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**DISTRICT OF WEST VANCOUVER**  
750 17TH STREET, WEST VANCOUVER BC V7V 3T3

## COUNCIL REPORT

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| Date:    | February 28, 2018  |
| From:    | Chris Bishop, Manager of Neighbourhood and Development Policy  |
| Subject: | Interim Tree Bylaw Working Group Report: Update and Next Steps |
| File:    | 2515-08  |

### RECOMMENDATION

1. the staff report dated February 28, 2018 titled Interim Tree Bylaw Working Group Report: Update and Next Steps be received for information;
2. the ITBWG Report to Council – Draft 2 final – Feb 21, 2018 be posted to the Interim Tree Bylaw Working Group page on the District of West Vancouver website;
3. advertisements be placed on District social media and in the North Shore News that invite the community to comment on the ITBWG Report to Council – Draft 2 final – Feb 21, 2018 until April 27, 2018; and,
4. staff and the Working Group report back to Council following the public review period with further feedback, analysis, and implementation recommendations.

### 1.0 Purpose

The purpose of this report is to provide Council with the ITBWG Report to Council – Draft 2 final – Feb 21, 2018 (Appendix A). The report details the Working Group’s background research and discussions, the public engagement process, and the final recommendations related to private tree management in West Vancouver. Additional recommendations are related to:

- the creation of an urban forestry management strategy;
- an ongoing communication strategy related to tree matters;
- creation of or updating of additional tools for residents;
- partnerships with community groups;
- suggested good neighbor guidelines and practices; and,
- suggestions on management of hedges.

## 2.0 Legislation/Bylaw/Policy

### Official Community Plan

The *Official Community Plan (Bylaw No. 4360, 2004)* recognises the importance of views and access to sunlight for the community and states the following about trees in the *Natural Environment* section:

#### *Policy NE 9*

*Encourage a "Good Neighbour" approach through education to mitigate instances of trees on private properties that block sunlight and significant views.*

#### *Policy NE 11*

*In planning for development, recognise and manage the effects of tree growth on amenities such as access to sunlight, views and safety.*

### Bylaw

Interim Tree Bylaw No. 4892, 2016 was adopted by Council in April 2016 as an interim measure intended to regulate trees on private property.

### Working Group Policy

Working groups are an integral part of that process and tap into the expertise of residents wishing to work on Council projects. Each working group has a specific task and is chaired by citizens who work to ensure priorities identified by Council receive focused attention.

Since the 2007 establishment of the Community Engagement Committee (CEC), it has provided oversight and advice to ensure the effectiveness of the working group process. The ITBWG followed the District's Working Group Guidelines, which encourages citizen participation via Working Groups, and which guides the Working Group process.

## 3.0 Background

### 3.1 Prior Resolutions

At the April 18, 2016 Council meeting Council passed the following motion:

THAT staff undertake community consultation on tree protection in West Vancouver and report back to Council by November 15, 2016.

THAT revised proposed "Interim Tree Bylaw No. 4892, 2016", distributed on-table at the April 18, 2016 Council meeting, be received for consideration.

THAT revised proposed "Interim Tree Bylaw No. 4892, 2016" be read a first time.

THAT proposed "Interim Tree Bylaw No. 4892, 2016" be read a second and third time.

At the April 20, 2016 Council meeting Council passed the following motion:

THAT proposed "Interim Tree Bylaw No. 4892, 2016" be adopted.

At the July 18, 2016 Council meeting Council passed the following motion:

THAT Council receive the report "Tree Protection in West Vancouver – Public Engagement Summary, Housekeeping Bylaw Amendments, Recommendations and Next Steps" for information;

THAT Council recommend that a Tree Bylaw Task Force be struck to assist in the development and consideration of a permanent tree bylaw for the District; and

THAT proposed "Interim Tree Bylaw No. 4892, 2016, Amendment Bylaw No. 4913, 2016" be read a first, second and third time.

At the July 25, 2016 Council meeting Council passed the following motion:

THAT proposed "Interim Tree Bylaw No. 4892, 2016, Amendment Bylaw No. 4913, 2016" be adopted.

### 3.2 History

The Interim Tree Bylaw Working Group (ITBWG) was formed in early 2017 and held its first meeting on March 7, 2017. The Working Group has met on a bi-weekly schedule since that date, with additional sub-group meetings (i.e. Bylaw sub-group, Education sub-group) as necessary. The mandate of the ITBWG as described in the terms of reference is to review options, engage the community and make recommendations regarding the development of a bylaw to regulate trees on private property that balances tree management best practices with broad community interests.

The Working Group presented at the July 19, October 4 and December 20, 2017 meetings of the Community Engagement Committee (CEC).

Their July CEC presentation was to update the Committee on the progress of their work, request an extension to their term until the end of 2017 and to discuss matters related to public engagement.

The October CEC presentation by the Working Group was to discuss and finalize the structure of the tree survey, including feedback from a survey pilot group.

Their final CEC presentation (December 10) was provide a status update post survey and to request a further extension to March 2018 to complete their review, reporting and final recommendations.

## 4.0 Analysis

### 4.1 Discussion

Trees are an important element that define the character of West Vancouver. They also contribute to long-term sustainability of the community. Policies and statements related to tree management in the *Official Community Plan* reflect a strong interest and desire by the community to retain access to views and sunlight.

More recently, there is an increased awareness and interest by the community regarding tree protection both on public and private lands. In part, this increased awareness of the positive impact of trees is related to the large body of research that illustrates the value and importance that trees bring to the community including positive ecological and environmental impacts as well as community, social, economic and personal benefits.

Awareness of the importance of trees to the community has risen partly due to the accelerated level of development on private lands in West Vancouver. In recent years, there has being an increase in of redevelopment of older, smaller houses on private lands. Until the adoption of *Interim Tree Bylaw No. 4892, 2016*, there was no regulation on the removal of trees on private lands (except in riparian areas; areas with preservation covenants; areas under a Development Permit or areas subject to Heritage Alteration Permits). In some instances, prior to the bylaw, all of the trees were removed from a lot as part of redevelopment.

The District manages trees on public lands (parks, boulevards, rights of way, covenant restricted areas, riparian and environmental protection areas) by way of the regulations contained in either the *Boulevard Bylaw No. 4886, 2016* and/or *Parks Regulation Bylaw No. 4867, 2015*.

### 4.2 ITBWG Report to Council – Draft 2 final – Feb 21, 2018 Recommendations

Through the 2017 engagement survey process, the level of tree canopy<sup>1</sup> in West Vancouver was most often characterized by the survey respondents as “about right”. Given this general sentiment regarding West Vancouver’s tree canopy level as well as the background research, review and study, the ITBWG’s recommendations can be broadly summarized as

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<sup>1</sup> Tree canopy is defined as the upper layer or habitat zone, formed by mature tree crowns. Sometimes the term canopy is used more broadly to refer to the extent of the outer layer of leaves of an individual tree or group of trees.

follows:

- Conduct a survey and study of tree canopy levels in West Vancouver on a neighbourhood basis, to serve as a baseline.
- Establish regulations to maintain existing tree canopy.
- Establish regulations to control hedge height.
- Create and support an education program to facilitate effective implementation of the bylaw.

The ITBWG's full list of detailed recommendations, with supporting research methods, data and findings, are contained Appendix A (ITBWG Report to Council – Draft 2 final – Feb 21, 2018).

#### 4.3 Sustainability

Trees contribute the sustainability of the community and are repeatedly identified as important to residents of West Vancouver. They form an important part of the fabric, ecology and identity of the community. The presence of character defining landscapes including mature trees helps to set West Vancouver apart from other municipalities in the Metro Vancouver region and contributes to the long term sustainability of West Vancouver. The value of trees includes their ecological values, their community, social and personal values, as well as the positive economic effects they provide.

#### 4.4 Public Engagement and Outreach

The ITBWG has engaged with residents throughout their working term, including at the Harmony Arts Festival (2 full days), three scheduled open houses, the District's online platform and through the recently completed community survey on trees. The report attached as Appendix A details these outreach efforts.

Moving forward, the approach recommended by the ITBWG and supported by staff, is that for the community be an opportunity to review the DRAFT final report. This will allow for interested residents and community stakeholders to review the report in depth, better understand the recommendations, and provide an opportunity for additional feedback to the Working Group and Council.

The ITBWG has proposed that they host a number of education sessions once the report is available publicly and the community has had time to consider the recommendations. These sessions would allow residents and interested parties to ask questions and receive feedback from the ITBWG and in turn to provide their thoughts and feedback. This information would then be brought back to the ITBWG for consideration and allow for any final adjustments prior to reporting back to Council. It is recommended that advertising for this review be placed in the North Shore News and via District social media.

## Staff Comment

During the recommended public review period, staff will undertake a review of the proposed recommendations and provide this feedback to the ITBWG ahead of any return to Council with final recommendations. This review will consider issues surrounding the legal, budgetary and staffing impacts, as well as the administration and enforceability of the recommended bylaw changes.

### 4.5 Other Communication, Consultation, and Research

The following communications processes have supported the ITBWG's activities:

- Advertisements were placed in the North Shore News promoting the ITBWGs outreach efforts and notifying the public of the three Interim Tree Bylaw Working Group Open Houses, survey and where to find further information;
- A series of information boards were developed with Working Group assistance for the Open Houses.
- An ITBWG webpage, with the ITBWG's meeting agendas, minutes and other related resources, was created for the public's information, and as an opportunity for the public to provide feedback directly to the Working Group.
- District web pages for both the *Interim Tree Bylaw No 4892, 2016* and for information on Tree Cutting Permits have been linked to the ITBWG webpage.
- Extensive public notification via email went to members of the public who had previously indicated interest in the private tree issue.
- Targeted outreach to community groups and stakeholders including the West Vancouver Housing Association, Altamont Residents Association, Western Residents Association and the Ambleside Dunderave Ratepayers Association. The District's Design Review Committee and the Lower Caulfeild Advisory Committee were also asked to provide input to the process but these group's respective meeting schedules did not permit engagement in the timeframe allotted.

## 5.0 Options

### 5.1 Recommended Option

At the time of consideration of this report, Council may:

a) Direct staff to proceed with the recommendations of this report; or

### 5.2 Considered Options

b) Request further information or provide alternate direction.

## 6.0 Conclusion

After extensive research, review, analysis and public engagement, a broad consensus on recommendations for private tree management regulations in West Vancouver has emerged. Staff recommend moving the ITBWG Report to Council – Draft 2 final – Feb 21, 2018 into a public review period to provide the community with an opportunity to review the recommendations and give feedback ahead of an anticipated return to Council before summer 2018.

Author: \_\_\_\_\_

  
Chris Bishop, Manager of Neighbourhood and Development Policy

Appendix A: ITBWG Report to Council – Draft 2 final – Feb 21, 2018

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**Table of Contents:**

**1. Executive Summary**

**2. Recommendations**

- a. **Bylaw Recommendations**
- b. **Education Recommendations**
- c. **Supporting Recommendations**

**3. Working Group's process and method**

- a. **Terms of reference (considered OCP, interim bylaw, etc.)**
- b. **Working group and two subgroups**
- c. **Review of bylaws in other municipalities**
- d. **Literature review**
- e. **Three options generated**
- f. **Pros and Cons Analysis**
- g. **Decision-making Process**

**4. Consultation steps**

- a. **Harmony Arts**
- b. **2017 Survey**
- c. **Three public meetings**
- d. **Community Engagement Committee**
- e. **Stakeholder Request for Input**
- f. **Letters to Council**
- g. **2016 survey**
- h. **Pre-2016 Public Input**
- i. **DWV and DNV Staff Input**

**5. Appendix**

- a. **Problem Statement**
- b. **Vision**
- c. **Terms of Reference**
- d. **Literature Reviewed**
- e. **Results of the Consultations**
- f. **Tree Density Schedule**
- g. **Replacement Trees - Recommended Species and Size**
- h. **Other Notes**

# 1. Executive Summary:

## Introduction

The District of West Vancouver established the Interim Tree Bylaw Working Group (ITBWG) in February of 2017. The ten citizens appointed by Council to the ITBWG are: Craig Bench, Ernie Bodie, William Cafferata, Ian Ferguson, Mary Gamel, Andrew Gitt, Don Harrison, Lisa Morris, and Nic Tsangarakis. Our task, as detailed in the Terms of Reference (see Appendix 2) state: “The purpose of the Tree bylaw Working Group is to review options, engage the community, and make recommendations regarding the development of bylaw to regulate trees on private property that balances tree management best practices with community interests.”

To meet its assignment the ITBWG has reviewed urban tree management practices in various communities in British Columbia, other provinces, the U.S.A., and Europe. A large effort was placed on researching how communities value their trees and the importance they place on both the aesthetic and biological benefits they provide. A recent report by TD Economics (see Appendix 4) attributed economic value to trees in Toronto for their ability to moderate surface water flow and micro-site climate, and their ability to both sequester carbon and absorb pollutants from the atmosphere. More subjective metrics suggest that urban tree cover promotes mental health and increases real estate values. In exercising its due diligence, the ITBWG found very few negative consequences about trees in urban areas – safety concerns from hazardous trees falling during storms and the expense associated with their maintenance being the major issues. Most of these findings are consistent with what the ITBWG heard from West Vancouver residents during the consultation phase.

The opinions and concerns of West Vancouver residents were obtained through a variety of platforms:

- analysis of comments made in letters to Council about trees over the past several years
- previous District of West Vancouver surveys (2008, 2016) related to tree management
- a new District of West Vancouver survey conducted by the ITBWG in the fall of 2017
- previous public meetings held in 2016 prior to implementation of the Interim Tree Bylaw
- new public meetings held by the ITBWG in the fall of 2017

Overall, the ITBWG has considered, and been guided by, comments from more than 1100 residents of West Vancouver.

The data indicates there is broad community support for a tree management bylaw. The concerns expressed most often were about maintaining existing views, removal of mature trees and other vegetation from lots under development, safety issues around large trees damaging property, intrusion onto their property from a neighbour’s trees, and the influence of trees on community character.

