

STICKLEBACK ENVIRONMENTAL

TREE EVALUATION REPORT 3857
COAST MERIDIAN ROAD
COQUITLAM, B.C.

DRAFT

PREPARED BY: STICKLEBACK ENVIRONMENTAL MAY 2017

1.0 Overview

Strickleback Environmental was retained by Rick Mann for the purpose of assessing tree resources and making recommendations for removal and retention of trees at 3857 Coast Meridian Road in Coquitlam, B.C.

2.0 Methodology

On May 15, 2017 the project area was traversed on foot and trees in the property boundaries were tagged and visually assessed for defects. Approximate tree height, species, diameter at breast height (DBH), live crown ratio (LCR) general condition and defects were recorded. During the site visit weather conditions were overcast with a light rain.

3.0 Results / Findings

3857 Coast Meridian Road is an approximately 1,058 m² residential lot with a single family dwelling located across the middle of the property. Vegetation at the site consisted of landscaping plants and turf grass in the front and rear yards and three permit sized trees. Tree resources of permit size consisted of a western red cedar (*Thuja plicata*) and cedar aborvitae (*Thuja occidentalis*) located in the rear yard and a cedar aborvitae in the front yard. Tree conditions are listed in Table 1, and tree locations are shown in the Tree Preservation and Removal Plan.

4.0 Tree Preservation Summary

Trees were evaluated for their preservation based upon condition, health, location and species factors. Trees which were in conflict with the development footprint, with poor health, or of little long term retention value were recommended for removal. The Tree Preservation and Removal Plan attached visually depicts trees to be retained or removed.

5.0 Tree Protection

There are no retained trees and therefore no tree protection fencing is required for retained trees. Fencing should be erected around any replacement trees to protect their critical root zones if installed during the construction process. Tree protection fencing dimensions are based on tree diameter at base height and all are a minimum industry standard of 6x the tree diameter (Table 1). Tree protection should be installed prior to construction and maintained throughout construction. No excavation, grade alterations or materials storage should occur within the tree protection zone.

6.0 Tree Replacement

The lot should meet the City Standards for Tree Replacement (see attachments).

7.0 Recommendations

The following is a summary of action items:

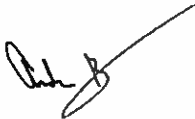
- Follow treatments as per Table 1.
- All required permits, permissions, and authorizations should be obtained prior to undertaking tree treatments.

- Prior to tree removal, conduct nesting surveys if within the core migratory bird nesting season (typically March 15-August 15) as per Canadian Wildlife Service protocols.

8.0 Closing Statement

We trust this is sufficient for your needs. If you have any questions or require clarification of the materials presented in this report please contact Stickleback Environmental at 778-896-9046.

Sincerely,



Andrew Booth, BSc, RPBio, P.Biol., QEP,
ISA Certified Arborist (PN6580-A), CTRA (537)

Attachments: Photographs, Tree Preservation and Removal Plan.

9.0 Disclaimer

This Arboricultural field review is based on site observations on the dates noted. It is never possible to completely eliminate all risk associated with trees, and high to medium risk trees may develop rapidly during adverse conditions. Consequently, while findings and conclusions documented in this report have been prepared in a manner consistent with that level of care and skill normally exercised by other members of the arborist profession practicing under similar circumstances in the area at the time of the performance of the work, this report is not intended nor is it able to provide a totally comprehensive review of past, present or future tree conditions. The findings and opinions expressed in this report are representative of the conditions found on the day of the review only. Tree conditions may deteriorate rapidly and the condition of trees assessed in this report may change over time. Any trees retained should be reviewed on a regular basis. The root crowns and overall structure of all of the trees to be retained must be reviewed immediately following land clearing, grade disturbance, significant weather events and prior to site usage changes. Approval and implementation of recommendations within this report are the responsibility of the owner of the trees and in no way implies any inspection or supervisory role on the part of Stickleback Environmental unless agreed upon in writing by both parties.

Table 1: Tree Assessment

Ta	Species	DBH (cm)	Ht (m)	LCR	Drip line	Recommendation	Condition Assessment
1	<i>Thuja occidentalis</i>	49.56	14	80	2.5	Remove	Co-dominant stem at base. Previously topped at 3 m with re-growth. Roots have cracked and pushed out retaining wall. Fair health and structure.
2	<i>Thuja plicata</i>	58.52	16	80	3	Remove	Co-dominant stem at base. Ivy has been removed from trunk. Tree is pushing damaging fence. Poor retention candidate.
3	<i>Thuja occidentalis</i>	34.28	13	80	2.5	Remove	Co-dominant stem at base. One stem within 6 cm of fence line and will impact it soon. Tree is susceptible to breakage from snow loading and has a small stem bent over, and several previously removed due to snow damage. Some needle die-back in interior of branches. Poor retention candidate.

