Central Valley Arborist Consulting Ltd.
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REVISED
ARBORIST REPORT
For
12631 Bell Street
Mission, BC

Prepared for: Florwest Developments
PO Box 21009
Maple Ridge, BC
V2X 1P7

Prepared by: Bob Kwak
Certified Arborist ISA #PN-1736A
Qualified Tree Risk Assessor

Date: February 14, 2023

APPROVED
BK

Bob Kwak Mar 9/2023

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Assignment

CVA (Central Valley Arborist Consulting) has been retained by Florwest Developments to revise and update the arborist reports for their proposed development site located at 12631 Bell Road, Mission BC. The following report has been prepared by Bob Kwak, (Certified Arborist).

Arborist consultations have been ongoing in relation to this development project since 2018. The clearing has been done and 25 residential lots have been parcelled out. At the request of our client, we have revisited the site to collect current data and to respond to a municipal request for more information.

Our assignments are:

A) Identify and inventory any Hazard trees that will pose a high risk to the new infrastructure.

B) Conduct a wind throw assessment of the retained forested areas.

C) Estimates of Tree Coverage:
- How many trees were on the site before disturbance?
- How many trees have been removed?
- Of the trees removed, how many located in the exempt area and how many are not.
- The amount of trees removed from the non-exempted area is to be replaced at a 3:1 ratio; provide a calculation.

D) Calculate the number of replacement trees.
- The amount of trees removed from the non-exempted area are to be replaced at a 3:1 ratio; provide a calculation

E) Provide a planting plan for the new lots and the cleared areas.
- A tree replanting plan showing the general area of where the replacement trees are to be planted
- The tree replanting plan should also show the general location of the 2 trees per lot requirement (use different symbol or color to differentiate these trees from the replacement trees)

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Limits of Assignment

For this current report, CVA's arborists' were limited to site visits on several occasions between December 27, 2022 and January 17, 2023. We measured numerous sample plots in the forested areas near the cleared portions, identified hazardous trees, and conducted a wind throw assessment.

CVA located the trees using onsite navigation as there is no tree survey for this development. A Site Map prepared by Wade and Associates was supplied and contained the relevant information required for "Area" calculations.

Assignment Item "C" is an "after the fact request" involving estimates of the total number of trees on the site, the numbers of trees that have been cleared and the number of trees that have been over cleared. Due to the absence of a tree survey included with the Surveyors Topo, all estimates are based on the area's (M^2) supplied by Wade & Associates clearing diagram.

Site Overview

The subject site is relatively level, with a Streamside Protection Enhancement Area (SPEA) that runs north to south through the property. Subsequently, there is a 10-meter setback from the creek and a 15-meter setback from wetland.

The majority of the eastern side of the property has been cleared over the years for farming by the settling family. Over time the property was selectively logged for a majority of the cedar for building material. There was also an overgrown skidder road that dissected the property that was absent of any trees.

Mission Map

Aerial View of Property (Google)

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Part A

Hazard Tree Identification

For the hazard tree identification, we used the qualitative tree risk assessment method (TRAQ) as prescribed by the International Society of Arboriculture (ISA). Details are in the Tree Risk Assessment and Evaluation Summary table below. We performed a basic level two visual inspection (a 360-degree visual evaluation of a tree where the crown, trunk, trunk flare, above-ground roots, and site conditions are evaluated in regard to targets). While evaluating for probability of failure, we considered a time frame of within one year from the date of inspection.

We tagged the inventoried trees that did not already have tags on them, and their locations are indicated on the aerial photo included below.

Tree Risk Assessment

The current method of tree risk assessment according to industry standards involves the following steps:

1) Assess the likelihood of failure, of a whole tree or the part of it most likely to fail (imminent, probable, possible, or improbable);

2) Assess the likelihood that the failed tree or part would impact a target, i.e., a person, building, road, car, power line, etc. (very low, low, medium or high);

(this gives the likelihood of a failure to impact a target: unlikely, somewhat likely, likely or very likely)

3) Likelihood of failure and impact are then integrated with potential consequences (negligible, minor, significant or severe);

4) The end result being the risk rating for the tree or tree part (low, moderate, high or extreme)

This process is represented by two matrices:

Table 1 (Estimating likelihood of Impacting a Target)

Table 1. The matrix used to estimate the likelihood of a tree failure impacting a specified target.

Likelihood of Failure	Likelihood of Impacting Target			
	Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Table 2 (Likelihood of Failure and Impact)

Table 2. Risk rating matrix showing the level of risk as the combination of likelihood of a tree failing and impacting a specified target, and severity of the associated consequences.

Likelihood of Failure and Impact	Consequences			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

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Part A

We identified 48 trees; 7 of them had surveyor tags on them, and the rest we attached our tag to (#1 to #41).

Of the 48 inventoried trees, 26 are recommended for removal due to the high risk they will pose to workers, future home owners, and the development area. (Out of those 26 trees, there are 15 that have suffered significant machine damage within their CRZ). The other 22 should be retained and monitored. Those trees were seen to have some initial symptoms of stress, but in my opinion should be able to safely remain. It is recommended that the retained and monitor trees be assessed again in one year, February 2024. One of the inventoried trees is within the SPEA; it is the big-leaf maple, #41, slated for retention and monitoring.

Tree Risk Assessment Summary

Trees #2, #3, #96, #4, #5, #6, #7, #8, #273, #22, #23, #24, #60, #27, #28, #29, #30, #33, #34, #36, #89, #40, #94, #41:

Likelihood of Failure: probable
Likelihood of Impacting a Target: high
= Likelihood of Failure Impacting a Target: likely
Consequences: severe
= Tree Risk Rating: HIGH

Trees #1, #87, #35, #37, 39, #41:

Likelihood of Failure: possible
Likelihood of Impacting a Target: high
= Likelihood of Failure Impacting a Target: somewhat likely
Consequences: minor to severe
= Tree Risk Rating: MODERATE

Trees #9, #99, #10, #11, #12, #13, #14, #15, #16, #17, #18, #19, #20, #21, #25, #26, #31, #32, #38:

Likelihood of Failure: improbable
Likelihood of Impacting a Target: high
= Likelihood of Failure Impacting a Target: unlikely
Consequences: minor to severe
= Tree Risk Rating: LOW

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Part B

Wind Throw Assessment

There is evidence of a wind throw concern along the north edge of the cut areas. We noted seven hemlock trees that had all blown over in the same direction, pointing to the north/northeast. This appeared rather recent, as we saw broken roots that had not yet oxidized. This has happened probably within the last few months to a year ago.
None of the trees that fell over would have hit any of the building footprint areas, and the forested portion along the south end of the property seems not to have had any wind thrown trees - the same goes for the forested area to the west of the clearing.

We conclude that wind throw is not a huge concern for the proposed new development, but we do caution that all trees should be assessed on a regular basis.

This concludes Part A and B of the report. The associated Tree Evaluation Summary can be found on Pages 24 to 30.