## Discussion

West Vancouver residents clearly value the presence of trees. Many communities base their tree management practices to achieve a desired level of tree canopy. Examples noted had canopy targets ranging from 20% to 40%. Within the overall canopy goal are recommendations and regulations for selection of species, specification of the maximum diameter of a tree that can be cut without a permit, guidelines for pruning, protection of roots systems, and requirements for a given number of trees per lot based on lot size. Comments received from communities with established programs generally support

targeting a desired tree-canopy goal by specifying the number of trees, on an area basis, of a preferred species, per lot.

After consideration of all of the above, the ITBWG debated three options:

1. Maintain the existing bylaw,
2. Develop a bylaw that would apply to all private residential property that would require a minimum number of trees per lot based on lot size,
3. Develop a bylaw that would apply only to private residential lots being developed or redeveloped that would require a minimum number of trees per lot based on lot size.

Option two was chosen as the basis for our recommendations. In addition to dealing with the immediate concern about lots under development being stripped of vegetation, it also addresses concerns about safety, views, light, and maintenance of tree canopy and community character affecting all private lots. The broad application of the bylaw implies a need for educating residents about managing urban trees.

### **ITBWG Recommendations**

Present tree canopy in West Vancouver was most often characterized by 2017 survey respondents as “about right”. Given this, our basic recommendations are:

1. Conduct a survey of tree canopy in West Vancouver on a neighbourhood basis, to serve as a baseline.
2. Establish regulations to maintain existing tree canopy.
3. Establish regulations to control hedge height.
4. Create and support an education program to facilitate effective implementation of the bylaw.

The complete set of recommendations, with supporting data and findings, are presented in the full report and its appendices.

The ITBWG thanks Mayor and Council for entrusting us with this task.

Respectfully submitted: ITBWG

## 2 Recommendations

### A. Bylaw Recommendations

The Interim Tree Bylaw Working Group (ITBWG) recommends that a new Tree Bylaw with the characteristics below be enacted for private lands within the District of West Vancouver.

Following the significant public engagement including the recent tree bylaw survey, and a comprehensive review of previous tree-related surveys and public input, the working group has attempted to address the specific concerns of the community. We believe a new bylaw with the proposed characteristics will balance protecting neighbourhood character by preserving current levels of tree canopy, with residents' desire for flexibility and autonomy in managing their own trees for safety and to preserve views and sunlight, etc.

The proposed recommendations are intended to replace the Interim Tree Bylaw in effect since 2016, which was implemented largely to address the specific concern of preventing tree loss with new development. It is the ITBWG's view that the core recommendations should be incorporated in their entirety, with adjustments deemed necessary for administration/consistency with other bylaws, if the desired outcomes are to be achieved.

### Recommendations for a new Tree Bylaw

**Tree definitions:** For the purposes of recommendations (1) and (2) below, "existing trees" should be defined as any tree over 10cm DBH (diameter at 1.3m height; or when the main stem forks below 1.3m, 10cm diameter at the narrowest width below the fork), excluding trees that fall under the hedge definition in recommendation (9) and excluding trees in repositionable planters. For the purposes of recommendation (1) and (2) "new/replacement trees" should be minimum 5cm at 15cm above ground, as recommended in Appendix 5g Replacement Trees - Recommended Species and Size.

*Basis for tree definitions: 10cm is being recommended (as opposed to a larger size) to support the desirability of smaller trees in some instances, where larger, taller species may eventually contribute to blocking views or sunlight. The proposed 10cm size may also encourage retention of smaller, mature species of landscaping trees and large shrubs, including for example large, mature specimens of rhododendrons, camellias, etc. A smaller minimum size (5cm) is being recommended for "new/replacement trees" which will be protected under recommendation (6).*

**1. Recommendation:** Single family lots under a new- or redevelopment permit should be required to have a landscape plan including a minimum number of trees based on lot size (existing trees, or new/replacement trees from a list of recommended species, see Appendix 5g). If existing trees cannot be retained to meet the requirements, new/replacement trees of a specified size (based on species) should be required as part of the landscape plan. The present requirement to post a bond for the landscape plan with subsequent follow-up should be used to verify compliance without requiring new administrative processes.

*Basis for recommendation: Tree loss with property development was the primary motivation for implementing the Interim Tree Bylaw in 2016. It was identified as a major cause for concern in public engagement/survey results regarding tree loss and preserving neighbourhood character.*

**2. Recommendation:** Except where protected under recommendations (4), (5) and (6) below, no permit should be required for tree removal on single family lots as long as a minimum number of trees is maintained based on lot size (existing trees, or new/replacement trees from a list of recommended species, see Appendix 5g). Nor should a permit be required to remove (one) additional tree per each subsequent three-year period once the minimum number of trees is reached.

*See Appendix 5f for proposed tree requirements for various lot sizes, and Appendix 5g for an example of minimum requirements for “new/replacement trees” under (1) and (2) above. The ITBWG recommends these lists be reviewed by municipal staff to determine the suitability of the specific lot size categories and appropriate tree species, and further adapted to the WV context if necessary. The specific tree requirements should be harmonized with those existing for other multi-family developments, as recommended in 2.c.4 below.*

**Basis for recommendation:** Concern within the ITBWG that tree removal impacting overall canopy and neighborhood character might also occur on non-development lots if left largely unregulated. Recommendation (2) is made as a possible safeguard against bulk removal of trees (i.e. “clear-cutting”) on single family lots not under development. An important element of this recommendation is that no permit will be required except as indicated. The ITBWG feels this balances the desire of many residents to have autonomy and flexibility in managing their own trees, with the overall goal of maintaining current tree canopy levels. The recommended tree numbers per lot are estimates based on precedent from other jurisdictions, which after review by the ITBWG were determined likely to meet the goal of maintaining present tree canopy levels over the long term. The “one tree per three-year period” exemption is relatively conservative in this context, at least two local municipalities allow a one or two tree per year exemption.

**3. Recommendation:** In circumstances where the specified minimum number of trees cannot be maintained due to insufficient space, unsuitable topography/terrain, or other reasons approved by the municipality, “cash-in-lieu” may be paid to the municipality to facilitate planting a corresponding number of trees on municipal lands.

**Basis for recommendation:** Support in 2017 survey. This also provides an option for lots where the specified number of trees cannot be maintained for the reasons listed.

**4. Recommendation:** Certain native species: Arbutus (*Arbutus menziesii*), Pacific Yew (*Taxus brevifolia*), Garry Oak (*Quercus garryana*), Pacific Dogwood (*Cornus nuttallii*), and Yellow Cedar (*Cupressus nootkatensis*) should be protected over 10cm DBH and require a permit for removal on all private lands. Any removal permit for a protected species should require a replacement tree of the same species.

**Basis for recommendation:** Carry-over from existing interim bylaw, with addition of Pacific Yew, Pacific Dogwood and Yellow Cedar. Other local municipalities protect these less common native species with the goal of maintaining native species diversity and wildlife habitat. Yellow cedar is included as a characteristic species of the old growth forests on the Upper Lands. Some private lots on the Upper Lands have remaining old growth forest cover. Since the WV OCP (draft) indicates intent to acquire ecologically significant properties from private owners, it would be prudent to protect these old growth stands in advance of any future acquisition. See also 2.6.4 below regarding specific protection of old-growth trees.

**5. Recommendation:** Similar to the protection presently provided for riparian areas, trees within the unique coastal shoreline area of West Vancouver should be given protection to preserve the natural character of the rocky shore environment, including specifically the large trees required as nesting habitat for certain birds such as eagle, osprey, heron, etc. In addition to the species protected under recommendation (4), large trees potentially used for nesting should be protected, along with the

characteristic Shore Pine (*Pinus contorta var contorta*). Permits should be required for all trees over 75cm DBH and Shore Pine over 10cm DBH that lie within the shoreline area. The protected shoreline area can be defined as either a specific distance from the high tide line (ITBWG recommendation: at least 50m), or an area with boundaries defined by the municipality, encompassing the characteristic rocky shoreline area and adjacent areas likely to include large nesting trees.

*Basis for recommendation: The rocky ocean shoreline with nesting habitat for eagle, osprey and other birds, and the associated characteristic Coastal Douglas Fir ecosystem was identified as an attribute largely unique to West Vancouver within the lower mainland. Shore Pine should be protected as a characteristic species within this zone, along with Arbutus and Garry Oak protected under (4) above.*

**6. Recommendation:** Trees within the categories below should be protected, and require a permit to remove on all private lands:

1. Trees within riparian areas (within 15m of streams and watercourses)  
*Basis for rec.: Consistent with existing protection.*
2. All trees planted or retained as part of a landscape plan (1), and new/replacement trees under (1) and (2) until they reach 10cm DBH.  
*Basis for rec.: A safeguard to prevent removal of smaller (<10cm) replacement trees.*
3. All trees growing on slopes greater than 35%  
*Basis for rec.: To address concerns identified by residents regarding drainage and erosion, consistent with lot planning requirements for new development.*
4. All trees, between March 1 - July 31 (bird nesting window)  
*Basis for rec.: To assure compliance with existing provincial legislation, require arborist inspection to verify that no active nest will be disturbed, as per Province of BC legislation.*
5. All trees, when containing a nest of an eagle or osprey  
*Basis for rec.: To assure compliance with existing provincial legislation. Tree removal requires a Province of BC permit.*
6. Old growth trees (trees likely to be >120 years old, or any trees within or adjacent to a forested area composed of trees likely to be >120 years old). Removal should only be permitted for reasons of safety, being within a permitted building envelope, etc.  
*Basis for rec.: To protect the few remaining old growth stands on private lots (i.e. certain large lots in the Upper Lands near Cypress Provincial Park / Old-Growth Conservancy). This is consistent with the intention stated in the WV OCP (draft) to publically acquire lots of special ecological significance for preservation.*  
*See: <https://westvancouver.ca/environment/tree-protection>*
7. Heritage Trees (trees listed on the WV Heritage Register)  
*Basis for rec.: Consistent with existing protection within WV.*  
*See: <https://westvancouver.ca/environment/tree-protection>*

**7. Recommendation:** With property development, protection barriers for trees on surrounding properties and public lands should be expanded to include root systems encroaching on the property under development to avoid damaging or destabilizing trees on surrounding properties. This is an expansion of current tree barrier requirements for development on private lands.

*Basis for recommendation: Strong support in 2017 survey, identified as a concern in public engagement.*

**8. Recommendation:** Protection should be given for access to sunlight for homes with existing solar energy installations (or passive solar requirements) against being shaded by trees or hedges on adjoining

public or private lands. In practice this will require the municipality to authorize pruning/removal of trees on public lands as required so as not impede access to sunlight. Trees on adjoining private lands would also be required not to allow new tree/hedge growth to impede access to sunlight.

*Basis for recommendation: Strong support in 2017 survey, examples from other localities where solar installations are more common. Likely to become increasingly prevalent.*

9. Recommendation: That hedges be defined as: ***“Hedge means four or more trees or shrubs that form a continuous, linear screen of vegetation that provides privacy, fencing, wind breaking, and/or boundary definition”*** and limited in height to 3m (approx. 10’), in a similar manner to present fence height restrictions. Existing hedges should not be grandfathered. Hedges should be regulated in a bylaw rather than just within recommendations or guidelines, as unmaintained hedges are a major cause for concern among residents and a bylaw would likely carry more “weight” for conflict resolution between neighbours. The hedge definition may differ from the current boulevard bylaw hedge definition, they could be brought into alignment or remain distinct if necessary.

*Basis for recommendation: Hedges were identified as a major item of concern in public engagement, especially where overgrown hedges cause loss of existing views and sunlight. We have specifically excluded height and tree spacing from the hedge definition to allow inclusion of overgrown/abandoned hedges, and to exclude hedge trees from minimum tree retention requirements. A maximum height of 3m is being recommended to accommodate hedges intended for privacy, while at the same time addressing problems identified by residents with overgrown and abandoned hedges blocking sunlight and views. This recommendation is intended to provide an unambiguous basis for neighbour conflict resolution, rather than being generally enforced by municipal staff where no issues exist.*

## **B. Education recommendations**

### **Education as a tool for sustainable tree protection and management on West Vancouver private property**

Over the past year, the Working Group heard from many residents that education is a critical component of successful tree protection and management on private property. In addition to tree removal covered by the bylaw recommendations, education should also create awareness and sensitivity around the value of trees to West Vancouver, and empower residents to act on their responsibility – through a conscious effort – to do their part to maintain West Vancouver’s current tree canopy.

Integrating the principles of sustainable tree protection and management with the values and perspectives of West Vancouver residents, education will underpin the success of the bylaw recommendations. Over time, education may have the potential to reduce administration costs of regulation.

To enable awareness, understanding, and compliance, the following steps are recommended:

- inform,
- educate, and
- partner

### **B.1 Education Recommendation: Inform**

It is recommended that the DWV:

1. Communicate evidence behind the bylaw recommendations and why it is deemed as best meeting the needs of WV residents today and in the future.
2. Develop a communications plan, identify tools and timeline of implementation to ensure that all residents understand the characteristics of the new bylaw, its benefits, when it takes effect and who it affects.
3. Ensure discussion across WVD departments, for example those planning neighbourhoods , parks, boulevards, ensuring enforcement and addressing public enquiries, to provide different perspectives on the implementation of the new tree bylaw.

### **B.2 Education Recommendation: Educate**

It is recommended that the DWV:

1. Develop guidelines for residents and developers applying for tree cutting permits. These guidelines will assist staff in streamlining the application process and set expectations for all parties before tree removal.

These guidelines may include:

- a. Guidelines /requirements for the application process
- b. Arborists report
- c. Tree protection during construction



- d. Tree placement guidelines
2. Develop a comprehensive list of Best Management Practices for residents and developers applying for a tree removal permit.
    - a. Refer to the ISA International Society of Arboriculture. ISA has developed a series of Best Management Practices for the purpose of interpreting tree care standards
  3. Develop other tools and use information from other jurisdictions to enhance tree management.
    - a. **New webpage called “Trees”:** create a one-stop shop for information about trees that is informative, educational, and helps residents act in the spirit of tree protection and management. This page should be optimized for search engines and mobile, user friendly and easy to navigate. The information categories may include:
      - Information about the new bylaw
      - Why trees matter in West Vancouver
      - Table of lot size / minimum tree requirements
      - Decision-making tree to help citizens follow the right steps before removing a tree
      - Tree maintenance responsibilities, guidelines, and tips and tools
      - Tree species suitable for replanting

The cities of Surrey and New Westminster provide examples for this proposed page.