Photographs



Photograph 1: Tree #1 fronting Coast Meridian Road.



Photograph 2: Tree #1 damage to the retaining wall.



Photograph 3: Tree #2 in the rear yard.



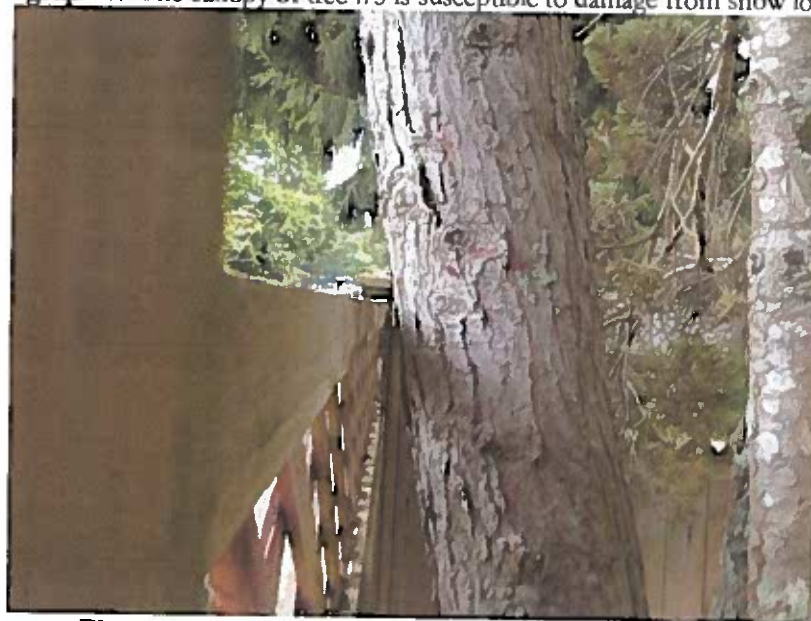
Photograph 4: Tree #2 pushing out the fence.



Photograph 5: Tree #3 stem damage from snow loading.



Photograph 6: The canopy of tree #3 is susceptible to damage from snow loading.



Photograph 7: Proximity of fence to west stem of tree #3.



Tree Replacement Requirements based on lot size and existing trees

Lot Size (m ²)	Number of trees greater than 20cm stem diameter remaining on the lot after tree removal	Maximum number of required replacement trees
Less than 250m ²	0	1 Class A or 1 Class B or 1 Class C
	1 or more	None
250m ² - 500m ²	0	2 Class A or 3 Class B or 4 Class C
	1 or more	None
501m ² - 750m ²	0	4 Class A or 6 Class B or 8 Class C
	1	2 Class A or 3 Class B or 4 Class C
	2 or more	None
751m ² - 1000m ²	0	6 Class A or 9 Class B or 12 Class C
	1	4 Class A or 6 Class B or 8 Class C
	2	2 Class A or 3 Class B or 4 Class C
	3 or more	None
1001m ² - 1250m ²	0	8 Class A or 12 Class B or 16 Class C
	1	6 Class A or 9 Class B or 12 Class C
	2	4 Class A or 6 Class B or 8 Class C
	3	2 Class A or 3 Class B or 4 Class C
	4 or more	None
Over 1250m ²	1 tree every 250m ²	None
	Less than 1 tree every 250m ²	1 Class A every 125m ² or 1 Class B every 85m ² or 1 Class C every 65m ²

Please contact the City Arborist at 604-927-3482 if you do not know your lot size.

Example 1: A single-family 700m² lot has twelve protected trees that are growing in a hedge formation along the property lines. The trees are in poor condition and the property owner wishes to remove all but one tree. Since each property owner is granted two exempted trees per year, the owner will require a permit to remove the remaining nine trees and will replant with either 2 Class A trees or 3 Class B trees or 4 Class C trees. A \$600 tree replacement security deposit is required, most of which (90%) is returned when the trees are planted.

