

Queen Elizabeth Park

Tree Management Plan



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1. PLAN OBJECTIVES

The Q.E. Park tree management plan will meet the following objectives:

- Restore and preserve the principal view corridors by removing obstructing trees.
- Replace removed trees on a two-for-one basis, resulting in a future net increase in tree cover.
- Enhance areas where trees were removed through replanting with appropriate species of trees and shrubs to provide year-round beauty, wildlife values, and ease of maintenance.

2. BACKGROUND

Queen Elizabeth Park is one of Vancouver's premier parks, second only to Stanley Park in terms of visitation. Named "Little Mountain" until 1939, the site comprises the highest elevation within Vancouver, historically providing impressive views of the City and mountain skyline.

Among Q.E. Park's many amenities is the Arboretum, developed from 1949 with a donation from the Canadian Pulp and Paper Association to plant a collection of all economically important Canadian trees. This concept was soon expanded to include exotic trees to take advantage of Vancouver's mild climate, which permits the cultivation of a wide range of trees from the temperate regions of the world.

Today, a half-century after the first plantings were made, many arboretum trees have achieved impressive sizes, increasing in beauty and value. However, a small number of these trees (estimated at less than one percent of the park's tree cover) have gradually blocked portions of the formerly panoramic views from the park summit.

In 1990 City Council adopted guidelines to protect selected public views. Council approved five view cones from Queen Elizabeth Park, including the viewing areas north of the Bloedel Conservatory.

The 1999 “Long Range Vision for Queen Elizabeth Park” report by John Talbot & Associates identified the need to prepare a strategy for view preservation that would minimize the impact on park trees.

In January 2008 the Board did not endorse the concept of a privately developed and operated observation tower in Queen Elizabeth Park, and requested that staff report back by Spring 2008 on various tree management options with the goal of restoring views from QE Park. The consensus among participants at the two public sessions hosted by the tower proponent was supportive of restoring view corridors via tree pruning or removal as long as this was done in a sensitive way if the tower proposal was not approved.

The “Tree Removal on Public Lands in Vancouver” policy adopted by the Park Board states that trees may be removed from city parks to facilitate the re-establishment of views that benefit the general population.

3. PLAN DESCRIPTION

The tree management plan would entail the removal of trees blocking views from the three lookouts on the north side of Queen Elizabeth Park (i.e. Large Quarry lookout, Bloedel Conservatory Plaza, and Anniversary Garden lookout.) An aerial photo marked to show tree removal locations is included as Appendix A.

It is estimated that between sixty and eighty trees would need to be removed in order to restore lost views from the Bloedel Conservatory and Anniversary Garden lookouts.

It should be noted that pruning the trees will not achieve the plan’s objectives. Trees respond to top removal by replacing the lost leader with multiple leaders. These replacement shoots are structurally weaker, making the tree more susceptible to breakage by snow and wind. Risk to the public would increase, as many of the trees are near pathways and high usage areas. In addition, pruning would need to be repeated frequently to maintain the trees at the desired height.

3,1 Quantity, Species, and Rarity of Trees to be Removed

The following is an estimate of number, species, and rarity of the trees to be removed:

Scientific Name	Common Name	Rarity in Region
<i>Acer circinatum</i>	vine maple	common (native)
<i>Acer macrophyllum</i>	bigleaf maple	common (native)
<i>Aesculus hippocastaneum</i>	horse chestnut	common
<i>Betula pendula</i>	weeping birch	common
<i>Cornus nuttallii</i>	Pacific dogwood	common (native)
<i>Picea pungens</i> 'Glauca'	Colorado blue spruce	common
<i>Pinus banksiana</i>	Jack pine	rare
<i>Pinus monticola</i>	western white pine	common (native)
<i>Pinus nigra</i>	black pine	common
<i>Pinus ponderosa</i>	Ponderosa pine	common (native)
<i>Pinus sylvestris</i>	Scots pine	common
<i>Prunus virginiana</i>	choke cherry	common (native)
<i>Thuja plicata</i>	red cedar	common (native)

The following chart provides counts of trees to be removed to restore views from each of the three lookouts:

Species	Common Name	Height (Avg)
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Large Quarry - North West

<i>Betula pendula</i>	weeping birch	12m
<i>Thuja plicata</i>	red cedar	6m

Bloedel Lookout - North

<i>Acer circinatum</i>	vine maple	4m
<i>Acer macrophyllum</i>	bigleaf maple	12m
<i>Aesculus hippocastaneum</i>	horse chestnut	12m
<i>Cornus nuttallii</i>	Pacific dogwood	8m
<i>Picea pungens</i> 'Glauca'	Colorado blue spruce	14m
<i>Pinus monticola</i>	western white pine	9m
<i>Pinus nigra</i>	black pine	10m
<i>Pinus ponderosa</i>	Ponderosa pine	12m
<i>Pinus sylvestris</i>	Scots pine	7m
<i>Prunus virginiana</i>	choke cherry	8m
<i>Thuja plicata</i>	red cedar	20m

Anniversary Garden - North

<i>Acer circinatum</i>	vine maple	4m
<i>Acer macrophyllum</i>	bigleaf maple	14m
<i>Cornus nuttallii</i>	Pacific dogwood	8m
<i>Pinus banksiana</i>	Jack pine	8m
<i>Pinus ponderosa</i>	Ponderosa pine	18m
<i>Pinus sylvestris</i>	Scots pine	7m

The estimate of trees to be removed is based upon visual counts of trees blocking the three lookout view corridors, confirmed using VanMap aerial photos of Queen Elizabeth Park.

Removal of trees would be done in compliance with the “Tree Removal on Public Lands in Vancouver” policy adopted by the Park Board in 1990, which requires the replanting of two trees to compensate for each tree removed. Compensatory plantings would be carried out in tree-sparse areas of Queen Elizabeth Park where trees and views will not come into conflict.