- b. **Update West Vancouver’s Tree Book:** a valuable online tool, this historic book could be updated and posted to the new website. The book should be informative, image-based, and educational, and outline the ecological value of trees, species to plant, provide direction on best trees to plant for sunlight, shade, climate, location, and other useful information.
- c. **Mailed householder:** issue a resource guide to all residences communicating information that is helpful and useful for residents making decision on removing, maintaining, or replanting/replacing a tree, including the tree species that are suitable for our climate, neighbourhoods, views, sunlight, and other considerations like slope stability, riparian areas, and working with neighbours.

It is also recommended this householder be available in a variety of languages that reflect the demographics of the West Vancouver community.

### **B.3 Education Recommendation: Partner**

It is recommended that the DWV:

1. Develop partnerships with other entities to deliver a robust and sustainable education program for the community.
  - a. Partnership examples may include:

- A designated employee or consultant to oversee tree education.
  - A volunteer “tree keepers” committee, similar to TreeKeepers, to educate, hold community lectures, create ideas for community involvement, and identify areas of concerns/opportunities. TreeKeepers is a non-profit partnership between Tree City and the Environmental Youth Alliance, and working with the City of Vancouver. A similar relationship could be forged with the District of West Vancouver.
  - A schools’ program in partnership with the school district
  - Local nurseries – Maple Leaf Garden Centre, Home Depot, West Vancouver Florist
  - Community “how to” workshops (topics could include planting, maintaining, pruning, etc.)
- b. Incentives programs and celebrations
- Community tree day that offers discounts on trees to be planted on private property. See City of Vancouver for an example.
  - Establishing a tree fund through the West Vancouver Society or Foundation
  - Participation in Community Day

### C. Supporting recommendations

**1. Recommendation:** A Tree survey (iTree or Lidar) should be done as soon as possible to establish a tree canopy baseline and as a prerequisite for and component of recommendation c.2 (below). Subsequent surveys should be done at regular intervals (ITBWG recommendation: at least once every three years, to be determined by municipal staff) to verify the ongoing efficacy of the new Tree Bylaw in maintaining tree canopy cover, and to provide a future basis for any adjustments to the bylaw as required to maintain canopy cover.

*Basis for recommendation: Present neighbourhood tree cover was most often characterized as “about right” by residents in the 2017 tree survey, so this can provide an appropriate baseline for maintaining tree canopy at current levels.*

**2. Recommendation:** The municipality should develop an Urban Forest Management (UFM) plan. The overall goal of a UFM plan is to ensure a healthy, aesthetic, safe and diversified tree cover that can provide a sustained supply of environmental, economic and social benefits to residents. This plan would include establishing best practices for tree management across bylaws affecting trees on private and public lands. Examples of other local municipalities adopting an UFM plan/strategy are the City of Vancouver and City of New Westminster.

*Basis for recommendation: The ITBWG feels that tree canopy protection will be best accomplished over the long term with an integrated Urban Forest Management approach that draws on industry best practices and experience from other jurisdictions with similar goals. An UFM plan will help make citizens of West Vancouver better understand the rationale and benefits of trees and tree bylaws in West Vancouver.*

**3. Recommendation:** Protection should be given to preserve/maintain view corridors and for access to sunlight for gardens, etc., against being shaded by trees or hedges on adjoining public or private lands: **Permission for tree/hedge pruning and/or removal on municipal lands for maintenance of pre-existing views/sunlight should be granted with a lower threshold of neighbour approval of 50% within 30m of the proposed tree work, rather than the currently required 80%. Also, it is recommended that the**

current requirement to acquire a permit to trim any foliage be modified to allow for annual pruning of municipal hedges adjoining private property without a permit. For private lands, the bylaw should not restrict pruning or removal as required for maintenance of pre-existing views/access to sunlight.

***Basis for recommendation:*** Strong support for maintaining views/sunlight in the 2017 survey, recurring concern in public engagement and comments. There is a perception that increasing absentee ownership in WV may present an unanticipated barrier to contacting/obtaining the required approval from neighbours.

**4. Recommendation:** For clarity and consistency, the definitions regarding trees, hedges, recommended species (and those not recommended), invasive species, pruning terms/categories, pruning limitations, etc. should be harmonized across all of the tree-related bylaws pertaining to private and public lands, parks, boulevards, etc.

***Basis for recommendation:*** Current tree definitions, terminology, recommended species etc. are not always consistent across the various bylaws.

**5. Recommendation:** If the current (2018) level tree canopy cannot be maintained by implementing recommendations (a.1) and (a.2) above, as determined by subsequent tree canopy surveys as recommended in (c.1), then the tree bylaw should be reviewed and adjusted if necessary, without unnecessarily restricting residents autonomy and flexibility to manage their own trees .

***Basis for recommendation:*** A major objective of the ITBWG bylaw recommendations is to protect neighbourhood tree canopy at current levels, thereby helping to protect neighbourhood character. The bylaw should be subject to necessary adjustment if these intended goals are not being achieved.

**6. Recommendation:** The municipality should encourage the sustainable utilization of removed trees of marketable size when possible. The municipality could have a drop-off point, for example, where logs could be re-allocated to local First Nations for cultural uses, utilized in the municipally operated sawmill, or aggregated and sold for revenue.

***Basis for recommendation:*** Possible interest from Squamish Nation. West Vancouver has a small, municipally-operated sawmill for internal requirements.

**7. Recommendation:** The municipality should create "Good Neighbour Guidelines" to help residents understand a reasonable community approach to trees and hedges on their property. The guidelines could include steps for residents to take to resolve contention between neighbours.

***Basis for recommendation:*** Many residents have concerns about issues and disputes they are experiencing in lack of tree and hedge maintenance, blocking views, and neighbours being unresponsive to concerns. While residents are seeking intervention measures that can better support them in these situation, the District is unlikely to intervene in private matters. This approach could help reduce contention between neighbours, and could also reduce potential calls to the municipality.

**8. Recommendation:** The municipality should operate a web page where, aside from listing active tree removal permits, residents removing trees without a permit would be required to report any tree removal in advance (address, date, work to be done, basis for permit exemption, etc.). This would provide a transparent way for nearby residents to be aware of upcoming- or ongoing tree work, and could avoid unnecessary calls to the municipality if the reasons for removal and basis for bylaw compliance were also listed. This would also provide an important tool for tracking bylaw efficacy and tree removal trends over time.

*Basis for recommendation: Detailed tracking of tree removal over time could be a valuable supplement to tree canopy surveys for follow-up on the effectiveness of the proposed bylaw. Requiring residents to report any upcoming tree removal may also serve to encourage voluntary bylaw compliance and in reducing enforcement and/or verification costs.*

## **Section 3 – Working Group Process and Method**

### **3a. Terms of Reference**

#### **Purpose of Terms of Reference**

The purpose of the Tree Bylaw Working Group is to review options, engage the community, and make recommendations regarding the development of a bylaw to regulate trees on private property that balances tree management best practices with community interests.

#### **Background**

Trees are important to residents of West Vancouver and are an important part of the fabric, ecology and identity of the community. The presence of character-defining landscapes including trees helps to set West Vancouver apart from other municipalities in the Metro Vancouver region.

The complete Terms of Reference can be found in **Appendix 5c**.

### **3b. Working Group and Subgroups**

The ITBWG elected to form two sub-groups in order to further study issues and meet outside the regularly scheduled working group meetings. The two sub-groups were tasked with:

- Sub-group 1: Regulations, bylaw and urban forest management issues
- Sub-group 2: Community engagement and education issues

The Working Group members were divided into the subgroups as follows:

- Group 1: Regulation/Bylaw and Urban Forest Management (UFM): Andy Gitt (lead), Bill Cafferata, Ernie Bodie, Craig Bench, Nic Tsangarakis, Ian Ferguson
- Group 2: Education and Engagement: Mary Gamel, Lisa Morris, Don Harrison, Debbie Parhar-Bevan (lead)

The two subgroups worked on developing recommendations to present to the larger working group. They used bylaws from other municipalities as a loose framework. The focus was not on drafting a bylaw recommendation, but rather focused their efforts looking for best practices from other jurisdictions. The subgroups were reminded to keep the vision and problem statement in mind as these will assist in forming the recommendations.

### **3c. Review of Bylaws in other Municipalities**

The working group reviewed recent urban tree management policies adopted by other municipalities. The object was to gain insight into different guidelines, regulations and bylaws concerning trees on private property that have been successfully implemented. Members of the working group reached out to some of the municipalities to inquire how well the policies were working and the level of acceptance by their citizens. The jurisdictions that were reviewed included:

- District of North Vancouver
- City of North Vancouver

- City of New Westminster
- City of Vancouver
- City of Surrey
- City of Delta
- City of Coquitlam
- City of Courtenay
- City of Port Alberni
- District of Saanich
- City of Carmel, California

**3d. Literature Reviewed**

The ITBWG reviewed a significant cross-section of literature relating to trees and tree regulations from a variety of sources. Topics included tree selection, economic costs and benefits, health benefits, impact on utility providers, Urban Forest Management Plans, amongst other topics.

A list of referenced documents can be found in Appendix 5d.

**3e. Three Bylaw Options Generated**

The WG decided that there would be benefits of creating a few potential "options" as the basis for tree bylaw recommendations. It was felt that creation of these options could stimulate thought and discussion regarding the pros and cons of different approaches, both for the WG and for engagement with the public. In fact, the three options were used as a catalyst for discussion at the three public meetings held in November.

The three options were generated from a Bylaw Subgroup meeting and were purposely quite different in approach. It was recognized that some bylaw "features" (e.g. tree roots should be protected when they encroach on a development site) could be added to some or all of the options.

**3f. Three Bylaw Options Considered – Pros and Cons**

**Option 1: Interim Tree Bylaw 4892, 2016**

A permit is required for cutting of any tree greater than 75 centimetres (30 inches) in diameter at breast height.

| <u>Pros</u>  | <u>Cons</u>  |
|--|--|
| Addresses concerns about cutting large trees on lots under development | Does not address concerns regarding safety, light, and maintenance of existing tree canopy |
| Easy to administer and understand                                      | Does not create a community wide canopy goal   |
| Protects trees most likely to have eagle and osprey nests              | Applies mainly to new development and re-development                                       |

**Option 2: Trees/Lot**

A bylaw that would apply to all private residential properties, that would target a minimum number of trees per lot based on lot size.

| <b><u>Pros</u></b>                                  | <b><u>Cons</u></b>                                    |
|---|---|
| Applies to all private residential properties       | Administration more complex and costly                |
| Establishes a tree canopy goal for entire community | Effective implementation requires community education |
| Provides flexibility for management of trees        |   |

**Option 3: Development-Focussed**

| <b><u>Pros</u></b>                                | <b><u>Cons</u></b>   |
|---|--|
| Property rights of most residents not affected    | Does not protect trees on majority of private residential properties   |
| Supported by many respondents to 2017 tree survey | Does not encourage a sense of community responsibility for tree canopy |

**3g. Decision-Making Process**

The three options helped guide the WG to its final recommendations. There was considerable input to consider and evaluate during the decision-making process including:

- significant input from West Vancouver residents
- input from West Vancouver staff
- review of tree bylaws from other jurisdictions
- review of literature related to trees (health, economics, drainage, etc.)
- internal workshops discussing the pros and cons of various approaches, including options

The alternative options generated the most discussion, and significant effort was required to result in a consensus-based recommendation. These discussions occurred over a number of multi-hour workshops, plus the regular biweekly WG meetings. While there were valid pros and cons for each of the options, the WG agreed that the option based on a number of trees per lot size was the best foundation for a new bylaw.

In addition to the base option, the WG agreed on a number of "features" that should be included in the recommendations. The WG decisions regarding these "features" were made after reviewing the various sources of input, and discussing what was appropriate for West Vancouver.

**4. Consultation Steps**

The Working Group (ITBWG) feels that input from West Vancouver residents is the most important source of input leading to bylaw recommendations to Council. Targeted communications with residents began in August 2017, leading to public information gathering through three public meetings, and the online survey.

As there had been significant tree management public input to Council prior to the ITBWG being formed (including the 2016 survey, plus numerous letters to Council), the ITBWG was careful to understand and acknowledge prior input. In total since early 2016, there have roughly 1,643 items of input from the public, including 1,080 written comments.

In addition to public consultations, the WG also met with DWV staff, as well as DNV staff, to understand their views relating to the administration of the current bylaws.

#### **ITBWG Public Consultations:**

- Harmony Arts "Pop-up" Booth (August, 2017)
- 2017 Survey (October/November, 2017)
- Three Public Meetings (November, 2017)
- Meetings with Community Engagement Committee (July, October, and December 2017)
- Responses to Stakeholder Request (December 2017 and January 2018)

#### **Prior public consultations reviewed:**

- 2016 Survey (June, 2016)
- Pre-2016 community input

#### **Other consultations:**

- Meetings with DWV and DNV staff

In addition to these formal consultations, the WG also had residents attending about over half of our biweekly Working Group meetings. ITBWG provided time for resident input at the end of each meeting.

While any single source of data may be questioned as to being statistically accurate, the number of data sources combine to provide data that is statistically meaningful.

#### **a. Harmony Arts "Pop-up" Booth (August, 2017)**

ITBWG wanted to increase awareness of the work of the ITBWG, and of future opportunities for residents to provide their feedback through the survey and public meetings. ITBWG members staffed the booth on two full days at Harmony Arts, having conversations with many residents.

#### **b. 2017 Survey (October/November, 2017)**

ITBWG (with support from DWV staff) spent significant time designing this survey, with the intent of making it easy to understand and answer, to encourage as many complete responses as possible. The questions were written to be unbiased, and to collect information which ITBWG did not already have from prior consultations. Pre-survey awareness was arranged through DWV staff and Council, including letters/emails from councillors, newspaper ads, and posters in District facilities.

The survey was held online on WestVancouverITE from October 30th through November 30th. There were 400 separate responses (after duplicates were removed), with good representation across West Vancouver neighbourhoods. 276 (69%) of the responders added option comments, totalling 54 pages of comments. ITBWG was pleased with the survey response, both in numbers and in content.

