areas of high public exposure, areas narrow in width, and areas of high traffic should be planted with sod. All lawn areas on and adjacent to commercial, industrial, institutional properties, and most lawn areas on and adjacent to multi-family properties should be comprised of installed sod. Sod species composition varies and should reflect the site conditions for the lawn area. Installation should be conducted by a landscape professional to ensure the quality and survivability of the sod material following planting. Soil quality and soil preparation play critical roles in the long-term appearance of the sod

area, ensure that the soil conditions are adequate and ensure proper soil preparation is conducted before sod is installed.

2.2 – Seed Lawn Areas

Lawn areas for public or private recreational activities may be considered for seeding. Seeding can take the form of broadcast seeding a prepared soil bed or hydro seeding of a prepared or un-prepared soil bed. Seed species composition varies and should reflect the site conditions for the lawn area. Installation should be conducted by a landscape professional to ensure the quality and survivability of the seeded material following planting. Soil quality and soil preparation play critical roles in the long-term appearance and durability of the seeded area. Hydro seeding installation is most effective on larger areas and on areas of sloped and/or variable topography. Hydro seeding also offers the additional benefits of soil protection, seed protection, immediate fertilization, and cost effective installation.

2.2.1 –Lawn Maintenance

A lawn maintenance plan shall be developed by a Landscape Professional in conjunction with the development of the original landscape plan. Maintenance is to be conducted according to the requirements of the Landscape Maintenance Bylaw #5014, and as provided in the British Columbia Landscape Standard. Lawn areas located within the City Boulevard are to be maintained according to a lawn maintenance plan approved by the City of Vernon Public Works Division.

3.0 - OTHER LANDSCAPE MATERIALS

3.1 – Edging

Edging refers to materials used to separate landscape areas from other landscape areas and from other uses on the property. Some forms of edging utilized consist of treated wood, stone, concrete, metal or plastic. Edging being utilized to separate landscape areas from lawn areas and must be of sufficient depth (minimum 15cm) and connectivity to prevent penetration of lawn into the other landscape areas. If plastic edging is to be used a professional grade is required as it will last significantly longer and will act as a better barrier for a longer duration (minimum 15 year material life).

3.2 – Weed Barrier

Weed barrier refers to fabric or certain mulch materials that act to inhibit the growth of weeds in landscape areas.

3.2.1 –Fabric Weed Barrier

Woven fabric weed barriers come in a variety of grades, a professional grade fabric is required (minimum 15 year material life). This material is generally available in bulk (by the meter in various widths) at retail nurseries. Although the professional grade may be higher priced the duration that the material is effective for is significantly longer. Fabrics must be covered with ground cover materials, ensure that no fabric is exposed directly to the elements as deterioration will occur. As fabrics are covered with ground cover materials the use of a low quality material will result in the labor intensive exercise of removing ground cover materials and installing new fabric. Proper installation of fabric is critical to it's effectiveness, ensure that fabric is installed correctly particularly where site includes sloped topography, and ensure adequate overlap of seams.

3.2.2 – Mulch Weed Barrier

Mulch ground cover materials also come in a variety of grades and a variety of particle sizes. In order to be effective as a weed barrier a fine texture mulch is required with a minimum depth of 20cm. Mulches must be suitable as an effective weed barrier or woven

fabric weed barrier beneath it. Mulch weed barrier requires the annual or bi-annual addition of material and additional maintenance but does present an effective option for weed control. Mulch weed barrier also assists in the retention of moisture in the soil and acts to insulate the soil from summer heat.

3.3 - Ground Cover Materials

Ground cover materials include a variety of materials utilized for covering of fabric weed barrier and a variety of materials that act as weed barriers. These materials include but are not limited to a variety of mulch materials, and a variety of rock materials.

3.3.1 – Mulch Ground Cover Materials

Mulch ground cover materials are commonly found in a variety of grades, compositions, and textures. This range runs from Ogo grow to fine composted fir bark mulch. Each type of mulch must be utilized according to it's characteristics and limitations. The quality of the mulch ground cover selected will have an impact on the performance of plant materials in the landscape area, and affect the landscape appearance both initially and more significantly in subsequent years. As some mulch materials are relatively loose some are not suitable to be placed directly adjacent to roads, curbs, sidewalks, parking areas, and patios.

3.3.2 – Rock Ground Cover Materials

Rock ground cover materials are available in a large number of shapes, sizes, and colorations. As with mulch materials the type of rock material selected should reflect the aesthetic objectives of the landscape design and also reflect the function of the location where the material is proposed to be installed. Ensure when selecting rock ground cover materials that the size is suitable for the landscape area, the shape is suitable for the use and maintenance of the landscape area, and the coloration is complimentary to the landscape area and adjacent development.

3.4 – Root Guard Protection Materials

Material utilized in landscape areas to protect adjacent structures from damage as a result of tree root growth. Trees installed adjacent to roads, curbs, driveways, walkways, driveways, parking areas, hard surface recreational facilities, and patios should have root guards installed to ensure the protection of those structures from root damage in the future. Root guards should extend to a minimum depth of 60cm. If the tree is located within 1.5m of a structure the length of the root guard should be a minimum of 2.0m in length. If the tree is greater that 1.5m distance from a structure the root guard length can be reduced. The species of tree being installed and it's rooting characteristics must also be considered in determining the level of root guard required.

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