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Part C

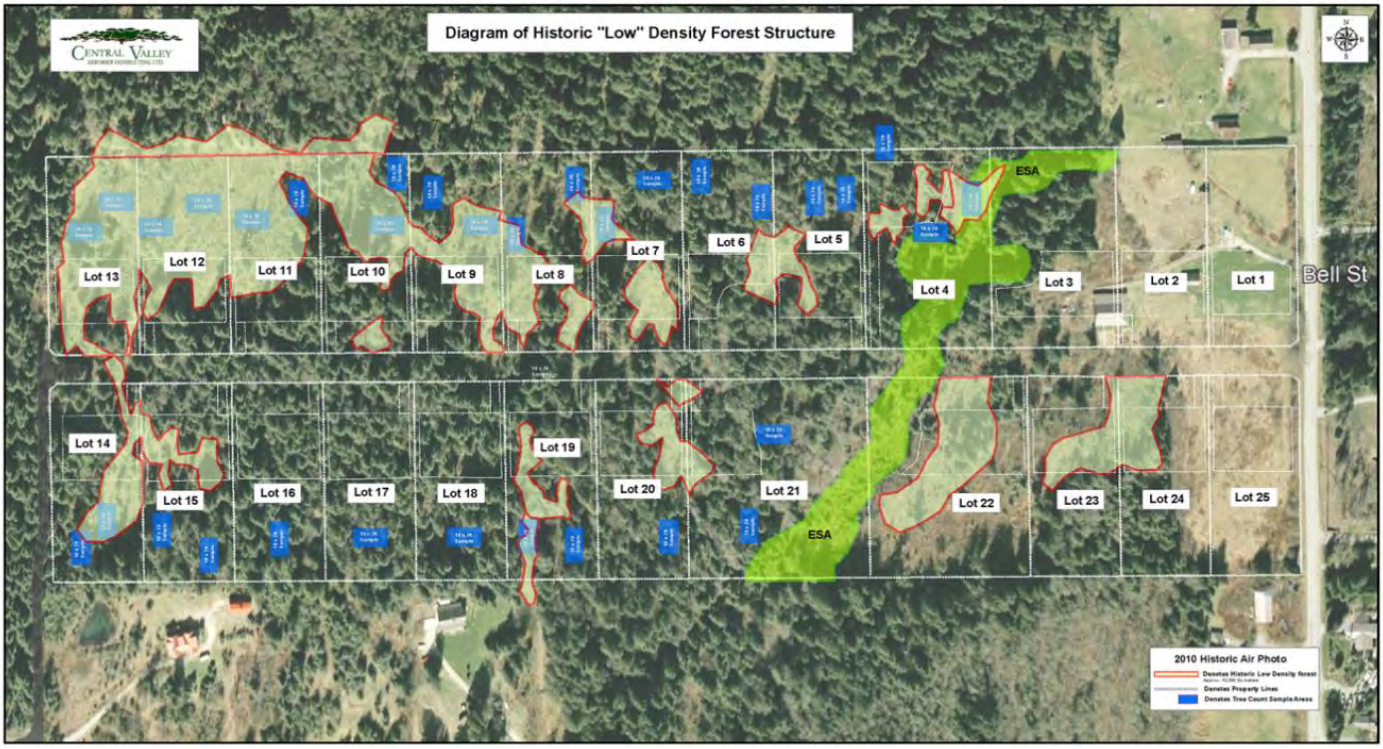
Estimates of Tree Coverage:

We noted a distinct difference in stand density throughout the project area necessitating the creation of two sets of density measurements. One set of sample plots for "standard density forest" and one set of sample plots for "lower density forest". In total, 33 sample plots were measured in the retained forest adjacent to cleared areas and the numbers of protected trees within these plots were counted in order to derive an average factor for our baseline calculations. (All measurements are in square meters (M^2).

Referance Chart A on Page 12 for sample plot calculations. The resulting Factors are:

- Average Factor for Standard Density forest used is 0.0322 trees per M^2.
- Average Factor for Low Density forest used is 0.0089 trees per M^2.

Diagram of Low Density Areas and the location of the sample plots. Note: Spread sheet (Chart A) can be Found on Page 12 of this report. The inserted diagram below can be found on Page 20.



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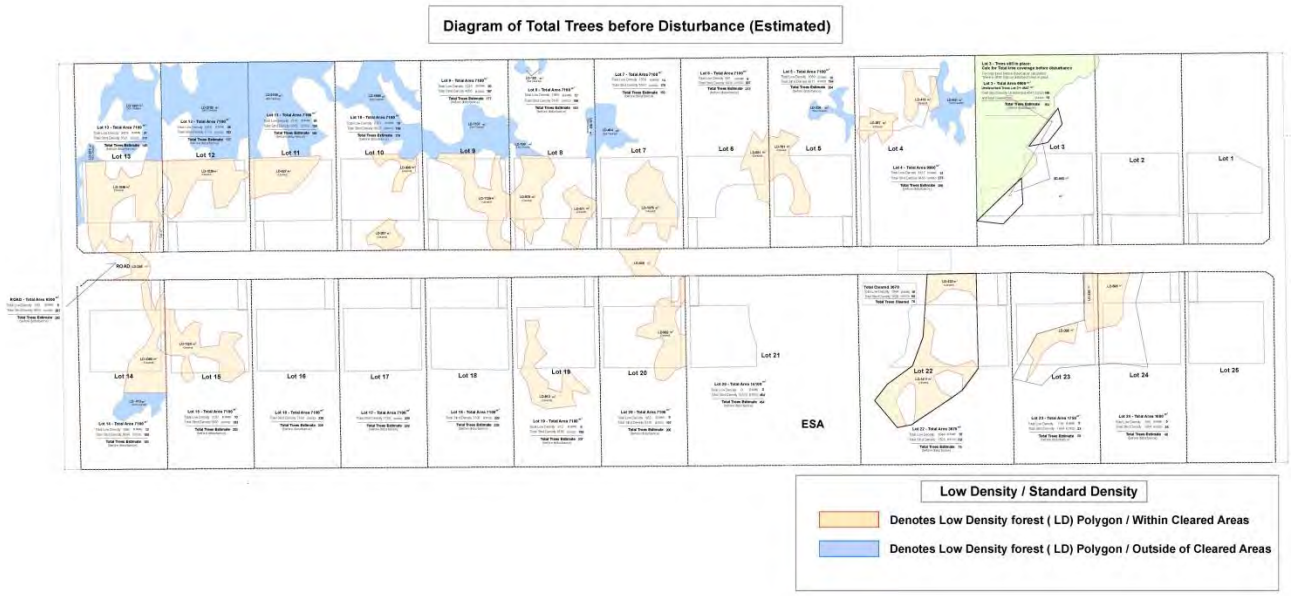
Part C

Tree Coverage before disturbance:

We have estimated the tree coverage before disturbance to be 4,142 trees including the road right of way. This calculation factors both standard density (SD) and lower density (LD) forest structure. Polygons of the lower density forest areas were created and the areas of the polygons were calculated in M^2.

A diagram containing all relevant information of the resulting areas can be found on Page 22. Chart B-2, which is a summary of areas calculated can be found on page 15 of this report.

Inserted below is a diagram of the Low Density Area Polygons; Blue represents the Low Density areas in the remaining forest and Orange represents the Low Density Areas within the Cleared areas.
This plan can be found on Page 22.



Total number of trees removed and total number of trees over-cleared

Datum required for determining the number of trees removed:

1- Sample plot totals to derive tree densities. Located in Chart A, located on page 12.
2- Total number of sq^2 meters cleared. Supplied by Wade & Associates and can be found within the attached "Forest Density Basemap" located on Page 21.
3- Area (M^2) of "Lower Density" forest structure. Polygon measurements can be located within the "Forest Density Basemap" located on Page 21.

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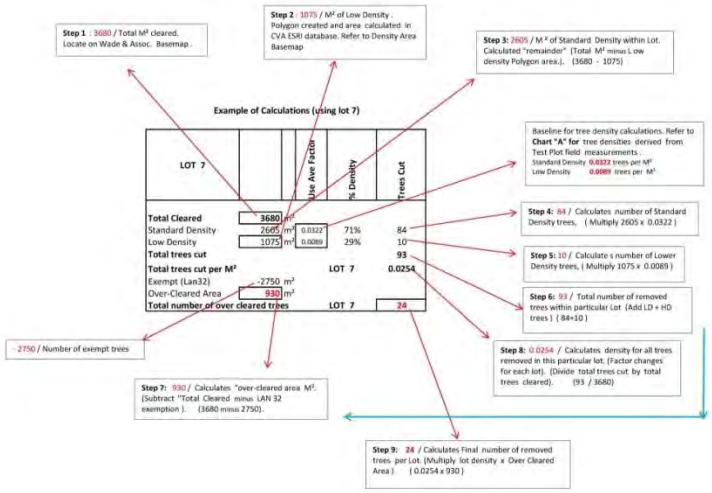
Part C

In order to accurately determine the estimated number of trees removed, we found that the calculations had to be broken down into a "Lot by Lot" basis. This is due to the overlapping of the Low Density and Standard density forest within the confines of the measurements supplied by Wade& Associates Basemap of cleared tree areas.

*Note: there is a slight difference in totals between the figures derived for "Total trees before disturbance" and "Total number of Trees removed". This is due to rounding errors. We are holding the numbers generated from the more stringent calculations show in Chart B-1.