Some of the most meaningful information from the survey questions:

- There is support for "the ability for the District of West Vancouver to protect trees on private property" (55.1% Yes, 24.5% No, 25.5% Not Sure)
- Most residents "feel . . . the current level of the tree canopy (number of trees) in your neighbourhood" is about right (42% About Right, 35% Too Much, 19% Too Little).
- There is strong support for requiring a minimum number of trees on a newly developed or redeveloped lot (84% Somewhat or Strongly Agree)
- There is support for maintaining pre-existing view corridors (72% Somewhat or Strongly Agree)

In addition to answering the formal questions, 276 responders provided comments. The four most common concerns voiced were:

1. Safety/Hazard (81 mentions; 77 (79-2) net positive)
2. Protecting Views (86 mentions; 70 (78-8) net positive)
3. Tall trees/Tree Height (73 mentions; 65 (69-4) net positive)
4. New/Re-development (57 mentions; 57 (57-0) net positive)

The survey summary and the comment analysis summary can be found Appendix 5e.

### **c. Three Public Meetings (November, 2017)**

While the Survey was open for response, three public meetings were held from November 8th through November 18th. The purpose of the meetings was to inform attendees of some of the committee's progress to date, and to provide a forum for round-table discussion of some of the alternative approaches and features the ITBWG was considering recommending for a new bylaw.

There were approximately 30 attendees at each meeting. The majority of attendees spent a full two hours first listening to a positioning presentation, and then contributing to multiple roundtable discussions regarding the perceived pros and cons to the various approaches.

Six pages of comments were captured from the three meetings. Many of the attendees voiced the opinion that they felt they were being listened to by the ITBWG.

The most commonly voiced concerns were:

1. Safety/Hazard (especially with large and unmaintained trees) - 27 mentions; 25 net positive.
2. New/Re-development - 17 mentions; 17 net positive
3. Species (Consideration for size, height, drainage) - 16 mentions; 16 net positive
4. Replace/Replacement Trees - 18 mentions; 10 net positive

The analysis summary of the comments can be found in Appendix 5e.

### **d. Meetings with Community Engagement Committee**

The Community Engagement Committee (CEC) is a select committee of Council which oversees the establishment and implementation of new working groups and revisions as may be necessary to Working Group Guidelines. The Committee consists of three councillors and five citizen members.

Members of the ITBWG met with the CEC three times (in July, October, and December, 2017) to provide an update on progress, and to receive feedback to help guide the remaining work.



**e. Stakeholder Request for Input**

After the survey was closed for input, the survey responses and summary remained open to public view. With this in mind, the ITBWG arranged for "Call for Comments/Input" letters to be sent to six stakeholder groups. As of Jan 27, 2018, responses have been received from three groups

- West Vancouver Housing Association - Yes
- Altamont Residents Association - Yes
- Western Residents Association - Yes
- Ambleside Dunderave Ratepayers Association
- Design Review Committee
- Lower Caulfeild Advisory Committee

The perspectives provided in the feedback varied in areas of concern. While the content was not analyzed, it was read and appreciated by the ITBWG.

In addition to these stakeholders, members of the ITBWG met briefly with the Squamish Nation's Chief Bill Williams in January 2018. Due to the extreme pressure that the Nation is under, they do not have the capacity to get involved with the WG too much at this time. The Nation did express an interest around development of the DFO lands, and any involvement from the District.

**f. Letters to Council (2016 and 2017)**

Between February 2016 and April 2017 Council received 96 letters regarding tree management. Over half of those letters were received in the month of April 2016, the month the Interim Tree Bylaw was enacted. ITBWG received copies of those letters from DWV staff, and analyzed their content.

The four most commonly voiced concerns were:

1. Views (88 mentions; 70 (79-9) net positive)
2. Development (49 mentions; 47 (48-1) net positive)
3. Neighbours - both positive and negative comments (58 mentions)
4. Fines/Penalties - should be meaningful (39 mentions)

The analysis summary is included in Appendix 5e.

**g. 2016 Survey**

From May 15 to June 10 2016, a westvancouverITE tree survey was open for public input. There were 1,087 responses to this survey. 556 responses were "off-forum", which meant the respondents did not register on westvancouverITE, so some duplications and non-resident input was likely.

One of the most meaningful responses from the formal survey:

- There was support for " regulations to prevent clear cutting, by further regulating the number and location of trees on a lot that can be cut and removed at one time" (64% yes, 36% no).

In total there were 648 comments, which were all analyzed for content. The four most commonly voiced concerns were:

1. Views (155 mentions; 121 (138-17) net positive)

2. Clear-cutting (123 mentions; 109 (116-7) net positive)
3. No Bylaw wanted (109 mentions; 109 net positive)
4. Development (99 mentions; 87 (93-6) net positive)

The analysis summary is included in Appendix 5e.

### **h. Pre-2016 Public Input**

While the ITBWG focussed on public input received from 2016 onward, earlier public input was also read and interpreted, but not analyzed in depth. While public sentiment on subjects can change over time, we found some of the more historic information to be useful.

One such piece of input was from the 2008 Community Dialogue on Neighbourhood Character and Housing. The associated Synovate Survey received 654 responses. Some of the key observations from the survey results:

1. Residents place a great deal of importance on trees and established vegetation adding character to their neighbourhoods (95% think they are at least somewhat important).
2. Residents are supportive of tree management regulations on private property
  - i. to protect views (71%)
  - ii. to ensure access to sunlight (71%)
  - iii. that contribute to neighbourhood character (63%)
  - iv. that prevent sites from being cleared of all trees and vegetation when being prepared for new construction (62%).

Another much earlier study was the 1975 Report of Task Force on Trees and View. Methods of protecting views was the primary recommendation of this report.

### **i. Meetings with DWV and DNV staff**

Meetings with DWV staff provided the WG with an understanding of the administrative load that the bylaw placed on staff. Staff provided the WG with their understanding of resident's concerns or confusion with the existing interim bylaw processes, and provided suggestions to reduce these issues.

DWV Staff also provided the WG with recent information regarding the number of trees removed from single lot development sites. This information allowed the WG to understand how development was affecting the tree canopy.

A presentation from Guy Exley (Urban Forester with DNV) provided an excellent perspective from a North Shore community who has had bylaws with tree protection considerations since 1993 (as part of their Environmental Protection and Preservation Bylaw 6515). The DNV Tree Protection bylaw was significantly revised in 2012, based on feedback from the public and from DNV staff. The revisions, and rationale for the revisions, were of significant interest to the WG.

## 5. Appendix

### Section 5a - Vision

The intent of the vision is to represent the interests of the majority of the community, serving as a basis for ITBWG consultation work, and informing ITBWG recommendations.

#### 1. Urban Forest Management

- Suitable tree canopy % across DWV
- Replacing the number of trees removed where remaining land allows
- Safety process for high to moderate risk situations
- Overgrown trees impacting sidewalks and roads are maintained
- Views and light preferences are respected and considered
- Groomed trees/Proper pruning feature trees
- Ecological value for birds and habitat resource for the community
- Environmental, social and esthetic value placed on the benefits that trees and the overall tree canopy have to the district
- Appropriate species and a diversity and balance of trees exist

#### 2. Education

- Residents understand why trees are important
- Education for tree planting
- Community based, good neighbour guidelines, value based conflict resolution process
- Best practices resource exists for tree management (DWV specific)

#### 3. Bylaw

- Although each DWV community is different, one bylaw exists based on certain considerations like property size
- Efficient permit process for cutting
- Balance between requirements and home owner autonomy / discretion

### Section 5b - Problem Statement

The ITBWG developed a problem statement which encompasses the issues raised by West Vancouver residents regarding tree loss with new development.

#### ITBWG Problem Statement:

Increased residential development in West Vancouver, together with unregulated removal of trees on private property, has many residents concerned about the loss of tree canopy and the resultant impact on neighbourhood character.

This trend, combined with an increased awareness of the benefits of trees, has driven support for new regulations and educational guidelines surrounding tree management and conservation.

The ITBWG seeks to find a balance between residents' desire for sunlight, views, property enjoyment, and safety, and the desire to protect neighbourhood character and benefits gained by protecting trees.

## 5c. Terms of Reference

### **Purpose of Terms of Reference**

The purpose of the Tree Bylaw Working Group is to review options, engage the community, and make recommendations regarding the development of a bylaw to regulate trees on private property that balances tree management best practices with community interests.

### **Background**

Trees are important to residents of West Vancouver and are an important part of the fabric, ecology and identity of the community. The presence of character-defining landscapes including trees helps to set West Vancouver apart from other municipalities in the Metro Vancouver region.

Council adopted Interim Tree Bylaw No. 4892, 2016 on April 20, 2016. This interim bylaw has helped the community manage the impact of previously unregulated tree cutting activities. Since the adoption of the bylaw, staff has undertaken a public engagement process to help understand the impacts of tree cutting on neighbourhoods, the impacts that these interim measures have had, and to assist staff in exploring ways to adjust the interim bylaw for tree management in West Vancouver over the longer term.

### **Duties**

#### Work Plan

After an orientation session, the Working Group will review its terms of reference and prepare an initial work plan consistent with the duties described below.

#### Review

The Working Group will review existing information regarding trees in West Vancouver and options for tree management, such as:

- the District of West Vancouver's Interim Tree Bylaw No. 4892, 2016 as amended;
- the Official Community Plan, as amended;
- recent and relevant community real estate trends, development industry practices and standards;
- best practices for tree management (as related to site development and property maintenance) from other jurisdictions and relevant organizations;
- other relevant documents as appropriate.

#### Engage

The Working Group will identify and then engage the wider community and stakeholders on potential options for tree management. Option identification and engagement should enable the Working Group to consider whether components of the Interim Tree Bylaw No. 4892, 2016 as amended could be carried forward, expanded or contracted in an updated bylaw.

#### Recommend

On the basis of its review of relevant information and the findings of its engagement program, the Group will make recommendations to Council regarding:

- the development of a Tree Bylaw;

- any other matters (as necessary or appropriate) that the Group determines are of significance related to tree management in West Vancouver.

#### Progress Report

At the mid-point of its term, the Working Group will prepare a progress report (an interim report) to Council and review its terms of reference with the Community Engagement Committee to identify any modifications in tasks and completion dates that may be indicated.

#### Final Report

Upon completion of its assignment, the Working Group will submit a report of its findings and recommendations to Council. The Staff Liaison and Chair shall collaborate to prepare the report.

Following review by the Working Group, the report will be submitted to Council.

The Working Group's function is advisory to Council, and the Group's role ends upon submission of its final report to Council. The Group has no continuing advocacy role concerning their findings and recommendations.

#### **Origin of Work**

On July 18, 2016 staff presented a status report regarding the Interim Tree Bylaw to Council. This report recommended the creation of a task-oriented Working Group to aid in the development of a balanced and sound approach to regulating trees on private properties.

#### **Composition**

The Working Group will consist of 12 individuals:

- the Mayor, as an ex-officio member;
- one member of Council as Council liaison;
- one member of staff as Staff Liaison; and,
- ten citizen members reflecting a diversity of backgrounds. Members will be appointed on the basis of their ability to listen with an open mind, to think critically, to build consensus and to work towards realistic solutions to the challenges of the issue. Members will be able to advance the work of the Group in an unbiased way and represent the interests and desires of the community. Members will not represent specific organizations or interest groups.

The Working Group shall select a Chair and a Vice Chair from among its citizen members.

The role of the Council member is to:

- act as a liaison between Council and the Working Group;
- provide status reports to Council and solicit, where appropriate, Council's views on the issues and items being discussed and considered by the Group.

The role of the citizen members is to:

- represent the views and interests of West Vancouver citizens;
- contribute their expertise and experience to the Working Group process;
- attend and participate in Working Group meetings and any other consultation events as determined and scheduled by the Working Group.

The role of the staff liaison is to assist the Working Group with facilitation and project management including:

- obtaining information, facilitating contact with District departments, and arranging for professional advice as required;
- supporting the Chair and Working Group members in promoting effective group functioning;
- collaborating with the Chair in preparing reports to Council;
- directing the support function for the Group regarding scheduling Working Group meetings; preparing agendas; taking notes at meetings; maintaining Working Group records; posting agendas, notes, reference material, progress reports on the District’s website as well as any other material the Working Group wishes to be made public.

### **Term**

The term of the Working Group is six months or until the Group completes its work, whichever is earlier. The Working Group process is anticipated to generally span the first half of 2017.

### **Meeting Schedule and Procedure**

#### Meeting Schedule

The Working Group shall create a schedule of meetings that will be posted publicly.

#### Procedure

Working Group meetings are open and constructive and are conducted in a spirit of good faith, and may rely upon the Community Engagement Committee for support or advice on procedure. Working Groups will not hold any closed sessions.

- the role of the Working Group is to evaluate options and make recommendations on the specific issue of tree management, for consideration and decision by Council;
- Working Group meetings are conducted in a spirit of good faith and respect, so as to foster a free flow of ideas and encourage the unconstrained development of options;
- the public and press shall similarly exercise good faith and respect, mindful that the proceedings are a “work in progress,” and not a forum for lobbying or decisions;
- public and/or press may attend working group meetings as observers;
- Working Groups may receive delegations and presentations, and may call for public input from time to time;
- the Chair will provide opportunity for members of the public to ask questions and offer points of information, generally at the end of meetings; there will be no lobbying or speeches;
- electronic recording of a Working Group’s discussions, decisions or activities may occur with the Working Group’s permission;
- should anyone disrupt or impede a Working Group meeting, the Chair may expel that person from the meeting.

### **Communication/Consultation Strategy**

The Working Group shall consult with stakeholders and the community as described in Section 3.3 above. The District will assist in the preparation of a supporting communications plan.

**Sub-groups**

A basic principle guiding the operation of Working Groups is flexibility (meetings, discussions, and compiling/evaluating information) and the freedom to establish sub-groups for specific tasks within the Working Group’s mandate. The Working Group may establish sub-groups as required to review or address specific tasks or issues as they arise.