Example 2: A 500m² lot has three protected trees on it and the property owner wishes to remove two of them. Since each property owner is granted two exempted trees per year, the owner will not require a permit to remove the trees and are not required to replant any trees.

Example 3: A 500m² lot has four protected trees on it and the property owner wishes to remove three of them. Since each property owner is granted two exempted trees per year, the owner will require a permit to remove the one remaining tree, but is not required to replant any trees.

Under the Bylaw "Protected Tree" means:

a living, erect, woody plant that is 20cm or more in diameter measured 1.4m from the base of the tree stem, or a tree planted as a replacement tree as a requirement of a Tree Cutting Permit or other development permit. There are also some other trees that are always protected, such as trees of any size growing on a slope and those growing in streamside protection and enhancement areas."

Replacement Tree Recommendations

Class A tree list

Botanical Name	Common Name	Minimum caliper size
Large Deciduous species		
<i>Acer macrophyllum</i>	Bigleaf Maple	6 cm
<i>Acer platanoides</i>	Norway Maple	6 cm
<i>Acer pseudoplatanus</i>	Sycamore Maple	6 cm
<i>Acer saccharinum</i>	Silver Maple	6 cm
<i>Acer saccharum</i>	Sugar Maple	6 cm
<i>Aesculus hippocastanum</i>	Common Horsechestnut	6 cm
<i>Ailanthus altissima</i>	Tree of Heaven	6 cm
<i>Carpinus betulus</i>	European Hornbeam	6 cm
<i>Catalpa bignonioides</i>	Common Catalpa	6 cm
<i>Catalpa speciosa</i>	Northern Catalpa	6 cm
<i>Fagus crenata</i>	Japanese Beech	6 cm
<i>Fagus sylvatica</i>	European Beech	6 cm
<i>Fraxinus americana</i>	White Ash	6 cm
<i>Fraxinus excelsior</i>	European Ash	6 cm
<i>Fraxinus nigra</i>	Black Ash	6 cm
<i>Fraxinus ornus</i>	Flowering Ash	6 cm
<i>Fraxinus oxycarpa</i>	Claret Ash	6 cm
<i>Ginkgo biloba</i>	Ginkgo	6 cm
<i>Liquidambar styraciflua</i>	American Sweetgum	6 cm
<i>Liriodendron tulipifera</i>	Tulip Tree	6 cm
<i>Notofagus antartica</i>	Antartic Beech	6 cm
<i>Paulownia tomentosa</i>	Empress Tree	6 cm
<i>Platanus occidentalis</i>	American Sycamore	6 cm
<i>Platanus orientalis</i>	Oriental Plane Tree	6 cm
<i>Platanus x acerfolia</i>	London Plane Tree	6 cm
<i>Quercus coccinea</i>	Scarlet Oak	6 cm
<i>Quercus garryana</i>	Garry Oak	6 cm
<i>Quercus palustris</i>	Pin Oak	6 cm
<i>Quercus robur</i>	English Oak	6 cm
<i>Quercus rubra</i>	Red Oak	6 cm
<i>Quercus shumardii</i>	Shumard Oak	6 cm
<i>Robinia ambigua</i>	Pink Locust	6 cm
<i>Robinia pseudoacacia 'frisia'</i>	Golden Locust	6 cm
<i>Tilia euchlora</i>	Crimean Linden	6 cm
<i>Tilia cordata</i>	Little Leaf Linden	6 cm
Large Conifer Species		
<i>Abies balsamea</i>	Balsam Fir	3 metres
<i>Abies concolor</i>	White Fir	3 metres
<i>Abies fraseri</i>	Fraser's Fir	3 metres
<i>Abies grandis</i>	Grand Fir	3 metres
<i>Abies lasiocarpa</i>	Alpine Fir	3 metres
<i>Abies procera</i>	Noble Fir	3 metres
<i>Araucaria araucana</i>	Monkey Puzzle Tree	3 metres
<i>Calocedrus decurrens</i>	Incense Cedar	3 metres
<i>Cedrus atlantica</i>	Atlas Cedar	3 metres

For the minimum size column, reference to a figure in centimetres (cm) is a measurement of trunk diameter 15 cm above the ground. Reference to a figure in metres (m) is a measurement of height above the ground.