Calculations: Below is a diagram demonstrating the strategies used for determining the final removed tree count. The calculation strategy chart B-1 can be located on Pages 13 and 14 of this report.



Estimate of Total Trees Removed.

We estimated that the total number of trees removed is 2,010 within the Lots, and an additional 292 trees within the dedicated road for a total of **2,302** trees. This Data is calculated during the procedure demonstrated in Chart B-1 (as above) and then extracted into Chart D. * see Chart D on Page 17.

Chart D — Total Trees Cut

Lot Numbers	Total Cleared Area m²	Total Trees Removed	Lot Numbers	Total Cleared Area m²	Total Trees Removed
1	0	0	14	4122	107
2	0	0	15	4240	110
3	560	18	16	4280	138
4	2900	75	17	4300	138
5	3960	111	18	4230	110
6	3800	106	19	4750	132
7	3680	93	20	4580	125
8	3470	77	21	3030	98
9	3590	89	22	3670	75
10	3570	102	23	1750	40
11	3510	91	24	1680	40
12	3460	83	25	0	0
13	2980	52			

Total Trees Cut	2010
Road	292

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Part D

Tree Replacement

The replacement requirements will be confirmed by the city in relation to their policies. The replacement trees must meet city requirements for minimum size at planting (i.e. 6 cm DBH for deciduous species and 3.0 meters height for coniferous species) and criteria.

We calculated that there were **549** trees over-cleared, therefore **1647** replacement trees are required. Additional replacement trees are required for various reasons that total **47**. The replacement categories are listed below;

- 3 replacement trees for each "over-cleared" tree. With **549** trees in the over cut area this totals **1647 replacement trees**.
- 3 replacement trees for each tree damaged by construction activities. There are **13** damaged trees totaling **39 replacements trees.**
- 4 replacement trees for each tree damaged by construction activities within the SPEA. There are **2** damaged trees within the SPEA, totaling **8 replacements trees.**

Total replacement trees = 1694. (See Planting Strategy Site Plan on Page 23 for suggested planting locations).

We did not include the space that was cleared for the roadway (9500 m^2), as this will become a municipal street servicing all the homes, and is a necessary function of the new neighbourhood. Also, we understand that there was a Skidder road for logging that dissected the property.
*See Below

Diagram showing Skidder road prior to lot clearing.

We also did not include a portion of the eastern side of the property which has been cleared over the years for farming by the settling family. This area is approximately 35,005 M².

Note; on most Air Photo's the SE corner of the property appears to be heavily bushed, however this area was infused with 2nd growth suckers and Blackberry bush. There were no significant trees.

Part D

All Charts relevant to determining tree replacement numbers can be located on Pages 12 to 18.

Part E

Planting Plan

Replacement Trees:

We have designed a planting strategy that places **1694** replacement trees (1647 from over-clearing) and (47 from excavator damage) along the North/South Lot boundaries and towards the back of Lots without overcrowding. **Note:** See Tree Replacement Detail Site Plan on Page 23.

We have included the **50** trees required by the "2 trees per lot requirement" within the plan. The District of Mission has requested the 2 trees per lot be chosen from Group One list of trees as noted in LAN32. My recommendations would be 1 Douglas maple and 1 Yellow cedar on each lot.
(Not included in replacement numbers)

We are also showing an approximate location for 53 Boulevard trees. (Not include in replacement numbers)

The final decision on replacement tree totals will be made by the District of Mission.

Suggestions for Replacement tree types:

For the required two trees for each new lot, we recommend some of the following deciduous ornamental species that would be able to thrive at this site:

- Raywood ash, *Fraxinus oxycarpa* 'Raywood'
- Autumn Applause ash, *Fraxinus americana* 'Autumn Applause'
- English oak, *Quercus robur*
- red oak, *Quercus rubrum*
- red horse-chestnut, *Aesculus carnea*

For the required replanting of the over-cleared areas, and replacements for the trees that need to be cut down due to machine damage in their CRZ, we suggest the following evergreen species:

- western red cedar, *Thuja plicata*
- yellow cedar, *Chamaecyparis nootkatensis*
- Douglas-fir, *Pseudotsuga menziesii*
- sitka spruce, *Picea sitchensis*
- western hemlock, *Tsuga heterophylla*

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The tree stock and the installation work should conform to BC Landscape and Nursery (BCLNA) standards. Trees should be planted 1.5m to 2.0m away from buildings, driveways, roads, underground

Part E

Infrastructure, other trees, etc.

At time of planting, deciduous trees should be a minimum of 6cm in caliper (trunk diameter, measured 15cm up); evergreen trees should be a minimum of 3m in height.

Within the plan we have inserted the required 50 trees (2 per Lot), and have designed spacing for Boulevard trees. Neither of these is included in the replacement total.

Tree Protection Fences

In order to ensure that there was no further damage to existing trees; a 5 meter buffer zone was established on site and is marked with posts and signage. Prior to any excavation or construction activity within the 5M buffer zone, tree protection fences must be constructed at the specified distance from the tree trunks. The protection barrier or temporary fencing must be at least 1.2 meters in height and constructed of 2 by 4 lumber with orange plastic mesh screening. This must be constructed prior to tree removal, excavation or construction and remain intact throughout the entire period of construction. An arborist must be on site to inspect the protective fencing and to go over proper work procedures. (See attached Fencing Instructions located on page 35.

Limitations of Report

Sketches, diagrams, and photographs contained in this report being intended as visual aids, should not be constructed as engineering reports or legal surveys. Only the subject tree(s) was inspected and no others. This report does not imply or in any other way infer that other trees on this site or near this site are sound and healthy.

If there are any further questions, please do not hesitate to contact our office.

Respectfully submitted,

APPROVED
BK
March 9, 2023

Bob Kwak
Certified Arborist PN #1736A
Qualified Tree Risk Assessor (TRAQ)

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Schedule of Calculations
Low and Standard Density Forest Structure

Chart A

Baseline Calculations for Standard forest structure density (based on sample plots)					Baseline Calculations for Low Density forest structure (based on sample plots)				
Lot	Sample Size	Sq M	Orientation	# Trees	Lot	Sample Size	Sq M	Orientation	# Trees
1	N/A			0	1	N/A	0		0
2	N/A			0	2	N/A	0		0
3	N/A			0	3	N/A	0		0
4	10x20	200	NS	3	4LD	10x20	200	NS	2
4	10x20	200	EW	2					
5	10x20	200	NS	2	5LD	10x20	200	NS	2
6	10x20	200	NS	5	6LD	10x20	200	NS	1
7	10x20	200	EW	6	7LD	10x20	200	NS	1
8	10x20	200	NS	7	8LD	10x20	200	NS	2
9	10x20	200	NS	8	9LD	10x20	200	EW	2
10	10x20	200	NS	10	10LD	10x20	200	EW	1
11	10x20	200	NS	5	11LD	10x20	200	EW	1
12	10x20	200	EW	4	12LD	10x20	200	EW	2
13	10x20	200	EW	3	13LD	10x20	200	EW	2
14	10x20	200	NS	4	14LD	10x20	200	NS	2
15	10x20	200	NS	12	15LD	10x20	200	NS	3
16	10x20	200	NS	10	16LD	N/A			0
17	10x20	200	EW	12	17LD	N/A			0
18	10x20	200	EW	8	18LD	N/A			0
19	10x20	200	NS	6	19LD	10x20	200	NS	2
20	10x20	200	NS	8	20LD	10x20	200	NS	2
21	10x20	200	EW	5	21LD	N/A	0		
22	5x10	50	NS	4	22LD	N/A	0		
23	N/A			0	23LD	N/A	0		0
24	N/A			0	24LD	N/A	0		0
25	N/A			0	25LD	N/A	0		0

Standard Forest density calculation		
	Total Sq. meters	Total Trees
Total Sq. meters	**3850**	**124**
Standard Density Factor:	(124 / 3850)	**0.0322**

Lower Forest density calculation		
	Total Sq. meters	Total Trees
Total Sq. meters	**2800**	**25**
Low Density Factor:	(25 / 2800)	**0.0089**