**Decision Making Approach/Formulating Recommendations**

The Working group will build toward consensus in formulating and evaluating alternatives, and in making recommendations. Unanimity is not required, nor is voting. In conducting their work, the Working Group shall maintain:

- a clear view of their purpose and Terms of Reference;
- a focused, task-oriented, and time-sensitive approach;
- accountability by each member for the effectiveness of the group as a whole;
- a flexible process inclusive of all interests in the community.

**Conflict of Interest**

Working Group members shall advise of personal conflicts of interest – for example, situations where a member:

- has a direct or indirect interest in the deliberations, pecuniary or otherwise;
- is involved in a matter contravening Council’s Conflict of Interest guidelines

Where an actual or potential conflict of interest exists, the Working Group member shall explain its nature to the group and the Chair shall submit the matter to the CEC for consideration.

**Support/Professional Services Utilized**

The Staff Liaison will arrange for professional advice as required.

**Budget**

The Working Group shall have a reasonable use of miscellaneous services such as clerical services, photocopying, paper supplies, meeting areas, appropriate refreshments, and other requirements such as the advertising of engagement events. These are provided primarily through the Staff Liaison and the applicable District Division. A budget of \$10,000 has been assumed by the District to support this Working Group.

## 5d. Literature Reviewed

The West Vancouver Tree Book:

<http://archives.westvancouver.ca/PDFs/0999.0057.DWV.pdf>

1975 tree study done by District of West Vancouver:

<http://archives.westvancouver.ca/PDFs/0999.0057.DWV.pdf>

City of New Westminster:

<https://www.newwestcity.ca/services/environment-and-sustainability/urban-forest-management-strategy/articles/5348.php>

City of Surrey:

<http://www.surrey.ca/community/1364.aspx>

The Corporation of Delta:

<http://www.delta.ca/environment-sustainability/environmental-initiatives/trees>

West Vancouver Tree Survey 2016

<http://archives.westvancouver.ca/permalink/14475/default.aspx>

British Pacific Properties Design Guidelines

<http://britishproperties.com/wp-content/uploads/2015/11/PrcedurforPlanApprvlsFeb2014General.pdf>

District of West Vancouver Parks Regulation

<https://westvancouver.ca/sites/default/files/bylaws/4867%20PARKS%20REGULATION%20BYLAW%204867%202015.pdf>

District of West Vancouver Policy on Tree Work on DWV Property

[https://westvancouver.ca/sites/default/files/dwv/assets/home-building-property/permits-and-licences/TREE\\_WORK\\_ON\\_DISTRICT\\_OF\\_WEST\\_VANCOUVER\\_PROPERTY\\_POLICY\\_02-70-199.pdf](https://westvancouver.ca/sites/default/files/dwv/assets/home-building-property/permits-and-licences/TREE_WORK_ON_DISTRICT_OF_WEST_VANCOUVER_PROPERTY_POLICY_02-70-199.pdf)

District of West Vancouver Landscaping requirements (Section 130.15 see page 130-12 to 130-14):

[https://westvancouver.ca/sites/default/files/dwv/assets/gov/docs/bylaws/ZONING\\_BYLAW\\_4662\\_SECTION\\_130\\_GENERAL\\_REGULATIONS\\_FOR\\_RESIDENTIAL\\_ZONES\\_AND\\_USES\\_ONLY%20June%202016.pdf](https://westvancouver.ca/sites/default/files/dwv/assets/gov/docs/bylaws/ZONING_BYLAW_4662_SECTION_130_GENERAL_REGULATIONS_FOR_RESIDENTIAL_ZONES_AND_USES_ONLY%20June%202016.pdf)

Metro Vancouver Urban Forest Climate Adaption Framework, Tree Species Selection

<http://www.metrovancouver.org/services/regional-planning/PlanningPublications/UrbanForestClimateAdaptationFrameworkTreeSpeciesSelection.pdf>

Metro Vancouver Design Guidebook – Maximizing Climate Adaption Benefits with Trees

<http://www.metrovancouver.org/services/regional-planning/PlanningPublications/DesignGuidebook-MaximizingClimateAdaptationBenefitswithTrees.pdf>

Researchgate.net – Residential Green Spaces and Mortality

[https://www.researchgate.net/publication/283465001\\_Residential\\_green\\_spaces\\_and\\_mortality\\_A\\_systematic\\_review](https://www.researchgate.net/publication/283465001_Residential_green_spaces_and_mortality_A_systematic_review)

Phytosphere.com – Tree Ordinance Guidelines

[http://phytosphere.com/treeord/ordprt1a\\_effectiveness.htm](http://phytosphere.com/treeord/ordprt1a_effectiveness.htm)

United States Department of Agriculture, Northern Research Station – The Effects of Urban Trees on Air Quality

[https://www.nrs.fs.fed.us/units/urban/local-resources/downloads/Tree\\_Air\\_Qual.pdf](https://www.nrs.fs.fed.us/units/urban/local-resources/downloads/Tree_Air_Qual.pdf)

International Society of Arboriculture – Guidelines for Developing and Evaluating Tree Ordinances

[http://www.isa-arbor.com/education/resources/educ\\_treeordinanceguidelines.pdf](http://www.isa-arbor.com/education/resources/educ_treeordinanceguidelines.pdf)

Arbor Environmental Alliance – Carbon Tree Facts

<http://www.arborenelvironmentalalliance.com/carbon-tree-facts.asp>

The Guardian – What impact do seas, lakes and rivers have on people's health?

<https://www.theguardian.com/sustainable-business/impact-sea-lakes-rivers-peoples-health>

City of New Westminster – Urban Forest Management Strategy



<https://www.newwestcity.ca/services/environment-and-sustainability/urban-forest-management-strategy>

Metro Vancouver – Design Guidebook – Maximizing Climate Adaption Benefits with Trees

<https://www.metrovancouver.org/services/regional-planning/PlanningPublications/DesignGuidebook-MaximizingClimateAdaptationBenefitswithTrees.pdf>

iTree – Sustainable Urban Forest Guidelines

[http://www.itreetools.org/resources/content/Sustainable Urban Forest Guide 14Nov2016.pdf](http://www.itreetools.org/resources/content/Sustainable%20Urban%20Forest%20Guide%2014Nov2016.pdf)

The Globe and Mail – Earth’s deadly heat waves to happen more frequently

[https://www.theglobeandmail.com/technology/science/earths-deadly-heat-waves-to-happen-more-frequently/article35357968/?utm\\_source=Shared+Article+Sent+to+User&utm\\_medium=E-mail:+Newsletters+/-E-Blasts+/-etc.&utm\\_campaign=Shared+Web+Article+Links](https://www.theglobeandmail.com/technology/science/earths-deadly-heat-waves-to-happen-more-frequently/article35357968/?utm_source=Shared+Article+Sent+to+User&utm_medium=E-mail:+Newsletters+/-E-Blasts+/-etc.&utm_campaign=Shared+Web+Article+Links)

Canadian Urban Forest Network – Urban forest canopy cover targets in BC

<https://www.cufn.ca/urban-forest-canopy-cover-targets-in-bc>

Ontario Urban Forest Council – Bylaw Information package

<http://www.oufc.org/wp-content/uploads/2012/04/By-law-Information-Package-January-7-2011.pdf>

District of West Vancouver Report

<https://westvancouver.ca/government/bylaws-strategies-reports/reports/community-dialogue-neighbourhood-character-housing>

District of West Vancouver Report

West Vancouver Survey on Neighbourhood Character and Housing: Presented By: Julie Winram, Presented On: July 4, 2008, Job #08-0241 Powerpoint presentation

District of Saanich – Tree Selection form

<http://www.saanich.ca/assets/Community/Documents/Saanich-Tree-Selection-Form-PRIVATE-TREES.pdf>

City of Courtenay – Tree Bylaw Questionnaire

<http://www.courtenay.ca/assets/Departments/Development~Services/Tree%20Bylaw%20Questionnaire.pdf>

City of Port Alberni – Fence and Hedge Guidelines

[https://www.portalberni.ca/sites/default/files/doc\\_library/Pamphlet-%20Building%20Handout2014-FenceHedge.pdf](https://www.portalberni.ca/sites/default/files/doc_library/Pamphlet-%20Building%20Handout2014-FenceHedge.pdf)

Citree – tree selection guidelines

<https://citree.ddns.net/guideline.php?language=en>

Small trees for the Home landscape; Charles Brun; Washington State University Extension; October, 2008.

The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries From a Secret World; Peter Wohlleben, 2016

Ribnjak Park Case-Study, Zagreb

Karlo Beljan, Lead Author

University of Zagreb, Faculty of Forestry  
2014

Value, Benefits and Costs of Urban Trees

Virginia Cooperative Extension, Publication 420-81

Brian Kane, Assistant Professor

University of Massachusetts, Amherst  
2009

Special Report; TD Economics

Urban Forest: The Value of Trees in The City of Toronto

Craig Alexander, SVP and Chief Economist; Connor McDonald, Economist

Urban Forestry and Urban Greening  
 Volume 4, Issues 3-4, April 2006, Pages 115-1223  
 Air pollution removal by urban trees and shrubs in the United States  
 David J. Nowak, Daniel E. Crane, Jack C. Stevens  
 B.C. Hydro Web Page  
 Power outages by the numbers  
 Jan 19, 2017

**Section 5e: Results of the Consultation**

The content of this section is in support of Section 4: Public Consultation Steps.

Significant input from residents has been analyzed to understand the desires and concerns regarding trees. The analysis done by the ITBWG on the various data inputs has been done on a best efforts basis, and may not be 100% statistically accurate. However, there have been enough data points through different surveys and data sources that we have been able to create a Table of Conclusions and Inferences.

For transparency, the analysis summary for each of the data sources is included in this appendix. All of the detailed data which the analysis was based on is available upon request, if not already on the WestVanouver.ca website.

The content of this section has been separated into multiple parts to ease access and understanding.

1. Table of Conclusions and Inferences
2. 2017 Survey Questions - Summary
3. 2016 Survey Questions - Summary
4. Comments Analysis: 2016 and 2017
  - 2017 Survey Comments
  - 2017 Three Public Meetings Comments
  - 2016/2017 Letters to Council
  - 2016 Survey Comments
1. Methodology used for Analyzing Comments and Letters

**1. Table of Conclusions and Inferences**

The following table provides conclusions and inferences based on the combination of data sources referenced in Section 4.

**Conclusions, Inferences, and Data Points from West Vancouver Residents Regarding Trees:**

| No. | Inferences / Conclusions  | Data points  |
|-----|---|--|
| 1   | Residents support measures to protect trees, this includes regulations. | <ul style="list-style-type: none"> <li>• Do you support the ability for the District of West Vancouver to protect trees on private property? (55.5% yes, 24.5% no, 20.5% not sure) – 2017 survey</li> <li>• Do you support additional regulations to prevent clear cutting, by further regulating the number and location of trees on a lot that can be cut and removed at one time? (60% yes, 40% no) – 2016 survey.</li> </ul> |

|   |  |   |
|---|--|---|
| 2 | The perception is that we have about the right number of trees currently.  | <ul style="list-style-type: none"> <li>How do you feel about the current level of the tree canopy (number of trees) in your neighbourhood? (42.1% about right, 35.4% too much, 19.3% not enough).</li> <li>4 Eastern neighbourhoods have a poorer perception of the current level of tree canopy, but overall still have a positive view of tree canopy in their neighbourhoods. Neighbourhoods that had more than 20% of residents responding that they have too few trees are: Ambleside (33%), Dundarave (25%), Altamont (24%), and Glenmore (60% - based on only 5 responses).</li> </ul> |
| 3 | Support for min # trees per lot size.  | <ul style="list-style-type: none"> <li>Removal of trees on private property should be regulated to keep a minimum number of trees based on the lot size (65.7% agree, 29.6 % disagree) – 2017 survey</li> </ul>   |
| 4 | Support for min # trees per lot size on new property development. But again, we don't know how many trees/lot size would be considered reasonable. | <ul style="list-style-type: none"> <li>For new property development, a minimum number of trees should be either maintained or planted based on lot size (new property development is defined as being a newly constructed residence after the original has been demolished or on a previously undeveloped lot). (83.9% agree, 13.5% disagree) – 2017 survey</li> </ul>  |
| 5 | Views are important, and there is support for pre-existing view corridors.   | <ul style="list-style-type: none"> <li>Removal of trees on private property should be allowed in order to maintain a pre-existing view corridor. (72.0% agree, 24.4 % disagree) – 2017 survey</li> <li>Ranked 2 - 2017 survey comments</li> <li>Ranked 1 - 2016 survey comments</li> <li>Ranked 1 – 2016/2017 letters</li> <li>Ranked 7 - Roundtable notes</li> </ul>   |
| 6 | Safety is important, including the ability to quickly remove hazard trees or branches.   | <ul style="list-style-type: none"> <li>Ranked 1 - 2017 survey comments</li> <li>Ranked 6 - 2016 survey comments</li> <li>Ranked 7 - 2016/2017 letters</li> <li>Ranked 1 – Roundtable notes</li> </ul>   |
| 7 | Concern that clear cutting and new development is resulting in tree loss   | <ul style="list-style-type: none"> <li>Ranked 4 - 2017 survey comments</li> <li>Ranked 3 - 2016 survey comments</li> <li>Ranked 3 – 2016/2017 letters</li> <li>Ranked 2 – Roundtable notes</li> </ul>   |
| 8 | Tree replacement is required on the lot from a District-approved suggested species list  | <ul style="list-style-type: none"> <li>Where a tree is approved for removal on a single family lot or duplex lot, tree replacement is required on the lot from a District-approved suggested species list. (69% agree, 28.2 % disagree) – 2017 survey</li> <li>Ranked 11 - 2017 survey comments (But also asked in the questions)</li> <li>Ranked 7 - 2016 survey comments</li> <li>Ranked 7 - 2016/2017 letters</li> <li>Ranked 7 – Roundtable notes</li> </ul>  |
| 9 | Meaningful security deposit should be collected to ensure  | <ul style="list-style-type: none"> <li>If tree replacement is required, a meaningful security deposit should be collected to ensure removed trees are</li> </ul>  |