Confirmation of the number of trees to be removed will be accomplished by superimposing the designated view corridors onto aerial orthophotos of the park. Trees to be removed will be identified on the orthophotos, which will be used to inform the public around the exact scope of work to be done to restore the views.

3.2 Factors Supporting Tree Removal

In addition to restoring lost views from the summit of the Park, the following factors support the tree removal decision:

1. All of the trees to be removed are species that are well-represented in local public parks and gardens. Many of the trees are native to British Columbia, and are ubiquitous to the coastal region. The exotic (non-native) species are well-represented in Queen Elizabeth Park, as well as in local public parks and gardens.
2. Commemorative trees. All trees planted to commemorate events or persons are located outside of the view cone areas and will be preserved.
3. Some of the trees to be removed have poor crown shape and are in poor health. Many of the trees blocking the Bloedel Conservatory lookout were planted in plantation-style blocks, about ten to fifteen feet apart. The crowns of the trees in these groves have grown together, presenting a hedge-like obstruction when viewed from the lookout.

3.3 Replacement Tree Species Selection

New trees will be planted to compensate for those removed on a 2:1 ratio in accordance with Park Board policy. It is estimated that about one third of the trees removed can be replaced within the view corridors.

Trees removed from view corridors will be replaced with species attaining a maximum mature height of five to ten metres (15 to 30 feet) high. Candidate trees include ornamental flowering species such as cherry, dogwood, and magnolia, and mountain ash, none of which would attain a mature height sufficient to obstruct views. In addition, these species would provide seasonal floral interest, and some would provide sources of fruit for wildlife.

The remaining compensatory plantings would be made in non-view sensitive areas of Queen Elizabeth Park on the south and east sides of the Park. It is estimated that two thirds of the replacement trees would be planted in these locations. Taller growing coniferous species would be concentrated in groves to be planted principally on the south side of the park, in areas currently free of tree cover.

Replacement tree planting sites are identified on the plan in APPENDIX B.

3.4 Site Rehabilitation

Stumps of felled trees will be removed using stump-grinding equipment where possible.

Replacement plantings would be undertaken on suitable sites within the areas where trees were removed. In addition, understory plantings would be made in the areas visible from the lookouts using ornamental flowering shrubs (e.g. rhododendron) to beautify the site.

3.5 Project Timing and Sequencing

The optimal time to remove trees would be in the Spring of 2008, prior to the busy summer-time visitation period. Trees would be removed by Parks Board Arboriculture crews. Areas where trees are to be removed would be cordoned off to ensure public safety and minimize disruption while the work is in progress.

An assessment to determine if active bird nests are sited in any of the trees to be removed would be carried out. Removal of nesting trees would be delayed to the non-nesting season.

Replacement tree plantings would be carried out principally in the fall and winter of 2008/9, to coincide with the high rainfall period of the year. This would allow the root systems of the newly-planted trees to become established over winter when ample soil moisture is available. During the fall and winter the Q.E. Park horticulture staff can be deployed to conduct the tree planting and restoration of affected tree removal sites. Spring or summer planting is possible, but would require the hiring of additional staff to carry out the work as the QE Park horticulture staff is fully engaged in spring bedding planting and landscape maintenance during the growing season. In addition, provision would need to be made to water the newly planted trees throughout the dry summer months as most of the tree planting sites are not irrigated. Tree watering would need to be done using a watering truck, entailing additional cost for staff time to perform this task.

4. COST ESTIMATE

The cost to implement the plan is estimated at \$ 21,350, comprised of the following:

\$ 20,100	134 replacement trees, at \$150 each
\$ 1, 250	50 replacement shrubs, at \$25 each
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\$ 21,350	TOTAL COST

Costs for labour to remove and plant replacement trees and shrubs, ancillary supplies (e.g. stakes, mulch, etc.) can be absorbed by the operating budget by reprioritizing our work.

\$ 41,700.22 is currently saved in the Q.E. Park Reserve Fund, established in 1999 to capture donations from GVRD, E-Comm, and film companies to mitigate damage caused by construction of infrastructure. This fund could be applied to defray restoration costs related to the Tree Management Plan.

5. STAKEHOLDERS

The following stakeholders will have an interest in this project:

- Neighbourhood residents and regular park users
- GVRD region residents
- Tourists
- Community groups interested in Queen Elizabeth Park (e.g. Cherry Blossom Festival Society, Little Mountain Lookout advocacy group)
- Seasons Restaurant leaseholder
- Tour operators and tourism industry service providers

The public will be offered an opportunity to comment on the plan prior to its implementation through an Open House information session. The objectives and methodology of the plan would be explained with the help of supporting graphic materials (i.e. orthophotos showing view corridors and trees to be removed, and maps showing compensatory tree planting locations) In addition, the public will be kept informed via press releases, web site announcements, on-site signage, etc.

6. IMPLEMENTATION TIMELINE

The Q.E. Park Tree Management Plan would be implemented in the following sequence:

The Q.E. Park Tree Management Plan would be carried out entirely by Park Board staff.

The Arboriculture department would remove the trees in the Spring of 2008. Replacement tree plantings would be done in the fall and winter of 2008/09 by the Q.E. Park horticulture staff.

Overall supervision of the Plan would be carried out by the Q.E. Park supervisor, and the operations foremen of the Arboriculture and Horticulture staff groups.

7. CONCLUSION

The Q.E. Park Tree Management Plan supports several of the objectives identified in the Park Board's 2005 Strategic Plan. This plan would restore the significant view corridors from the summit of Queen Elizabeth Park. Replacement plantings would result in a future net increase in tree cover while increasing park biodiversity.