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Chart B-1 (2 pages)

LOT 1 EXEMPT			Use "Ave" Factor	% Density	Trees Cut
Total Cleared	**0**	m²			
Standard Density	0	m²			0
Low Density	0	m²			0
Total number of over cleared trees				**LOT 1**	**0**

LOT 2 EXEMPT			Use "Ave" Factor	% Density	Trees Cut
Total Cleared	**0**	m²			
Standard Density	0	m²			0
Low Density	0	m²			0
Total number of over cleared trees				**LOT 2**	**0**

LOT 3 EXEMPT			Use "Ave" Factor	% Density	Trees Cut
Total Cleared	**560**	m²			
Standard Density	560	m²	0.0322	100%	18
Low Density	0	m²	0.0089	0%	0
Total trees cut					**18**
Total trees cut per M²				**LOT 3**	**0.0322**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**-2190**	m²			
Total number of over cleared trees				**LOT 3**	**0**

LOT 4			Use "Ave" Factor	% Density	Trees Cut
Total Cleared	**2900**	m²			
Standard Density	2114	m²	0.0322	73%	68
Low Density	786	m²	0.0089	27%	7
Total trees cut					**75**
Total trees cut per M²				**LOT 4**	**0.0259**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**150**	m²			
Total number of over cleared trees				**LOT 4**	**4**

LOT 5			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3960**	m²			
Standard Density	3259	m²	0.0322	82%	105
Low Density	701	m²	0.0089	18%	6
Total trees cut					**111**
Total trees cut per M²				**LOT 5**	**0.0281**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1210**	m²			
Total number of over cleared trees				**LOT 5**	**34**

LOT 6			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3800**	m²			
Standard Density	3119	m²	0.0322	82%	100
Low Density	681	m²	0.0089	18%	6
Total trees cut					**106**
Total trees cut per M²				**LOT 6**	**0.0280**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1050**	m²			
Total number of over cleared trees				**LOT 6**	**29**

LOT 7			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3680**	m²			
Standard Density	2605	m²	0.0322	71%	84
Low Density	1075	m²	0.0089	29%	10
Total trees cut					**93**
Total trees cut per M²				**LOT 7**	**0.0254**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**930**	m²			
Total number of over cleared trees				**LOT 7**	**24**

LOT 8			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3470**	m²			
Standard Density	1984	m²	0.0322	57%	64
Low Density	1486	m²	0.0089	43%	13
Total trees cut					**77**
Total trees cut per M²				**LOT 8**	**0.0222**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**720**	m²			
Total number of over cleared trees				**LOT 8**	**16**

LOT 9			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3590**	m²			
Standard Density	2462	m²	0.0322	69%	79
Low Density	1128	m²	0.0089	31%	10
Total trees cut					**89**
Total trees cut per M²				**LOT 9**	**0.0249**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**840**	m²			
Total number of over cleared trees				**LOT 9**	**21**

LOT 10			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3570**	m²			
Standard Density	2998	m²	0.0322	84%	97
Low Density	572	m²	0.0089	16%	5
Total trees cut					**102**
Total trees cut per M²				**LOT 10**	**0.0285**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**820**	m²			
Total number of over cleared trees				**LOT 10**	**23**

LOT 11			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3510**	m²			
Standard Density	2583	m²	0.0322	74%	83
Low Density	927	m²	0.0089	26%	8
Total trees cut					**91**
Total trees cut per M²				**LOT 11**	**0.0260**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**760**	m²			
Total number of over cleared trees				**LOT 11**	**20**

LOT 12			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3460**	m²			
Standard Density	2232	m²	0.0322	65%	72
Low Density	1228	m²	0.0089	35%	11
Total trees cut					**83**
Total trees cut per M²				**LOT 12**	**0.0239**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**710**	m²			
Total number of over cleared trees				**LOT 12**	**17**

LOT 13			Use Ave Factor	% Density	Trees Cut
Total Cleared	**2980**	m²			
Standard Density	1085	m²	0.0322	36%	35
Low Density	1895	m²	0.0089	64%	17
Total trees cut					**52**
Total trees cut per M²				**Lot 13**	**0.0174**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**230**	m²			
Total number of over cleared trees				**LOT 13**	**4**

LOT 14			Use Ave Factor	% Density	Trees Cut
Total Cleared	**4122**	m²			
Standard Density	3039	m²	0.0322	74%	98
Low Density	1083	m²	0.0089	26%	10
Total trees cut					**107**
Total trees cut per M²				**Lot 14**	**0.0261**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1372**	m²			
Total number of over cleared trees				**LOT 14**	**36**

CENTRAL VALLEY ARBORIST CONSULTING LTD.

LOT 15			Use Ave Factor	% Density	Trees Cut
Total Cleared	**4240**	m²			
Standard Density	3120	m²	0.0322	74%	100
Low Density	1120	m²	0.0089	26%	10
Total trees cut					**110**
Total trees cut per M²				**LOT 15**	**0.0260**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1490**	m²			
Total number of over cleared trees				**LOT 15**	**39**

LOT 16			Use Ave Factor	% Density	Trees Cut
Total Cleared	**4280**	m²			
Standard Density	4280	m²	0.0322	100%	138
Low Density	0	m²	0.0089	0%	0
Total trees cut					**138**
Total trees cut per M²				**LOT 16**	**0.0322**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1530**	m²			
Total number of over cleared trees				**LOT 16**	**49**

LOT 17			Use Ave Factor	% Density	Trees Cut
Total Cleared	**4300**	m²			
Standard Density	4300	m²	0.0322	100%	138
Low Density	0	m²	0.0089	0%	0
Total trees cut					**138**
Total trees cut per M²				**LOT 17**	**0.0322**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1550**	m²			
Total number of over cleared trees				**LOT 17**	**50**

LOT 18			Use Ave Factor	% Density	Trees Cut
Total Cleared	**4240**	m²			
Standard Density	3120	m²	0.0322	74%	100
Low Density	1120	m²	0.0089	26%	10
Total trees cut					**110**
Total trees cut per M²				**LOT 18**	**0.0260**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1490**	m²			
Total number of over cleared trees				**LOT 18**	**39**

LOT 19			Use Ave Factor	% Density	Trees Cut
Total Cleared	**4750**	m²			
Standard Density	3838	m²	0.0322	81%	124
Low Density	912	m²	0.0089	19%	8
Total trees cut					**132**
Total trees cut per M²				**LOT 19**	**0.0277**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**2000**	m²			
Total number of over cleared trees				**LOT 19**	**55**

LOT 20			Use Ave Factor	% Density	Trees Cut
Total Cleared	**4580**	m²			
Standard Density	3598	m²	0.0322	79%	116
Low Density	982	m²	0.0089	21%	9
Total trees cut					**125**
Total trees cut per M²				**LOT 20**	**0.0272**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**1830**	m²			
Total number of over cleared trees				**LOT 20**	**50**

LOT 21			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3030**	m²			
Standard Density	3030	m²	0.0322	100%	98
Low Density	0	m²	0.0089	0%	0
Total trees cut					**98**
Total trees cut per M²				**LOT 21**	**0.0322**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**280**	m²			
Total number of over cleared trees				**LOT 21**	**9**

LOT 22			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3670**	m²			
Standard Density	1826	m²	0.0322	50%	59
Low Density	1844	m²	0.0089	50%	16
Total trees cut					**75**
Total trees cut per M²				**LOT 22**	**0.0205**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**920**	m²			
Total number of over cleared trees				**LOT 22**	**19**

LOT 23 EXEMPT			Use Ave Factor	% Density	Trees Cut
Total Cleared	**1750**	m²			
Standard Density	1034	m²	0.0322	59%	33
Low Density	716	m²	0.0089	41%	6
Total trees cut					**40**
Total trees cut per M²				**LOT 23**	**0.0227**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**-1000**	m²			
Total number of over cleared trees				**LOT 23**	**0**

LOT 24 EXEMPT			Use Ave Factor	% Density	Trees Cut
Total Cleared	**1680**	m²			
Standard Density	1084	m²	0.0322	65%	35
Low Density	596	m²	0.0089	35%	5
Total trees cut					**40**
Total trees cut per M²				**LOT 24**	**0.0239**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**-1070**	m²			
Total number of over cleared trees				**LOT 24**	**0**