|    |   |   |
|----|---|---|
|    | removed trees are replaced by an approved species   | replaced by an approved species. (70.8% agree, 25.2 % disagree) – 2017 survey   |
| 10 | Replacement species should not usually exceed a specific height at maturity.  | <ul style="list-style-type: none"> <li>• If tree replacement is required, it should be done using a species that does not usually exceed a specific height at maturity. (70.2% agree, 24% disagree) – 2017 survey</li> <li>• Ranked 3 - 2017 survey comments (comments reflect height concerns only)</li> <li>• Ranked 13 - 2016 survey comments (comments reflect height concerns only)</li> <li>• Ranked 4 – 2016/2017 letters (reflecting height concerns only)</li> </ul> |
| 11 | Periodic inspections of replacement trees is supported  | <ul style="list-style-type: none"> <li>• The District of West Vancouver should perform periodic inspections of replacement trees to ensure the property owner is abiding by the intent of the tree bylaw. (73.5% agree, 22.5% disagree) – 2017 survey</li> </ul>  |
| 12 | Guidelines should be put in place to prevent damage to root systems on trees on neighbouring private and municipal lands  | <ul style="list-style-type: none"> <li>• Guidelines should be put in place to prevent damage to root systems on trees on neighbouring private and municipal lands. (84.8% agree, 12.5% disagree) – 2017 survey</li> </ul>   |
| 13 | The District should have the ability to require the removal or trimming of trees and other vegetation when they block sunlight for existing solar panel installations | <ul style="list-style-type: none"> <li>• The District should have the ability to require the removal or trimming of trees and other vegetation when they block sunlight for existing solar panel installations or other alternative energy systems. (73.5% agree, 23.5% disagree) – 2017 survey</li> </ul>  |
| 14 | The District should provide a recommended list of replacement trees species based on their drainage control properties  | <ul style="list-style-type: none"> <li>• Trees provide important drainage control of both surface water and groundwater. The District should provide a recommended list of replacement trees species based on their drainage control properties. (88.1% agree, 6.1% disagree) – 2017 survey</li> </ul>  |
| 15 | The District should allow reasonable pruning and maintenance without permits.   | <ul style="list-style-type: none"> <li>• Ranked 6 - 2017 survey comments</li> <li>• Ranked 4 - 2017 public meetings</li> </ul>  |
| 16 | Any resulting regulations should be designed to keep bureaucracy and costs to a minimum   | <ul style="list-style-type: none"> <li>• Ranked 8 - 2017 survey comments</li> <li>• Ranked 5 - 2017 public meetings</li> </ul>  |
| 17 | Marginal support for views that didn't previously exist.  | <ul style="list-style-type: none"> <li>• Removal of trees on private property should be allowed in order to create a new view corridor. (51.7% agree, 44.4% disagree). - 2017 survey.</li> </ul>  |

|    |   |  |
|----|---|--|
| 18 | Marginal support for Cash-in-Lieu for replacement trees.            | <ul style="list-style-type: none"> <li>If tree replacement is required, and where a tree cannot be replaced on private property because of lot size, safety, views, light, or other valid reasons, establish a cash-in-lieu process to replant trees on public land. (53.2% agree, 42.6% disagree) - 2017 survey.</li> </ul> |
| 19 | Marginal support for protecting trees based on their diameter/size. | <ul style="list-style-type: none"> <li>Removal of trees on private property should be regulated by protecting all trees over a specified diameter. . . (55.5% agree, 40.9% disagree) - 2017 survey</li> </ul>  |

## **2. 2017 Survey Questions - Summary**

The responses to the survey questions are contained in this section.

The committee felt that the 400 responders provided a good representation across the various West Vancouver neighbourhoods. At the request of the ITBWG, West Vancouver staff broke down all answers by neighbourhood, to allow the ITBWG to see any differences in responses across the neighbourhoods. In almost all cases, sentiments were similar across all neighbourhoods.

The question where there was the largest difference in sentiments, was in response to "How do you feel about the current level of the tree canopy (number of trees) in your neighbourhood?" Four eastern neighbourhoods have a poorer perception of the current level of tree canopy, but overall still have a positive view of tree canopy. Neighbourhoods that had more than 20% of residents responding that they have too few trees are: Ambleside (33%), Dundarave (25%), Altamont (24%), and Glenmore (60% - based on only 5 responses). Overall, 19% of residents felt there are not enough trees, while 35% felt there are too many trees, and 42% feel that there are about the right amount of trees.

Question 4 in the survey asked if the responder supported the ability for West Vancouver to protect trees on private property. If they answered "No", as 24.5% of the responders did, they were asked to skip the rest of the questions. Some of the responders answered the questions anyway, while others skipped to the comments. Therefore the analysis of the answers to all questions after Question 4 are somewhat inaccurate. The percentages represented in the following table are based on the total responders to that question, and is not based on the total 400 responders.

### **2017 Survey Response Summary:**

Do you support the ability for the District of West Vancouver to protect trees on private property?  
**Yes: 55.1%, No: 24.5%, Not sure: 20.5%.**

How do you feel about the current level of the tree canopy (number of trees) in your neighbourhood?  
**About Right: 42.1%, Too Much: 35.4%, Not enough: 19.3%, Not Sure: 3.2%**

Please indicate your level of agreement with the following possible characteristics of the bylaw:

|  | <u>Strongly Agree</u> | <u>Some-what Agree</u> | <u>Some-what Disagree</u> | <u>Strongly Disagree</u> | <u>Not Sure</u> |
|--|-----------------------|------------------------|---------------------------|--------------------------|-----------------|
| Removal of trees on private property should be regulated by protecting all trees over a specified diameter. For example, the current interim bylaw protects trees having a diameter of 75 cm (30 in) and larger measured at a height of 1.4m (54 in) above the ground.   | 34.0%                 | 21.5%                  | 11.0%                     | 29.9%                    | 1.8%            |
| Removal of trees on private property should be regulated to keep a minimum number of trees based on the lot size. For example, on an 8,000 sq. ft. lot, the bylaw could require that a minimum of four trees are maintained.   | 37.0%                 | 28.7%                  | 9.6%                      | 20.0%                    | 2.1%            |
| Removal of trees on private property should be allowed in order to maintain a pre-existing view corridor.  | 47.5%                 | 24.5%                  | 11.3%                     | 13.1%                    | 2.4%            |
| Removal of trees on private property should be allowed in order to create a new view corridor.   | 29.6%                 | 22.1%                  | 11.6%                     | 32.8%                    | 2.7%            |
| For new property development, a minimum number of trees should be either maintained or planted based on lot size (new property development is defined as being a newly constructed residence after the original has been demolished or on a previously undeveloped lot). | 63.3%                 | 20.6%                  | 6.6%                      | 6.9%                     | 0.9%            |
| Where a tree is approved for removal on a single family lot or duplex lot, tree replacement is required on the lot from a District-approved suggested species list.  | 39.5%                 | 29.5%                  | 10.0%                     | 18.2%                    | 1.8%            |
| If tree replacement is required, and where a tree cannot be replaced on private property because of lot size, safety, views, light, or other valid reason, establish a cash-in-lieu process to replant trees on public land.   | 31.3%                 | 21.9%                  | 12.5%                     | 30.1%                    | 3.6%            |
| If tree replacement is required, a meaningful security deposit should be collected to ensure removed trees are replaced by an approved species.  | 47.7%                 | 23.1%                  | 7.9%                      | 17.3%                    | 3.6%            |
| If tree replacement is required, it should be done using a species that does not usually exceed a specific height at maturity.   | 39.5%                 | 30.7%                  | 10.9%                     | 13.1%                    | 5.8%            |
| The District of West Vancouver should perform periodic inspections of replacement trees to ensure the property owner is abiding by the intent of the tree bylaw.   | 54.7%                 | 18.8%                  | 9.4%                      | 13.1%                    | 3.0%            |

|  |       |       |       |       |      |
|--|-------|-------|-------|-------|------|
| Guidelines should be put in place to prevent damage to root systems on trees on neighbouring private and municipal lands.  | 55.8% | 29.0% | 7.3%  | 5.2%  | 2.1% |
| The District should have the ability to require the removal or trimming of trees and other vegetation when they block sunlight for existing solar panel installations or other alternative energy systems. | 32.3% | 41.2% | 11.9% | 11.6% | 2.7% |
| Trees provide important drainage control of both surface water and groundwater. The District should provide a recommended list of replacement trees species based on their drainage control properties.    | 57.0% | 31.1% | 4.9%  | 1.2%  | 4.6% |

### **3. 2016 Survey Questions - Summary**

There were 1087 responses to the brief 2016 Survey, which was held about 2 months after the Interim Tree Bylaw was enacted. Slightly over half (556) of the responders did not register on WestVancouverITE. While most of the data should be considered as valid, there is more opportunity for duplicate responses. In addition, there was no requirement for responders to be residents.

**Current regulations protect any species of trees that are 75 cm (29 ½ in.) diameter and larger, measured 1.4 metres (4 ft. 7 in.) from the ground. Do you support changing this so that smaller trees are protected?**

- 46.8% Yes
- 53.2% No

**Current regulations protect Arbutus and Garry Oak trees 20 cm (7 7/8 inches) in diameter or larger, measured 1.4 metres above the ground. Should the bylaw continue to protect these two species, or any other specific species?**

- 85.8% Yes
- 14.2% No

**Do you support additional regulations to prevent clear cutting, by further regulating the number and location of trees on a lot that can be cut and removed at one time?**

- 59.7% Yes
- 40.3% No

### **4. Comments Analysis - 2016 and 2017**

Comments from residents was a significant form of input. The four primary sources of input from which comments were analyzed are:

- 2017 Survey Comments
- 2017 Three Public Meetings Comments
- 2016/2017 Letters to Council
- 2016 Survey Comments

The summary of the analysis of the characteristics identified in these inputs is in the table below:

### Summary - Comments Analysis - Tree Survey, Meeting, and Letter input

| <u>Source:</u>         | 2016<br>Survey | Rank | Letters to<br>Council<br>2016/2017 | Rank | Nov 2017<br>Public<br>Meetings | Rank | 2017<br>Survey | Rank | TOTAL | Rank<br>(Avg) |
|------------------------|----------------|------|------------------------------------|------|--------------------------------|------|----------------|------|-------|---------------|
| <u>Responses:</u>      | 648            | #    | 151 (96<br>letters)                | #    | 90                             | #    | 276            | #    | 1165  | #             |
| <b>Characteristic:</b> |                |      |                                    |      |                                |      |                |      |       |               |
| View                   | 121            | 1    | 71                                 | 1    | 10                             | 7    | 70             | 2    | 283   | 2.8           |
| Development            | 87             | 4    | 48                                 | 3    | 17                             | 2    | 57             | 4    | 222   | 3.3           |
| Safety/Hazard/Danger   | 83             | 6    | 22                                 | 7    | 25                             | 1    | 77             | 1    | 222   | 3.8           |
| Pruning/Maintenance    |                |      |                                    |      | 14                             | 4    | 45             | 6    | 69    | 5.0           |
| Bureaucracy            |                |      |                                    |      | 12                             | 5    | 38             | 8    | 63    | 6.5           |
| Clearcut               | 109            | 2    | 20                                 | 9    | *                              |      | 35             | 10   | 185   | 7.0           |
| No Bylaw               | 109            | 2    | 13                                 | 12   |                                |      | **             |      | 136   | 7.0           |
| Neighbours             | 66             | 9    | 59                                 | 2    | 5                              | 13   | 48             | 5    | 207   | 7.3           |
| Community/Character    | 84             | 5    | 28                                 | 6    | 3                              | 15   | 40             | 7    | 188   | 8.3           |
| Tall/Height            | 35             | 13   | 39                                 | 4    | 9                              | 9    | 65             | 3    | 177   | 7.3           |
| Replace                | 67             | 7    | 22                                 | 7    | 10                             | 7    | 34             | 11   | 165   | 8.0           |
| Education              |                |      |                                    |      | 12                             | 5    | 29             | 12   | 58    | 8.5           |
| Light/Sun              | 58             | 10   | 18                                 | 10   | 9                              | 9    | 37             | 9    | 160   | 9.5           |
| Fines/Penalties        | 67             | 7    | 39                                 | 4    | 5                              | 13   | 18             | 15   | 168   | 9.8           |
| Species                | 50             | 11   | 15                                 | 11   | 16                             | 3    | 12             | 17   | 135   | 10.5          |
| Value as a Resource    | 33             | 14   | 11                                 | 13   | 6                              | 11   | 22             | 13   | 123   | 12.8          |
| Permits                | 43             | 12   | 1                                  | 14   |                                |      |                |      | 70    | 13.0          |
| Hedge                  |                |      |                                    |      | 6                              | 11   | 20             | 14   | 51    | 12.5          |
| Slopes                 |                |      |                                    |      | 7                              | 10   | 12             | 17   | 46    | 13.5          |
| Protect <75cm          |                |      |                                    |      | 2                              | 16   | 13             | 16   | 47    | 16.0          |
| Climate Change         |                |      |                                    |      |                                |      | 12             | 17   | 12    | 17.0          |
| Support Bylaw          |                |      | 70                                 |      |                                |      |                |      | 70    |               |

#### 4a 2017 Survey Comments - Analysis

The comments from 276 responders were scanned and read for occurrences of words associated with a range of characteristics that could be applied to a new bylaw. A maximum occurrence of one was associated with any individual response, even if a characteristic word appeared multiple times across up to three comment questions.



#### **4b 2017 Three Public Meetings Comments - Analysis**

Notes were taken at the three public meetings held in November 2017, from the total of about 90 participants. The characteristics captured are quite subjective, due to the varied styles of note collection, but does provide an idea of which characteristics were most important to the participating residents.

#### **4c 2016/2017 Letters to Council - Analysis**

From early 2016 through May 2017, Council received 96 letters from residents. Some of the letters represented multiple residents. If the letters contained multiple signatures, then each signature was counted as a resident's input. This resulted in 151 pieces of input from residents.

#### **4d 2016 Survey Comments - Analysis**

There were comments from 648 survey responders. The survey did not track the municipality of the responder, and duplicates were possible. Therefore it is likely that the survey results aren't as accurate as they could have been.

### **5. Methodology used for Analyzing Comments and Letters**

The ITBWG analyzed all of the comments on a best efforts basis. All text-based input was scanned for "characteristic" words which were largely based on key themes advanced by the residents, as well as themes which the ITBWG incorporated into its vision. Example of these characteristics includes views, development, clear-cutting, valued resources, etc.

