

DUNSTER & ASSOCIATES
Environmental Consultants Ltd.

**A Review of Forest and Individual Tree Conditions
at the Proposed Daffodil Drive Subdivision,
West Vancouver, BC.**

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Background

A new subdivision is proposed in West Vancouver, west of Westport Road, and north east of Daffodil Drive. Figure 1 shows the area bounded by a yellow line.

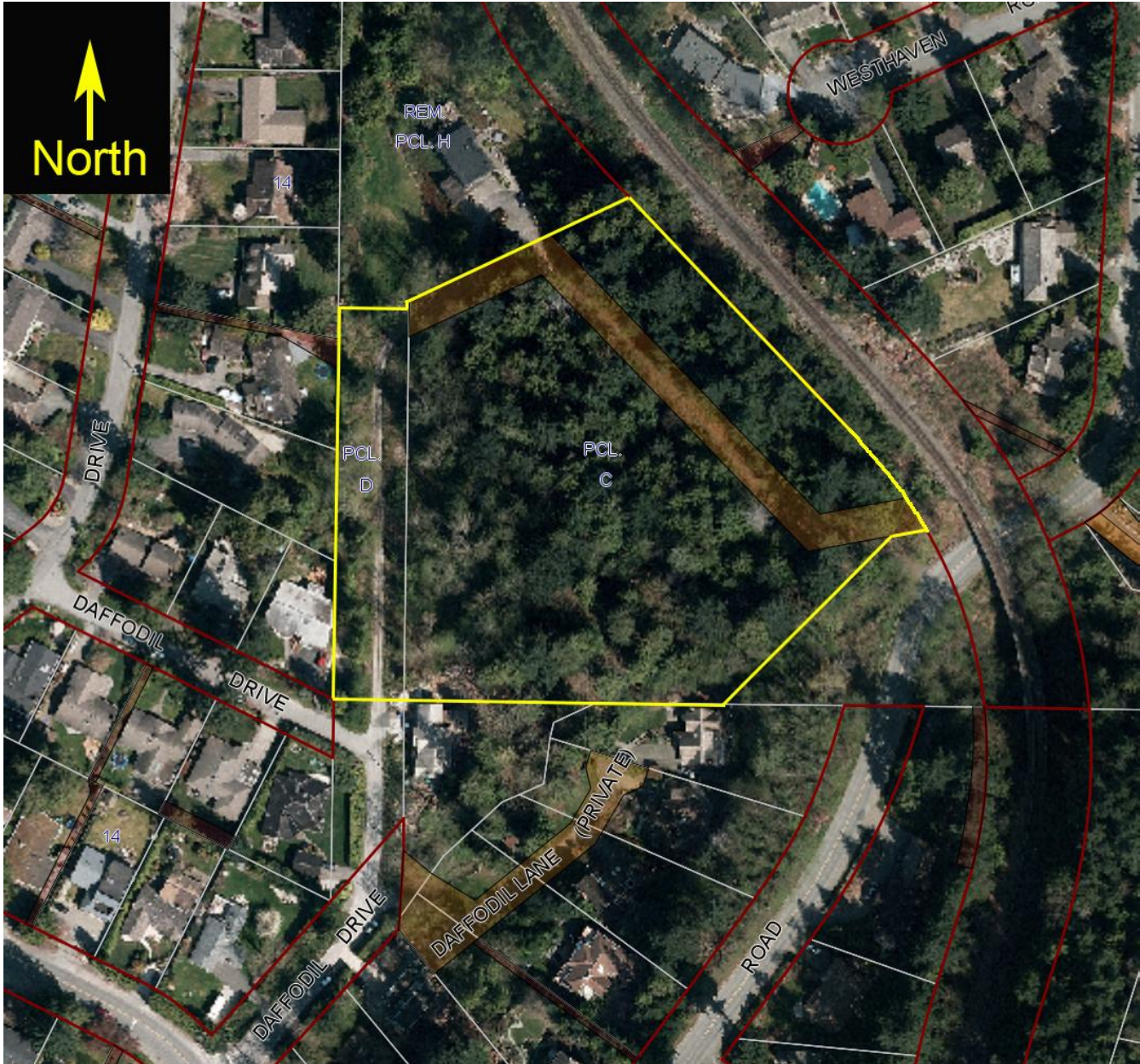


Figure 1. Aerial view of the area.

Dunster & Associates Environmental Consultants Ltd. has been asked to comment on the potential to retain trees in the planned subdivision. Numerous site visits have taken place over the past few years as the proposal has evolved, including a recent visit in March 2016 to review current plans.

Figure 2 shows the latest plan including proposed building footprints, building envelopes, covenant and park areas, and other potential tree retention zones.



Figure 2. Proposed subdivision plan.