LOT 25 EXEMPT			Use Ave Factor	% Density	Trees Cut
Total Cleared	**0**	m²			
Standard Density	0	m²			0
Low Density	0	m²			0
Total number of over cleared trees				**LOT 25**	**0**

ROAD EXEMPT			Use Ave Factor	% Density	Trees Cut
Total Cleared	**9500**	m²			
Standard Density	8905	m²	0.0322	94%	287
Low Density	595	m²	0.0089	6%	5
Total trees cut					**292**
Total trees cut per M²				**ROAD**	**0.0307**
Exempt (Lan32)	0	m²			
Over-Cleared Area	9500	m²			
Total number of over cleared trees				**ROAD**	**292**

Summary of Density Calculations (by lot)

Chart B-2

Summary of; Over Cleared Trees / Replacement Trees Required / Total Area Cleared (by Lot)

*see chart B-1 for breakdown

Lot Numbers	Total Cleared Area m²	Exempt Clearing (M2) LAN32	Over Cleared Area (m²)	Total Over-Cleared Trees	Replacement Trees Required (X 3)
1	0	0	0	0	0
2	0	0	0	0	0
3	560	560	0	0	0
4	2900	2750	150	4	12
5	3960	2750	1210	34	102
6	3800	2750	1050	29	87
7	3680	2750	930	24	72
8	3470	2750	720	16	48
9	3590	2750	840	21	63
10	3570	2750	820	23	69
11	3510	2750	760	20	60
12	3460	2750	710	17	51
13	2980	2750	230	4	12
14	4122	2750	1372	36	108
15	4240	2750	1490	39	117
16	4280	2750	1530	49	147
17	4300	2750	1550	50	150
18	4230	2750	1480	39	117
19	4750	2750	2000	55	165
20	4580	2750	1830	50	150
21	3030	2750	280	9	27
22	3670	2750	920	19	57
23	1750	1750	0	0	0
24	1680	1680	0	0	0
25	0	0	0	0	0

	Total Cleared Area m²	Exempt Clearing (M2) LAN32	Over Cleared Area (m²)	Total Over-Cleared Trees	Replacement Trees Required (X 3)
	76,112	**56,240**	**19,872**	**549**	**1647**
ROAD	**9500**			**0**	**0**

Chart C

Summary of Density Calculation (by Lot)

Lot	Total Lot m²	Total M² Low Density 0.0089	Total Trees Low Density	Total M² Standard Density 0.0322	Total Trees Standard Density	Total Trees before Disturbance	Note
1	**7100**		Open		Open	**0**	
2	**7100**		Open		Open	**0**	
3	**9900**	Special / Partial		5057	164	**164**	*see map
4	**9900**	1417	13	8483	273	**286**	
5	**7100**	1089	10	6011	194	**204**	
6	**7100**	681	6	6419	207	**213**	
7	**7100**	1559	14	5541	178	**192**	
8	**7100**	1959	17	5141	166	**183**	
9	**7100**	2235	20	4865	157	**177**	
10	**7100**	2171	19	4929	159	**178**	
11	**7100**	3115	28	3985	128	**156**	
12	**7100**	3930	35	3170	102	**137**	
13	**7100**	3479	31	3621	117	**148**	
14	**7100**	1496	13	5604	180	**193**	
15	**7100**	1120	10	5980	193	**203**	
16	**7100**	0		7100	229	**229**	
17	**7100**	0		7100	229	**229**	
18	**7100**	0		7100	229	**229**	
19	**7100**	912	8	6188	199	**207**	
20	**7100**	982	9	6118	197	**206**	
21	**14100**	0		14100	454	**454**	
22	**12500**	1844	16	1826	59	**75**	
23	**7100**	716	6	1034	33	**39**	
24	**7100**	596	5	1084	35	**40**	
25	**7100**		Open		Open	**0**	
	Estimated total trees before disturbance (not including road).					**4,142**	
ROAD	**7100**	595	5	8905	287	**292**	* Not included in replacement
	Estimated total trees before disturbance (including road).					**4,434**	

CENTRAL VALLEY
ARBORIST CONSULTING LTD.

12631 Bell Street, Mission BC

Total Trees cut on property

Chart D	Summary of Total Trees Cut				
Lot Numbers	**Total Cleared Area m²**	**Total Trees Removed**	**Lot Numbers**	**Total Cleared Area m²**	**Total Trees Removed**
1	0	0	14	4122	107
2	0	0	15	4240	110
3	560	18	16	4280	138
4	2900	75	17	4300	138
5	3960	111	18	4230	110
6	3800	106	19	4750	132
7	3680	93	20	4580	125
8	3470	77	21	3030	98
9	3590	89	22	3670	75
10	3570	102	23	1750	40
11	3510	91	24	1680	40
12	3460	83	25	0	0
13	2980	52			

Total Trees Cut	**2010**
Road	**292**

Description of Calculations (by lot)

Step 1 : 3680 / Total M² cleared. Locate on Wade & Assoc. Basemap .

Step 2 : 1075 / M² of Low Density . Polygon created and area calculated in CVA ESRI database. Refer to Density Area Basemap

Step 3: 2605 / M ² of Standard Density within Lot. Calculated "remainder" (Total M² minus L ow density Polygon area.). (3680 - 1075)

Example of Calculations (using lot 7)

LOT 7			Use Ave Factor	% Density	Trees Cut
Total Cleared	**3680**	m²			
Standard Density	2605	m²	0.0322	71%	84
Low Density	1075	m²	0.0089	29%	10
Total trees cut					**93**
Total trees cut per M²				**LOT 7**	**0.0254**
Exempt (Lan32)	-2750	m²			
Over-Cleared Area	**930**	m²			
Total number of over cleared trees				**LOT 7**	**24**

Baseline for tree density calculations. Refer to **Chart "A" for** tree densities derived from Test Plot field measurements .
Standard Density **0.0322** trees per M²
Low Density **0.0089** trees per M²

Step 4: 84 / Calculates number of Standard Density trees, (Multiply 2605 x 0.0322)

Step 5: 10 / Calculate s number of Lower Density trees, (Multiply 1075 x 0.0089)

Step 6: 93 / Total number of removed trees within particular Lot (Add LD + HD trees) (84+10)