Multiple different words could represent a single characteristic, so all comments were carefully read and assessed. In addition, there were both positive and negative views regarding characteristics. For example, some residents wanted to protect their views, while other residents feel that trees should not be removed for views. The detailed analysis captured all "positive" and "negative" views. For ease of understanding, the summary table in Section 4.4 above, uses "net" numbers which are calculated by subtracting the negative count from the positive count.

In the Comments Analysis table above, the number of mentions of each characteristic were counted, with a maximum allowed count of one per person.

For each comment source (e.g. surveys, letters), the characteristics were ranked. The final column averages the rankings. Therefore the table is listed in order of average ranking.

The second last column in the table displays the total count of mentions of that characteristic. It is felt that this number is not as meaningful as the average ranking, but both numbers are fairly close.

Some characteristics were not as prevalent in earlier data sources (e.g. hedges, slopes), so data was not collected on occurrences of those characteristics. The average ranking takes into account the number of sources evaluated. (e.g. there were only 2 sources for input on hedges, so the ranking was averaged over the two sources evaluated).

### **5f. Tree Density Schedule**

One tree is required for each 150m<sup>2</sup> (1,615 sq ft) of lot size, starting at 2 trees on lots up to 300m<sup>2</sup> (3,229 sq ft).

| <b><u>Lot Size<br/>(Square Metres)</u></b>     | <b><u>Lot Size<br/>(Square Feet)</u></b> | <b><u>Trees Required</u></b>    |
|--|--|---------------------------------|
| <b><u>0 - 300</u></b>                          | <b><u>0 - 3229</u></b>                   | <b><u>2</u></b>                 |
| <b><u>301 - 450</u></b>                        | <b><u>3230 - 4844</u></b>                | <b><u>3</u></b>                 |
| <b><u>451 - 600</u></b>                        | <b><u>4845 - 6458</u></b>                | <b><u>4</u></b>                 |
| <b><u>601 - 750</u></b>                        | <b><u>6459 - 8073</u></b>                | <b><u>5</u></b>                 |
| <b><u>751 - 900</u></b>                        | <b><u>8074 - 9688</u></b>                | <b><u>6</u></b>                 |
| <b><u>901 - 1050</u></b>                       | <b><u>9689 - 11302</u></b>               | <b><u>7</u></b>                 |
| <b><u>Each additional 150m<sup>2</sup></u></b> | <b><u>Each additional 1615 sq ft</u></b> | <b><u>1 additional tree</u></b> |

For a comparison of proposed tree retention counts as they relate to those of other local communities please see the table below (next page).

Comparison of selected other local communities with a trees-per-lot approach, showing tree requirements per lot size, normalized to ITBWG lot size recommendations for West Vancouver.

The numbers in the table below represent trees required based on lot size.

**Notes:**

Vancouver, Coquitlam tree diameter = 20cm for retained trees

Courtenay = 2cm for retained trees

Proposed West Vancouver = 10cm for retained trees

Courtenay, Coquitlam tree canopy target = 40%

Vancouver canopy target = 28%

Proposed West Vancouver canopy target = TBD (baseline target is current 2018 canopy, requires survey)

| Sq. Metres | Vancouver | Courtenay | Coquitlam | West Van |
|------------|-----------|-----------|-----------|----------|
| 300        | 2         | 2         | 2         | 2        |
| 400        | 3         | 2         | 2         | 2        |
| 500        | 4         | 2         | 2         | 4        |
| 600        | 5         | 3         | 3         | 4        |
| 700        | 5         | 3         | 3         | 5        |
| 800        | 6         | 4         | 4         | 6        |
| 900        | 6         | 4         | 4         | 6        |
| 1000       | 6         | 5         | 4         | 7        |
| 1100       | 7         | 5         | 5         | 8        |
| 1200       | 7         | 6         | 5         | 8        |
| 1300       | 8         | 6         | 6         | 9        |
| 1400       | 8         | 7         | 6         | 10       |
| 1500       | 8         | 7         | 6         | 10       |
| 1600       | 8         | 8         | 7         | 11       |

(Compilation by Ernie)

**5g. Replacement Trees - Recommended Species**

**Recommended Replacement Trees:**

Replacement trees should be chosen to meet the minimum requirements from the table below, or be otherwise approved at the municipal arborist’s discretion. Height at maturity should be taken into account when views or sunlight may be an issue for neighbouring properties, in addition to suitability for planting on slopes, etc.

Interim to verification by DWV arborists, the following table is provided for reference.

The table is created from three information sources:

1. City of Coquitlam - Tree Resource Book - specifies replacement trees by species and diameter/height
2. City of Vancouver - Bylaw Schedule D - specifies replacement trees by species and diameter/height

3. West Vancouver Tree Book (1980 Version) - specifies replacement trees by species and height at maturity. This source also defines species not recommended ("Do Not Plant" = DNP).

For minimum diameter, it is recommended to take the smaller of the diameters/heights on the table, if there is a difference in the two measurements.

Fruit trees are included, based on the City of Vancouver list.

Notes:

- Coquitlam: 2 Class A trees = 3 Class B trees = 4 Class C trees
- Vancouver: 1 Part 1 tree = 2 Part 2 trees. Part 1 or part 3 trees should be used for sloping sites.
- West Vancouver Tree Book: DNP = "Do Not Plant"

| <u>Botanical Name</u> | <u>Common Name</u> | <u>Type</u> | <u>Coq Size</u> | <u>Coq Cls</u> | <u>COV Size</u> | <u>COV Part</u> | <u>COV Slope</u> | <u>WV Tree Bk: Mature Hgt</u> |
|-----------------------|--------------------|-------------|-----------------|----------------|-----------------|-----------------|------------------|-------------------------------|
| Abies balsamea        | Balsam Fir         | Conif       | 3 m             | A              | 3 m             | 1               |                  |                               |
| Abies concolor        | White Fir          | Conif       | 3 m             | A              | 3.5m            | 1               |                  |                               |
| Abies fraseri         | Fraser's Fir       | Conif       | 3 m             | A              | 3.5 m           | 1               |                  |                               |
| Abies grandis         | Grand Fir          | Conif       | 3 m             | A              | 3.5 m           | 1               |                  |                               |
| Abies lasiocarpa      | Alpine Fir         | Conif       | 3 m             | A              | 3.5 m           | 1               |                  |                               |
| Abies procera         | Noble Fir          | Conif       | 3 m             | A              | 3.5 m           | 1               |                  |                               |
| Acer campestre        | Hedge Maple        | Decid       | 5 cm            | C              | 6 cm            | 1               | 3                | 9 m                           |
| Acer capilipes        | Stripebark Maple   | Decid       | 5 cm            | C              |                 |                 |                  |                               |
| Acer cappadocicum     | Coliseum Maple     | Decid       | 5 cm            | B              |                 |                 |                  | 9 m                           |
| Acer circinatum       | Vine Maple         | Decid       | 2 m             | C              | 3.5 m           | 2               | 3                | 9 m                           |

|                             |                     |       |      |   |       |   |                |             |
|-----------------------------|---------------------|-------|------|---|-------|---|----------------|-------------|
| Acer davidii                | Snakebark Maple     | Decid | 5 cm | B | 6 cm  | 1 | David Maple    | 9 m         |
| Acer ginnala                | Amur Maple          | Decid | 5 cm | C | 4 cm  | 2 |                | 6 m         |
| Acer glabrum                | Douglas Maple       | Decid | 5 cm | B |       |   | Rock/<br>Dwarf | 6 m         |
| Acer griseum                | Paperbark Maple     | Decid | 5 cm | C | 5 cm  | 1 |                |             |
| Acer macrophyllum           | Bigleaf Maple       | Decid | 6 cm | A | 3.5 m | 1 |                | DNP:<br>25m |
| Acer negundo                | Manitoba Maple      | Decid | 5 cm | B | 6 cm  | 2 |                |             |
| Acer palmatum               | Japanese Maple      | Decid | 5 cm | C | 3 m   | 2 | 3              | 6 m         |
| Acer platanoides            | Norway Maple        | Decid | 6 cm | A | 6 cm  | 1 |                |             |
| Acer pseudoplatanus         | Sycamore Maple      | Decid | 6 cm | A | 6 cm  | 1 |                |             |
| Acer rubrum 'Armstrong'     | Armstrong Maple     | Decid | 5 cm | B | 6 cm  | 1 |                |             |
| Acer rubrum 'Autumn Flame'  | Autumn Flame Maple  | Decid | 5 cm | B |       |   |                |             |
| Acer rubrum 'Bowhall'       | Bowhall Maple       | Decid | 5 cm | B |       |   |                |             |
| Acer rubrum 'Morgan'        | Morgan Maple        | Decid | 5 cm | B | 6 cm  | 1 |                |             |
| Acer rubrum 'October Glory' | October Glory Maple | Decid | 5 cm | B |       |   |                |             |
| Acer rubrum 'Red Sunset'    | Red Sunset Maple    | Decid | 5 cm | B | 6 cm  | 1 |                |             |
| Acer rubrum 'Scanlon'       | Scanlon Maple       | Decid | 5 cm | B | 6 cm  | 1 |                |             |

|  |                        |       |      |   |       |   |                    |          |
|--|------------------------|-------|------|---|-------|---|--------------------|----------|
| Acer rubrum 'Scarlet Sentinel'               | Scarlet Sentinel Maple | Decid | 5 cm | B | 6 cm  | 1 |                    |          |
| Acer saccharinum                             | Silver Maple           | Decid | 6 cm | A | 6 cm  | 1 |                    |          |
| Acer saccharum                               | Sugar Maple            | Decid | 6 cm | A | 6 cm  | 1 |                    |          |
| Acer truncatum                               | Shantung Maple         | Decid | 5 cm | B |       |   |                    |          |
| Aesculus hippocastanum                       | Common Horsechestnut   | Decid | 6 cm | A | 6 cm  | 1 |                    | DNP: 15m |
| Aesculus x carnea                            | Red Horsechestnut      | Decid | 5 cm | B | 6 cm  | 1 |                    |          |
| Ailanthus altissima                          | Tree of Heaven         | Decid | 6 cm | A | 3.5 m | 1 |                    | DNP: 15m |
| Albizia julibrissin                          | Silk Tree              | Decid | 5 cm | B | 3 m   | 2 | 3                  | 9 m      |
| Amelanchier grandiflora                      | Serviceberry           | Decid | 2 m  | C |       |   |                    | 9 m      |
| Aralia elata                                 | Japanese Angelica Tree | Decid | 5 cm | C | 3 m   | 2 | 3                  | 9 m      |
| Araucaria araucana<br>Monkey Puzzle Tree 3 m | Monkey Puzzle Tree     | Conif | 3 m  | A | 3 m   | 1 |                    |          |
| Betula albo-sinensis septentrionalis         | Chinese White Birch    | Decid | 6 cm | B |       |   |                    |          |
| Betula jacquemontii                          | Himalayan Birch        | Decid | 6 cm | B | 6 cm  | 1 | Jacque month Birch |          |
| Betula Lanciniata                            | Weeping Birch          | Decid | 5 cm | C | 6 cm  | 2 |                    |          |
| Betula nigra                                 | River Birch            | Decid | 6 cm | B | 6 cm  | 1 |                    |          |

|  |                      |       |      |   |       |     |                    |          |
|--|----------------------|-------|------|---|-------|-----|--------------------|----------|
| <i>Betula pendula</i>                            | European White Birch | Decid | 5 cm | C | 6 cm  | 1   | Coded wrong - COC  | DNP: 18m |
| <i>Calocedrus decurrens</i><br>Incense Cedar 3 m | Incense Cedar        | Conif | 3 m  | A | 3.5 m | 1   | California Incense |          |
| <i>Carpinus betulus</i>                          | European Hornbeam    | Decid | 6 cm | A | 6 cm  | 1   |                    | 9 m      |
| <i>Carpinus japonica</i>                         | Japanese Hornbeam    | Decid | 5 cm | C |       |     |                    |          |
| <i>Catalpa bignoniodes</i>                       | Common Catalpa       | Decid | 6 cm | A | 6 cm  | 1   |                    |          |
| <i>Catalpa speciosa</i>                          | Northern Catalpa     | Decid | 6 cm | A |       |     |                    |          |
| <i>Cedrus atlantica</i> Atlas Cedar 3 m          | Atlas Cedar          | Conif | 3 m  | A | 3.5 m | 1   |                    | DNP: 18m |
| <i>Cedrus deodara</i>                            | Deodar Cedar         | Conif | 3 m  | A | 3.5 m | 1   |                    | DNP: 25m |
| <i>Cedrus libani</i>                             | Cedar of Lebanon     | Conif | 3 m  | A | 3.5 m | 1   |                    |          |
| <i>Celtis occidentalis</i>                       | Hackberry            | Decid | 5 cm | B | 6 cm  | 1   |                    |          |
| <i>Cercidiphyllum japonicum</i>                  | Katsura Tree         | Decid | 5 cm | B | 6 cm  | 1   |                    |          |
| <i>Cercis canadensis</i>                         | Eastern Redbud       | Decid | 5 cm | B | 5 cm  | 2   | 3                  | 9 m      |
| <i>Chamaecyparis nootkatensis</i>                | Nootka Cypress       | Conif | 3 m  | A | 3.5 m | 1,2 |                    |          |
| <i>Chamaecyparis obtusa</i>                      | Hinoki False Cypress | Conif | 2 m  | B | 3 m   | 1   | 3                  | 9 m      |