In figure 2, the dedicated park area seen as the green polygon at the south boundary. Along the west edge there is a covenant area (blue, bounded by the red line in the north), as well as a further area identified as 'Drainage ditch protection area' also in blue extending along the north boundary. In between the proposed building envelopes (lilac colour) are areas of land to be left relatively undisturbed.

Forest Conditions

The entire site has been logged in the past and is now largely covered with second, possibly third growth forest. Approximately twenty large open grown and dominant Douglas-firs are scattered throughout the site. A subdominant canopy of western redcedar and western hemlock occupies a slightly lower stratum in the canopy. In among these there are numerous much smaller stems of hemlock and redcedar, with the forest fringes occupied by red alder and bigleaf maples. The tallest trees are estimated to be in the 40 metre range, with trunk diameters of around 100 centimetres. Estimated age for these tall trees is 80 - 90 years. None of the forest would could be classified as old growth in its present condition. Most of the taller trees have a high crown, and form a closed canopy forest.

The upper parts of the site, along the northeast boundary, are steeper and much rockier, with bluffs and outcrops noted in several places. In the lower areas along the west boundary, the site is already more open, and fewer trees are present. The edge trees along the railway right of way have relatively large asymmetrical crowns, and appear to have adapted to the edge conditions.

Discussion

The proposed subdivision will include new road access and utility corridors, as well as extensive land clearing. That will create many new forest edges, many of which will have potentially unstable edge trees. In order to review the implications of the development, as currently proposed the landbase has been examined in several specific places.

1 West edge - covenant and ditch protection area. Figure 3.

There are proposals to install upgraded pipelines but these will be in between trees and should not affect the trees along the west edge. Some clean up of brambles is proposed along the road and ditch area, with new tree planting. Existing trees should be unaffected by the work anticipated.

Figures 4 and 5 show these areas.

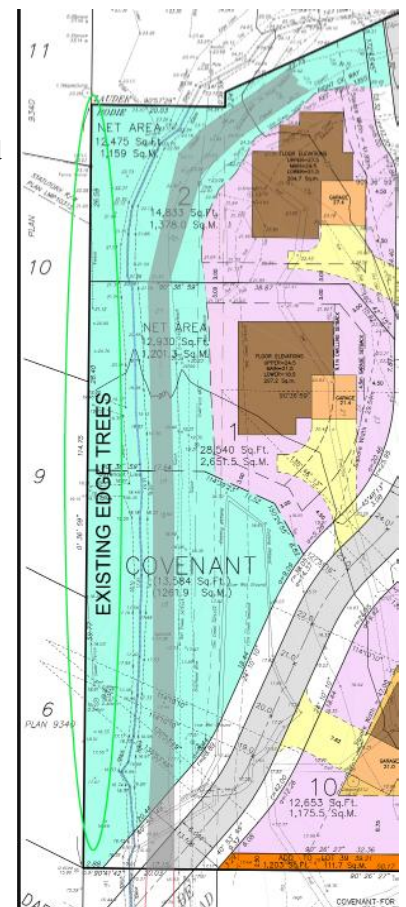


Figure 3. West edge.



Figure 4. Upper end of existing gravel road.



Figure 5. View south along lower part of gravel road.

3. The land base in between the proposed building envelopes.

In between each site there are areas of land to be left relatively undisturbed. It is highly unlikely that it will be feasible or reasonable to retain all trees in these areas. Many will become unstable once the main forest area is opened up, and will then be rated as a high risk to people and property. As with the edge area noted in item 2, all trees in the areas between building envelopes will need to be assessed on a tree by tree basis once initial clearing has been undertaken.

Recommended assessment approach

The most realistic way to assess trees and decide which ones can be retained along the edges and in the main development area, will be as follows.

- 1 Survey, and clear the main access road area. 1
- 2 Survey and define on the ground the building envelopes.
- 3 Clear the building envelopes and individual access roads first of all, making sure that all trees are directionally felled into the building envelope areas.
- 4 Once stages 1 to 3 have been implemented, review the land base beyond the building areas (the lilac coloured areas) as well as the edge review areas to determine exactly which trees, if any, can reasonably be retained without creating high risk tree. Those trees not deemed safe to retain would then be directionally felled in the building envelope areas with the intention of minimising ground disturbance. The intent would be to extract these trees by lifting them up and out of the 'lilac' coloured areas to avoid ground disturbance. That would leave a relatively undisturbed landbase, complete with understorey vegetation, that could be replanted to create a long-term buffer of new forest and vegetation between each envelope. Dunster & Associates has successfully used this approach many times before. With cooperation of the logging crew and machine operators it is a good way to retain a landbase for a new forest without too much damage or residual risk for construction workers or the new home occupiers.

Realistically, this is the only sensible way to proceed. It is not possible to accurately predict tree risk before the other areas are cleared. It would be a serious mistake to try and commit to retaining existing trees in these areas without the benefit of first seeing how the planned clearing work affects their stability.

On Behalf of Dunster & Associates Environmental Consultants Ltd.



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