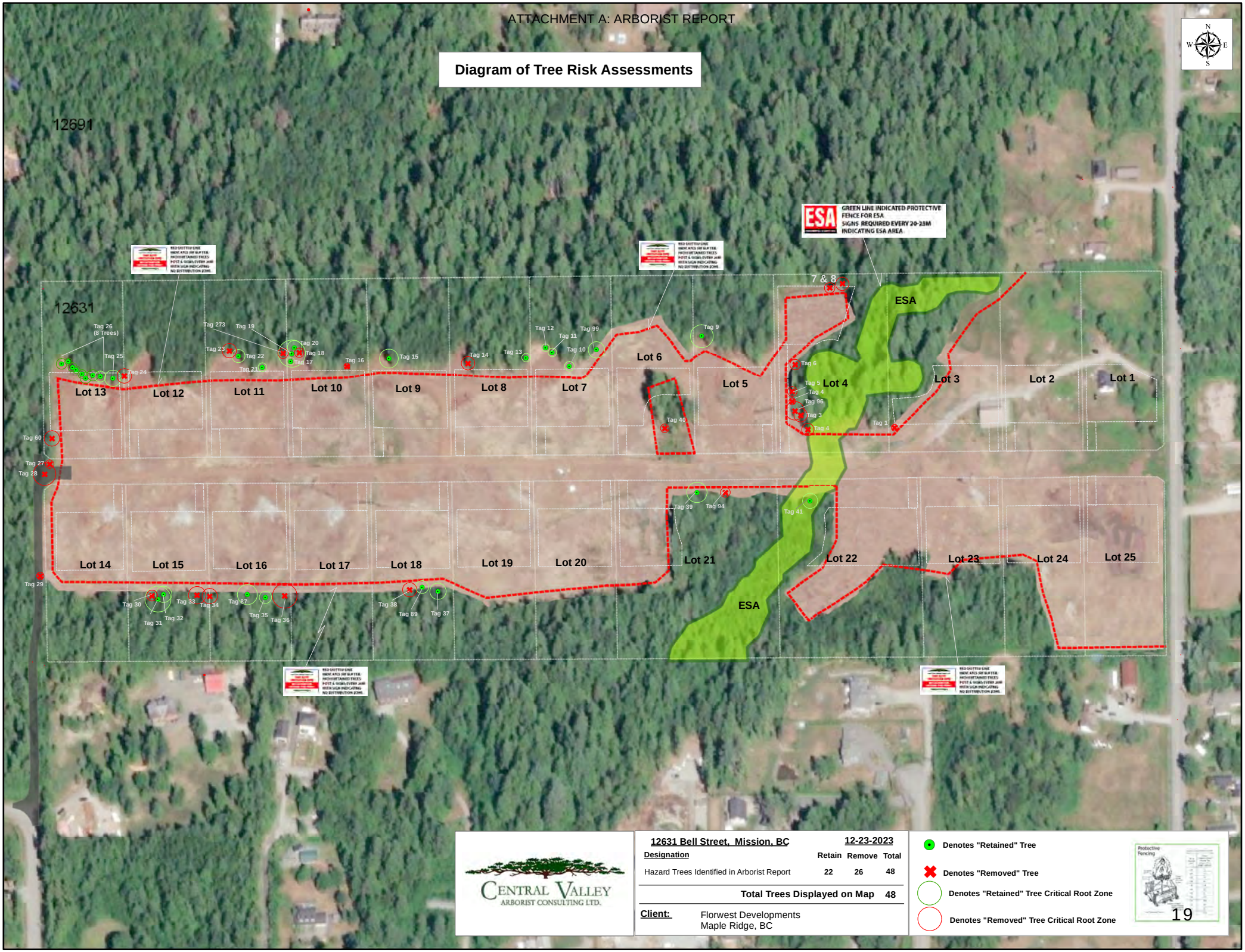
- 2750 / Number of exempt trees

Step 7: 930 / Calculates "over-cleared area M². (Subtract "Total Cleared minus LAN 32 exemption). (3680 minus 2750).

Step 8: 0.0254 / Calculates density for all trees removed in this particular lot. (Factor changes for each lot). (Divide total trees cut by total trees cleared). (93 / 3680)

Step 9: **24** / Calculates Final number of removed trees per Lot. (Multiply lot density x Over Cleared Area) (0.0254 x 930)

Diagram of Tree Risk Assessments



CENTRAL VALLEY ARBORIST CONSULTING LTD.

12631 Bell Street, Mission, BC — **12-23-2023**

Designation	Retain	Remove	Total
Hazard Trees Identified in Arborist Report	22	26	48
Total Trees Displayed on Map			**48**

Client: Florwest Developments
Maple Ridge, BC

- Denotes "Retained" Tree
- Denotes "Removed" Tree
- Denotes "Retained" Tree Critical Root Zone
- Denotes "Removed" Tree Critical Root Zone

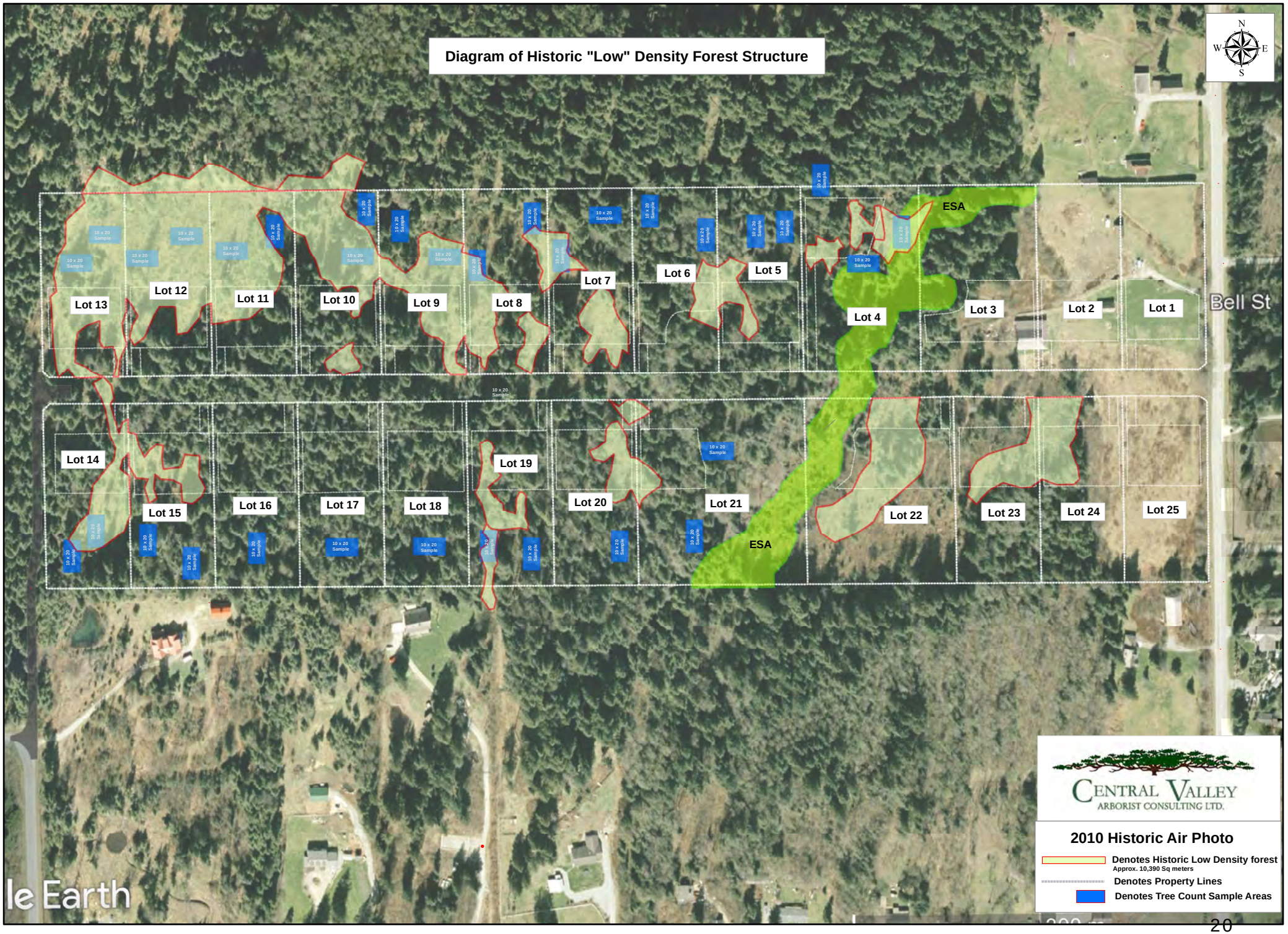


Diagram of Historic "Low" Density Forest Structure
N
W
E
S
Lot 13
Lot 12
Lot 11
Lot 10
Lot 9
Lot 8
Lot 7
Lot 6
Lot 5
ESA
Lot 4
Lot 3
Lot 2
Lot 1
Bell St
Lot 14
Lot 15
Lot 16
Lot 17
Lot 18
Lot 19
Lot 20
Lot 21
ESA
Lot 22
Lot 23
Lot 24
Lot 25
10 x 20 Sample
CENTRAL VALLEY
ARBORIST CONSULTING LTD.
2010 Historic Air Photo
Denotes Historic Low Density forest
Approx. 10,390 Sq meters
Denotes Property Lines
Denotes Tree Count Sample Areas
le Earth