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Replacement Tree Recommendations

Class A tree list continued

<i>Cedrus deodara</i>	Deodar Cedar	3 metres
<i>Cedrus libani</i>	Cedar of Lebanon	3 metres
<i>Chamaecyparis nootkatensis</i>	Nootka Cypress	3 metres
<i>Larix decidua</i>	European Larch	3 metres
<i>Metasequoia glyptostroboides</i>	Dawn Redwood	3 metres
<i>Picea abies</i>	Norway Spruce	3 metres
<i>Picea glauca</i>	White Spruce	3 metres
<i>Picea omorika</i>	Serbian Spruce	3 metres
<i>Picea sitchensis</i>	Sitka Spruce	3 metres
<i>Pinus monticola</i>	Western White Pine	3 metres
<i>Pinus ponderosa</i>	Ponderosa Pine	3 metres
<i>Pinus radiata</i>	Monterey Pine	3 metres
<i>Pinus resinosa</i>	Red Pine	3 metres
<i>Pinus strobus</i>	Eastern White Pine	3 metres
<i>Pinus wallichiana</i>	Himalayan White Pine	3 metres
<i>Pseudotsuga menziesii</i>	Douglas Fir	3 metres
<i>Sequoia sempervirens</i>	Redwood	3 metres
<i>Sequoiadendron giganteum</i>	Giant Sequoia	3 metres
<i>Thuja plicata</i>	Western Red Cedar	3 metres
<i>Thuja plicata</i>	Western Red Cedar	3 metres
<i>Tsuga heterophylla</i>	Western Hemlock	3 metres

Class B tree list

Botanical Name	Common Name	Minimum caliper size
Medium Deciduous Species		
<i>Acer cappadocicum</i>	Coliseum Maple	5 cm
<i>Acer davidii</i>	Snakebark Maple	5 cm
<i>Acer glabrum</i>	Douglas Maple	5 cm
<i>Acer negundo</i>	Manitoba Maple	5 cm
<i>Acer rubrum</i> 'Armstrong'	Armstrong Maple	5 cm
<i>Acer rubrum</i> 'Autumn Flame'	Autumn Flame Maple	5 cm
<i>Acer rubrum</i> 'Bowhall'	Bowhall Maple	5 cm
<i>Acer rubrum</i> 'Morgan'	Morgan Maple	5 cm
<i>Acer rubrum</i> 'October Glory'	October Glory Maple	5 cm
<i>Acer rubrum</i> 'Red Sunset'	Red Sunset Maple	5 cm
<i>Acer rubrum</i> 'Scanlon'	Scanlon Maple	5 cm
<i>Acer rubrum</i> 'Scarlet Sentinel'	Scarlet Sentinel Maple	5 cm
<i>Acer truncatum</i>	Shantung Maple	5 cm
<i>Aesculus x carnea</i>	Red Horsechestnut	5 cm
<i>Albizia julibrissin</i>	Silk Tree	5 cm
<i>Betula albo-sinensis septentrionalis</i>	Chinese White Birch	6 cm
<i>Betula jacquemontii</i>	Himalayan Birch	6 cm
<i>Betula nigra</i>	River Birch	6 cm
<i>Celtis occidentalis</i>	Hackberry	5 cm

For the minimum size column, reference to a figure in centimetres (cm) is a measurement of trunk diameter 15 cm above the ground. Reference to a figure in metres (m) is a measurement of height above the ground.

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Replacement Tree Recommendations