|                                      |                      |       |      |   |       |   |   |             |
|--------------------------------------|----------------------|-------|------|---|-------|---|---|-------------|
| <i>Chamaecyparis pisifera</i>        | Sawara False Cypress | Conif | 2 m  | B | 3 m   | 2 | 3 | DNP:<br>15m |
| <i>Cladastrus lutea</i>              | American Yellowwood  | Decid | 5 cm | C |       |   |   |             |
| <i>Cornus 'Eddie's White Wonder'</i> | Eddie's White Wonder | Decid | 5 cm | C |       |   |   |             |
| <i>Cornus chinensis</i>              | Chinese Dogwood      | Decid | 5 cm | B | 5 cm  | 1 |   |             |
| <i>Cornus controversa</i>            | Giant Dogwood        | Decid | 5 cm | B | 5 cm  | 1 |   |             |
| <i>Cornus florida</i>                | Flowering Dogwood    | Decid | 5 cm | C | 5 cm  | 2 | 3 | 6 m         |
| <i>Cornus kousa</i>                  | Kousa Dogwood        | Decid | 5 cm | C | 3.5 m | 1 |   | 6 m         |
| <i>Cornus mas</i>                    | Cornelian Cherry     | Decid | 3 m  | B | 3 m   | 2 | 3 |             |
| <i>Cornus nuttallii</i>              | Pacific Dogwood      | Decid | 6 cm | B | 5 cm  | 1 |   | 6 m         |
| <i>Corylus maxima</i>                | Giant Filbert        | Decid | 2 m  | C | 3 m   | 2 | 3 |             |
| <i>Crataegus lavallei</i>            | Lavalle Hawthorne    | Decid | 5 cm | B | 6 cm  | 2 |   | 9 m         |
| <i>Davidia involucrata</i>           | Dove Tree            | Decid | 6 cm | B | 5 cm  | 1 |   |             |
| <i>Fagus crenata</i>                 | Japanese Beech       | Decid | 6 cm | A |       |   |   |             |
| <i>Fagus sylvatica</i>               | European Beech       | Decid | 6 cm | A | 6 cm  | 1 |   | 6 m         |
| <i>Fraxinus americana</i>            | White Ash            | Decid | 6 cm | A | 6 cm  | 1 |   |             |
| <i>Fraxinus excelsior</i>            | European Ash         | Decid | 6 cm | A | 6 cm  | 1 |   |             |



|                                      |                          |       |      |   |       |   |             |             |
|--------------------------------------|--------------------------|-------|------|---|-------|---|-------------|-------------|
| <i>Fraxinus nigra</i>                | Black Ash                | Decid | 6 cm | A |       |   |             |             |
| <i>Fraxinus ornus</i>                | Flowering Ash            | Decid | 6 cm | A | 6 cm  | 1 |             |             |
| <i>Fraxinus oxycarpa</i>             | Claret Ash               | Decid | 6 cm | A | 6 cm  | 1 | Raywood Ash |             |
| <i>Ginkgo biloba</i>                 | Ginkgo                   | Decid | 6 cm | A | 6 cm  | 1 |             |             |
| <i>Gleditsia triacanthos</i>         | Honey Locust             | Decid | 6 cm | B | 6 cm  | 1 |             |             |
| <i>Gleditsia triacanthos inermis</i> | Thornless Honey Locust   | Decid | 6 cm | B | 6 cm  | 1 |             |             |
| <i>Gymnocladus dioica</i>            | Kentucky Coffeebean      | Decid | 5 cm | B |       |   |             |             |
| <i>Halesia carolina</i>              | Carolina Silverbell      | Decid | 5 cm | C |       |   |             | 9 m         |
| <i>Koelreuteria paniculata</i>       | Golden Rain Tree         | Decid | 5 cm | B | 3 m   | 2 |             |             |
| <i>Laburnum watereri</i>             | Golden Chain Tree        | Decid | 5 cm | B | 6 cm  | 2 |             |             |
| <i>Larix decidua</i>                 | European Larch           | Conif | 3 m  | A | 3.5 m | 1 |             |             |
| <i>Liquidambar styraciflua</i>       | American Sweetgum        | Decid | 6 cm | A | 6 cm  | 1 |             |             |
| <i>Liriodendron chinense</i>         | Chinese Tuliptree        | Decid | 5 cm | B |       |   |             | DNP:<br>30m |
| <i>Liriodendron tulipifera</i>       | Tulip Tree               | Decid | 6 cm | A | 6 cm  | 1 |             |             |
| <i>Magnolia 'Caerhay's Belle'</i>    | Caerhay's Belle Magnolia | Decid | 5 cm | C |       |   |             |             |
| <i>Magnolia 'Elizabeth'</i>          | Elizabeth Magnolia       | Decid | 5 cm | C |       |   |             |             |

|                              |                      |       |      |   |      |   |   |     |
|------------------------------|----------------------|-------|------|---|------|---|---|-----|
| Magnolia 'Forest Pink'       | Forest Pink Magnolia | Decid | 5 cm | C |      |   |   |     |
| Magnolia 'Galaxy'            | Galaxy Magnolia      | Decid | 5 cm | C |      |   |   |     |
| Magnolia acuminata           | Cucumber Tree        | Decid | 5 cm | B | 3 m  | 2 | 3 |     |
| Magnolia cordata             | Yellow Cucumber Tree | Decid | 5 cm | B | 3 m  | 2 | 3 |     |
| Magnolia denudata            | Yulan Magnolia       | Decid | 5 cm | C |      |   |   |     |
| Magnolia grandiflora         | Southern Magnolia    | Decid | 5 cm | B | 5 cm | 2 |   |     |
| Magnolia kobus stellata      | Star Magnolia        | Decid | 3 m  | B |      |   |   |     |
| Malus species                | Crabapple            | Decid | 5 cm | C | 6 cm | 2 | 3 | 9 m |
| Metasequoia glyptostroboides | Dawn Redwood         | Conif | 3 m  | A | 3 m  | 1 |   |     |
| Morus alba                   | White Mulberry       | Decid | 5 cm | C | 5 cm | 2 | 3 |     |
| Notofagus antartica          | Antartic Beech       | Decid | 6 cm | A |      |   |   |     |
| Nyssa sylvatica              | Sour Gum Tree        | Decid | 5 cm | C |      |   |   | 9 m |
| Oxydendron arboreum          | Sorrel Tree          | Decid | 5 cm | C |      |   |   | 9 m |
| Parrotia persica             | Persian Parrotia     | Decid | 5 cm | C | 6 cm | 2 | 3 | 9 m |
| Paulownia tomentosa          | Empress Tree         | Decid | 6 cm | A | 6 cm | 1 |   |     |
| Phellodendron amurense       | Amur Corktree        | Decid | 5 cm | C | 6 cm | 1 |   |     |

|                          |                     |       |     |   |       |   |  |             |
|--------------------------|---------------------|-------|-----|---|-------|---|--|-------------|
| Picea abies              | Norway Spruce       | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Picea glauca             | White Spruce        | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Picea omorika            | Serbian Spruce      | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Picea pungens            | Colorado Spruce     | Conif | 2 m | B | 3 m   | 2 |  |             |
| Picea sitchensis         | Sitka Spruce        | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Pinus contorta           | Shore Pine          | Conif | 2 m | B | 3.5 m | 2 |  |             |
| Pinus densiflora pendula | Weeping Red Pine    | Conif | 2 m | B | 3.5 m | 2 |  |             |
| Pinus monticola          | Western White Pine  | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Pinus nigra              | Austrian Pine       | Conif | 2 m | B | 3.5 m | 1 |  |             |
| Pinus ponderosa          | Ponderosa Pine      | Conif | 3 m | A | 3.5 m | 1 |  | DNP:<br>35m |
| Pinus radiata            | Monterey Pine       | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Pinus resinosa           | Red Pine            | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Pinus strobus            | Eastern White Pine  | Conif | 3 m | A | 3.5 m | 1 |  |             |
| Pinus sylvestris         | Scotch Pine         | Conif | 2 m | B | 3.5 m | 1 |  | DNP:<br>20m |
| Pinus thunbergii         | Japanese Black Pine | Conif | 2 m | B | 3.5 m | 1 |  |             |

|                              |                           |       |      |   |       |   |   |          |
|------------------------------|---------------------------|-------|------|---|-------|---|---|----------|
| <i>Pinus wallichiana</i>     | Himalayan White Pine      | Conif | 3 m  | A | 3.5 m | 1 |   |          |
| <i>Platanus occidentalis</i> | American Sycamore         | Decid | 6 cm | A | 6 cm  | 1 |   |          |
| <i>Platanus orientalis</i>   | Oriental Plane Tree       | Decid | 6 cm | A | 6 cm  | 1 |   |          |
| <i>Platanus x acerfolia</i>  | London Plane Tree         | Decid | 6 cm | A | 6 cm  | 1 |   |          |
| <i>Prunus sargentii</i>      | Sargent Flowering Cherry  | Decid | 5 cm | B | 6 cm  | 2 | 3 |          |
| <i>Prunus serotina</i>       | Black Cherry              | Decid | 5 cm | B | 6 cm  | 2 | 3 |          |
| <i>Prunus serrulata</i>      | Japanese Flowering Cherry | Decid | 5 cm | B | 6 cm  | 2 | 3 | 9 m      |
| <i>Prunus subhirtella</i>    | Higan Cherry              | Decid | 5 cm | B | 6 cm  | 2 | 3 |          |
| <i>Prunus yedoensis</i>      | Yoshino Cherry            | Decid | 5 cm | B | 6 cm  | 2 | 3 | 9 m      |
| <i>Pseudotsuga menziesii</i> | Douglas Fir               | Conif | 3 m  | A | 3.5 m | 1 |   | DNP: 60m |
| <i>Pyrus calleryana</i>      | Callery Pear              | Decid | 5 cm | B |       |   |   |          |
| <i>Quercus acutissima</i>    | Sawtooth Oak              | Decid | 5 cm | B |       |   |   |          |
| <i>Quercus coccinea</i>      | Scarlet Oak               | Decid | 6 cm | A | 6 cm  | 1 |   |          |
| <i>Quercus garryana</i>      | Garry Oak                 | Decid | 6 cm | A |       |   |   |          |
| <i>Quercus palustris</i>     | Pin Oak                   | Decid | 6 cm | A | 6 cm  | 1 |   |          |
| <i>Quercus robur</i>         | English Oak               | Decid | 6 cm | A | 6 cm  | 1 |   |          |

|                                  |                       |       |      |   |      |   |                                     |             |
|----------------------------------|-----------------------|-------|------|---|------|---|-------------------------------------|-------------|
| Quercus rubra                    | Red Oak               | Decid | 6 cm | A | 6 cm | 1 |                                     |             |
| Quercus shumardii                | Shumard Oak           | Decid | 6 cm | A | 6 cm | 1 |                                     |             |
| Robinia ambigua                  | Pink Locust           | Decid | 6 cm | A | 6 cm | 1 |                                     |             |
| Robinia pseudoacacia'<br>frisia' | Golden Locust         | Decid | 6 cm | A | 6 cm | 1 | Yellow<br>Leafed<br>Black<br>Locust |             |
| Salix alba                       | White Willow          | Decid | 5 cm | B | 6 cm | 1 |                                     |             |
| Salix babylonica                 | Weeping Willow        | Decid | 5 cm | B | 8 cm | 1 |                                     | DNP:<br>15m |
| Salix babylonica<br>'tortuosa'   | Corkscrew Willow      | Decid | 5 cm | C | 6 cm | 1 |                                     |             |
| Sciadopitys verticillata         | Umbrella Pine         | Conif | 2 m  | B | 3 m  | 1 | 3                                   | 9 m         |
| Sequoia sempervirens             | Redwood               | Conif | 3 m  | A | 3 m  | 1 |                                     |             |
| Sequoiadendron giganteum         | Giant Sequoia         | Conif | 3 m  | A | 3 m  | 1 |                                     |             |
| Sophora japonica                 | Japanese Pagoda Tree  | Decid | 5 cm | B | 3 m  | 2 |                                     | 9 m         |
| Sorbus aucuparia                 | European Mountain Ash | Decid | 5 cm | C | 6 cm | 1 | 3                                   | 9 m         |
| Stewartia monadelphica           | Tall Stewartia        | Decid | 5 cm | C |      |   |                                     |             |
| Stewartia pseudocamillia         | Japanese Stewartia    | Decid | 5 cm | C |      |   |                                     |             |

|                        |                    |       |      |   |       |   |               |          |
|------------------------|--------------------|-------|------|---|-------|---|---------------|----------|
| Styrax japonica        | Japanese Snowbell  | Decid | 5 cm | C | 6 cm  | 1 | 3             | 9 m      |
| Styrax obassia         | Fragrant Snowbell  | Decid | 5 cm | C | 6 cm  | 1 | 3             | 9 m      |
| Thuja plicata          | Western Red Cedar  | Conif | 3 m  | A | 3.5 m | 1 | Small Variety | DNP: 45m |
| Tilia cordata          | Little Leaf Linden | Decid | 6 cm | A | 6 cm  | 1 |               |          |
| Tilia euchlora         | Crimean Linden     | Decid | 6 cm | A | 6 cm  | 1 |               |          |
|                        |                    |       |      |   |       |   |               |          |
| Malus Species          | Apple              | Decid |      |   | 6 cm  | 2 |               |          |
| Prunus Cerasus         | Sour Cherry        | Decid |      |   | 6 cm  | 2 |               |          |
| Prunus Avium           | Sweet Cherry       | Decid |      |   | 6 cm  | 2 |               |          |
| Ficus Carica           | Fig                | Decid |      |   | 6 cm  | 2 |               |          |
| Pyrus Communis         | Pear               | Decid |      |   | 6 cm  | 2 |               |          |
| Prunus 'Italian Prune' | Italian Prune Plum | Decid |      |   | 6 cm  | 2 |               |          |
| Prunus Salicina        | Japanese Plum      | Decid |      |   | 6 cm  | 2 |               |          |
| Cydonia Oblonga        | Quince             | Decid |      |   | 6 cm  | 2 |               |          |
|                        |                    |       |      |   |       |   |               |          |
| Notes:                 |                    |       |      |   |       |   |               |          |

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
| <p>Coquitlam: 2 Class A trees = 3 Class B trees = 4 Class C trees</p>  |  |  |  |  |  |  |  |  |  |
| <p>Vancouver: One Part 1 tree = two Part 2 trees. Part 1 or part 3 trees should be used for sloping sites.</p> |  |  |  |  |  |  |  |  |  |

Additional Trees not recommended by Tree Book: DNP = Do Not Plant)

|                    |
|--------------------|
| Hemlock            |
| Red Alder          |
| Aspen              |
| Lombardy Popular   |
| <u>Cottonwood</u>  |
| <u>White Birch</u> |
| <u>Paper Birch</u> |

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