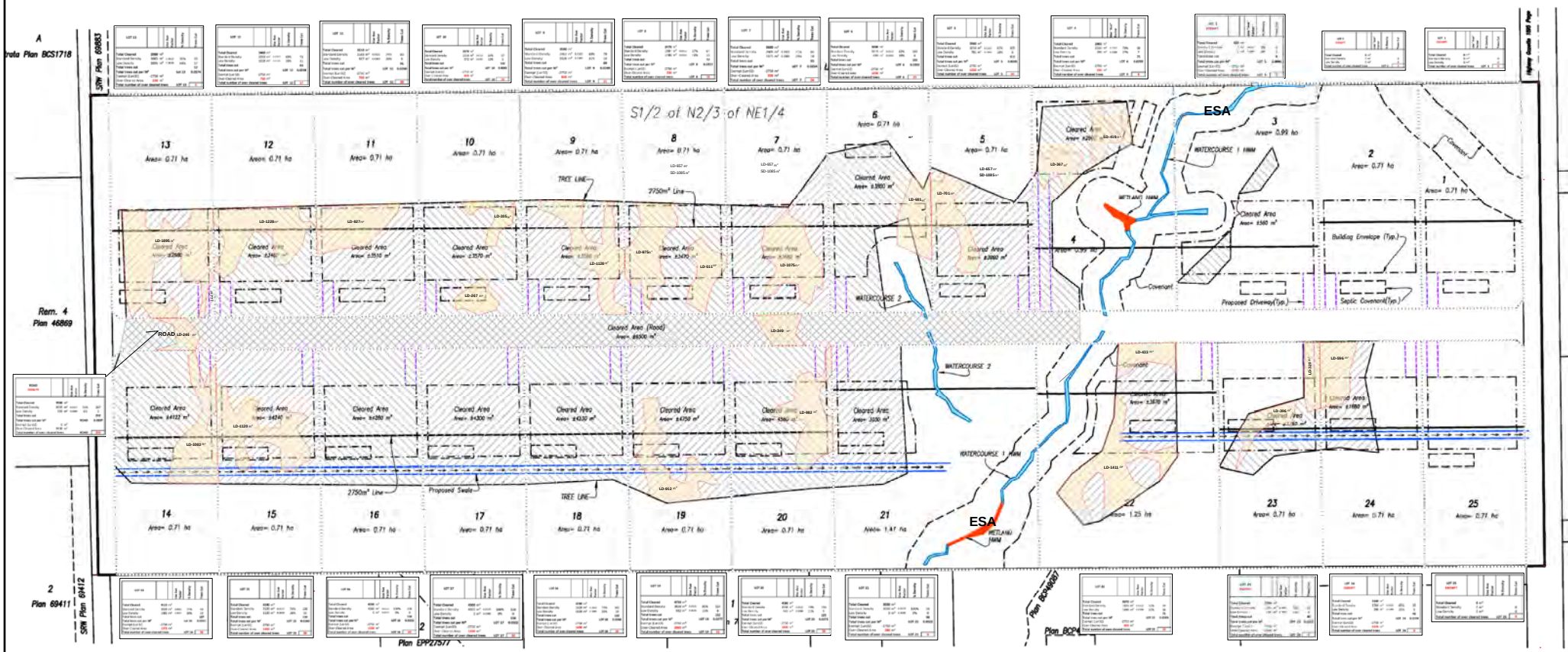
CENTRAL VALLEY
ARBORIST CONSULTING LTD.

Client:
Florwest Developments
Box 21009
Maple Ridge, BC
V2X 1P7

Site Location:
12631 Bell Street
Mission, BC

Feb. 06, 2023

Basemap / Low & High Density Forest Structure



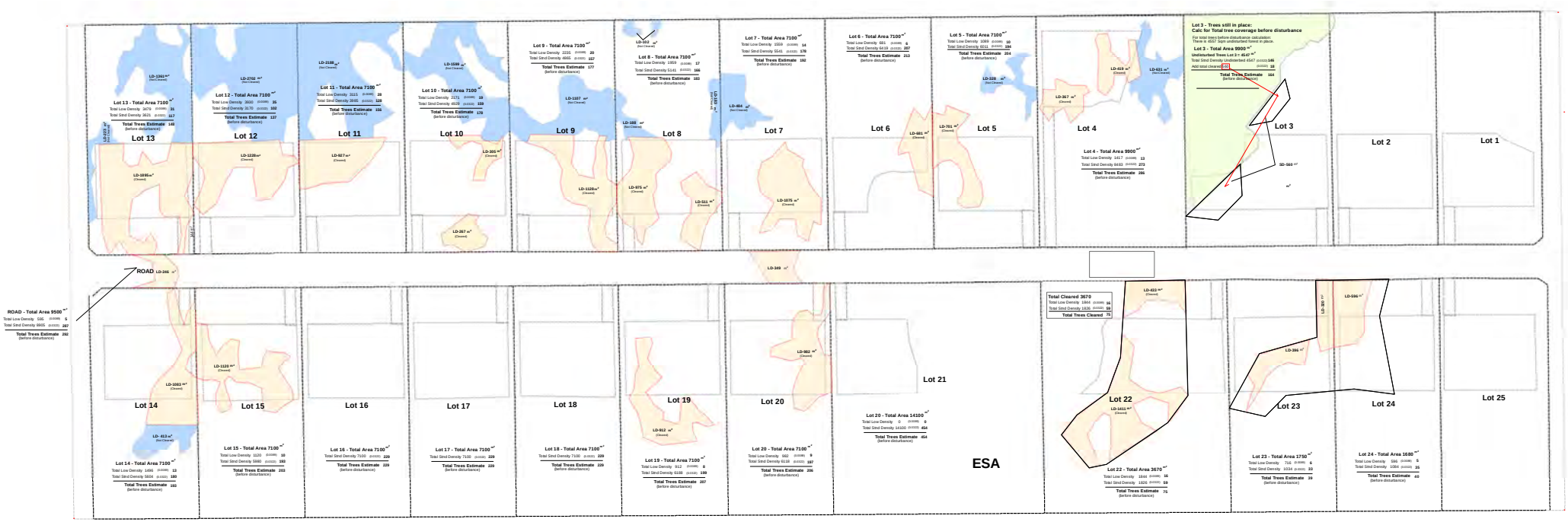
CENTRAL VALLEY
ARBORIST CONSULTING LTD.

Client:
Florwest Developments
Box 21009
Maple Ridge, BC
V2X 1P7

Site Location:
12631 Bell Street
Mission, BC

Feb. 13, 2023

Diagram of Total Trees before Disturbance (Estimated)



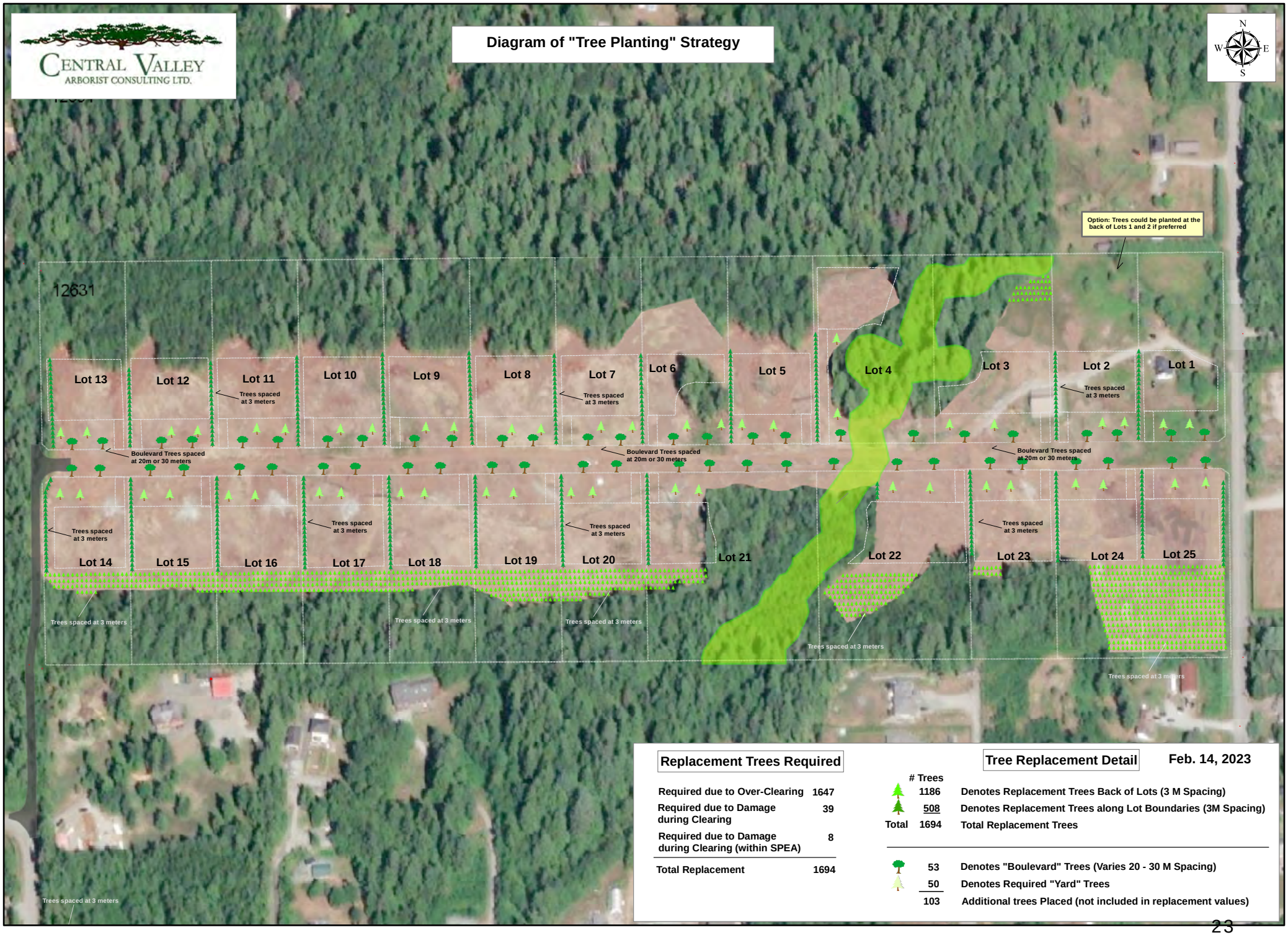
Summary of Density Calculation (by Lot)