Class B tree list continued

<i>Cercidiphyllum japonicum</i>	Katsura Tree	5 cm
<i>Cercis canadensis</i>	Eastern Redbud	5 cm
<i>Cornus chinensis</i>	Chinese Dogwood	5 cm
<i>Cornus controversa</i>	Giant Dogwood	5 cm
<i>Cornus mas</i>	Cornelian Cherry	3 metres
<i>Cornus nuttallii</i>	Pacific Dogwood	6 cm
<i>Crataegus lavalleyi</i>	Lavalle Hawthorne	5 cm
<i>Davidia involucrata</i>	Dove Tree	6 cm
<i>Gleditsia triacanthos</i>	Honey Locust	6 cm
<i>Gleditsia triacanthos inermis</i>	Thornless Honey Locust	6 cm
<i>Gymnocladus dioica</i>	Kentucky Coffeebean	5 cm
<i>Koelreuteria paniculata</i>	Golden Rain Tree	5 cm
<i>Laburnum watereri</i>	Golden Chain Tree	5 cm
<i>Liriodendron chinense</i>	Chinese Tuliptree	5 cm
<i>Magnolia acuminata</i>	Cucumber Tree	5 cm
<i>Magnolia cordata</i>	Yellow Cucumber Tree	5 cm
<i>Magnolia grandiflora</i>	Southern Magnolia	5 cm
<i>Magnolia kobus stellata</i>	Star Magnolia	3 metres
<i>Prunus sargentii</i>	Sargent Flowering Cherry	5 cm
<i>Prunus serotina</i>	Black Cherry	5 cm
<i>Prunus serrulata</i>	Japanese Flowering Cherry	5 cm
<i>Prunus subhirtella</i>	Higan Cherry	5 cm
<i>Prunus yedoensis</i>	Yoshino Cherry	5 cm
<i>Pyrus calleryana</i>	Callery Pear	5 cm
<i>Quercus acutissima</i>	Sawtooth Oak	5 cm
<i>Salix alba</i>	White Willow	5 cm
<i>Salix babylonica</i>	Weeping Willow	5 cm
<i>Sophora japonica</i>	Japanese Pagoda Tree	5 cm
Medium Conifer Species		
<i>Chamaecyparis obtusa</i>	Hinoki False Cypress	2 metres
<i>Chamaecyparis pisifera</i>	Sawara False Cypress	2 metres
<i>Picea pungens</i>	Colorado Spruce	2 metres
<i>Pinus contorta</i>	Shore Pine	2 metres
<i>Pinus densiflora pendula</i>	Weeping Red Pine	2 metres
<i>Pinus nigra</i>	Austrian Pine	2 metres
<i>Pinus sylvestris</i>	Scotch Pine	2 metres
<i>Pinus thunbergii</i>	Japanese Black Pine	2 metres
<i>Sciadopitys verticillata</i>	Umbrella Pine	2 metres
<i>Tsuga mertensiana</i>	Mountain Hemlock	2 metres

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Replacement Tree Recommendations

Class C tree list

Botanical Name	Common Name	Minimum caliper size
Small Deciduous Species		
<i>Aralia elata</i>	Japanese Angelica Tree	5 cm
<i>Acer campestre</i>	Hedge Maple	5 cm
<i>Acer capilipes</i>	Stripebark Maple	5 cm
<i>Acer circinatum</i>	Vine Maple	2 metres
<i>Acer ginnala</i>	Amur Maple	5 cm
<i>Acer griseum</i>	Paperbark Maple	5 cm
<i>Acer palmatum</i>	Japanese Maple	5 cm
<i>Amelanchier grandiflora</i>	Serviceberry	2 metres
<i>Betula pendula</i>	Weeping Birch	5 cm
<i>Carpinus japonica</i>	Japanese Hornbeam	5 cm
<i>Cladastrus lutea</i>	American Yellowwood	5 cm
<i>Cornus 'Eddie's White Wonder'</i>	Eddie's White Wonder	5 cm
<i>Cornus florida</i>	Flowering Dogwood	5 cm
<i>Cornus kousa</i>	Kousa Dogwood	5 cm
<i>Corylus maxima</i>	Giant Filbert	2 metres
<i>Halesia carolina</i>	Carolina Silverbell	5 cm
<i>Magnolia 'Caerhay's Belle'</i>	Caerhay's Belle Magnolia	5 cm
<i>Magnolia denudata</i>	Yulan Magnolia	5 cm
<i>Magnolia 'Elizabeth'</i>	Elizabeth Magnolia	5 cm
<i>Magnolia 'Forest Pink'</i>	Forest Pink Magnolia	5 cm
<i>Magnolia 'Galaxy'</i>	Galaxy Magnolia	5 cm
<i>Malus species</i>	Crabapple	5 cm
<i>Morus alba</i>	White Mulberry	5 cm
<i>Nyssa sylvatica</i>	Sour Gum Tree	5 cm
<i>Oxydendron arboreum</i>	Sorrel Tree	5 cm
<i>Parrotia persica</i>	Persian Parrotia	5 cm
<i>Phellodendron amurense</i>	Amur Corktree	5 cm
<i>Salix babylonica 'tortuosa'</i>	Corkscrew Willow	5 cm
<i>Sorbus aucuparia</i>	European Mountain Ash	5 cm
<i>Stewartia monadelphica</i>	Tall Stewartia	5 cm
<i>Stewartia pseudocamillia</i>	Japanese Stewartia	5 cm
<i>Styrax japonica</i>	Japanese Snowbell	5 cm
<i>Styrax obassia</i>	Fragrant Snowbell	5 cm

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