Lot	Total Lot m²	Total M² Low Density 0.0089	Total Trees Low Density	Total M² Standard Density 0.0322	Total Trees Standard Density	Total Trees before Disturbance	Note
1	7100		Open		Open	0	
2	7100		Open		Open	0	
3	9900	Special / Partial		5057	164	164	
4	9900	1417	13	8483	273	286	
5	7100	1089	10	6011	194	204	
6	7100	681	6	6419	207	213	
7	7100	1559	14	5541	178	192	
8	7100	1959	17	5141	166	183	
9	7100	2235	20	4865	157	177	
10	7100	2171	19	4929	159	178	
11	7100	3115	28	3985	128	156	
12	7100	3930	35	3170	102	137	
13	7100	3479	31	3621	117	148	
14	7100	1496	13	5604	180	193	
15	7100	1120	10	5980	193	203	
16	7100	0		7100	229	229	
17	7100	0		7100	229	229	
18	7100	0		7100	229	229	
19	7100	912	8	6188	199	207	
20	7100	982	9	6118	197	206	
21	14100	0		14100	454	454	
22	12500	1844	16	1826	59	75	
23	7100	716	6	1034	33	39	
24	7100	596	5	1084	35	40	
25	7100		Open		Open	0	
		Estimated total trees before disturbance				4,142	
ROAD	7100	595	5	8905	287	292	* Not included in replacement

Low Density / Standard Density

Denotes Low Density forest (LD) Polygon / Within Cleared Areas

Denotes Low Density forest (LD) Polygon / Outside of Cleared Areas



Replacement Trees Required	
Required due to Over-Clearing	1647
Required due to Damage during Clearing	39
Required due to Damage during Clearing (within SPEA)	8
Total Replacement	1694

Tree Replacement Detail — Feb. 14, 2023

# Trees	
1186	Denotes Replacement Trees Back of Lots (3 M Spacing)
508	Denotes Replacement Trees along Lot Boundaries (3M Spacing)
Total 1694	Total Replacement Trees
53	Denotes "Boulevard" Trees (Varies 20 - 30 M Spacing)
50	Denotes Required "Yard" Trees
103	Additional trees Placed (not included in replacement values)

Central Valley Arborist Consulting Ltd.

Email: **kwak**@centralvalley.ca

Tree Evaluation Summary

12631 Bell Street

Mission, BC

CENTRAL VALLEY ARBORIST CONSULTING LTD.

Tree Evaluation Summary Table

12631 Bell Street, Mission BC

January 20, 2023

ID #	Species	DBH (cm)	canopy spread *radius* (m)	~HT (m)	LCR (%)	Condition, TRAQ rating	Comments	Recommendations
1	western hemlock, *Tsuga heterophylla*	29	3.6	26	40	health poor, structure good; MODERATE risk rating	Lot 3; branch tip dieback, yellowing – tree dying; CRZ impacted by machinery (3.0m from trunk)	REMOVE
2	western hemlock, *Tsuga heterophylla*	54	4.6	45	30	health very poor, structure good; HIGH risk rating	Lot 4; branch tip dieback; CRZ impacted by machinery (3.4m from trunk)	REMOVE
3	western hemlock, *Tsuga heterophylla*	59	4.3	50	30	health very poor, structure good; HIGH risk rating	Lot 4; decay in trunk, bark falling off; CRZ impacted by machinery (3.4m from trunk)	REMOVE
4	western hemlock, *Tsuga heterophylla*	29	2.9	30	40	health very poor, structure good; HIGH risk rating	Lot 4; sparse canopy, dying	REMOVE
5	western hemlock, *Tsuga heterophylla*	43	2.3	30	40	health very poor, structure fair; HIGH risk rating	Lot 4; sparse canopy, bark falling off, dying	REMOVE
6	western hemlock, *Tsuga heterophylla*	46	2.8	30	80	health poor, structure good; HIGH risk rating	Lot 4; physical damage, east side of trunk; CRZ impacted by machinery (<1.0m from trunk)	REMOVE
7	western hemlock, *Tsuga heterophylla*	59	0	38	0	DEAD; HIGH risk rating	north of Lot 4 (in forest); dead from natural causes, targets new build	REMOVE
8	western hemlock, *Tsuga heterophylla*	46	0	40	0	DEAD; HIGH risk rating	north of Lot 4 (in forest); dead from natural causes, targets new build	REMOVE
9	(4) western hemlock, *Tsuga heterophylla* ; (1) western red cedar,	20-80	2.0-5.0	35	70	health poor-fair, structure good; LOW risk rating	Lot 5; large hemlock with branch tip dieback; 3 small hemlocks with yellowing foliage; 1 cedar, no	retain & monitor

(DBH =Diameter at Breast Height, HT = approx tree height, LCR = Live Crown Ratio;
number sequence interupted by existing tag numbers on some trees)

CENTRAL VALLEY ARBORIST CONSULTING LTD.

Tree Evaluation Summary Table

12631 Bell Street, Mission BC

January 20, 2023

ID #	Species	DBH (cm)	canopy spread *radius* (m)	~HT (m)	LCR (%)	Condition, TRAQ rating	Comments	Recommendations
10	western hemlock, *Tsuga heterophylla*	43	3.0	40	70	health fair, structure good; LOW risk rating	Lot 7; CRZ impacted by machinery (2.8m from trunk)	retain & monitor
11	western hemlock, *Tsuga heterophylla*	38	3.6	38	80	health fair, structure good; LOW risk rating	Lot 7; CRZ impacted by machinery (1.0m from trunk)	retain & monitor
12	(4) western hemlock, *Tsuga heterophylla*	34	3.3	20	90	health good, structure good; LOW risk rating	Lot 7; CRZ impacted by machinery (2.0m from trunk)	retain & monitor
13	group of paper birch, *Betula papyrifera* and bitter cherry.	20-30	4.0	15-20	70	health good, structure good; LOW risk rating	Lot 8; CRZ impacted by machinery (1.0m-2.0m from trunk)	retain & monitor
14	(1) western red cedar, *Thuja plicata*	59	4.5	20	75	health very poor, structure good; LOW risk rating	Lot 8; foliage browning, excess cone crop; CRZ impacted by machinery (2.8m from trunk)	REMOVE
15	(3) western hemlock, *Tsuga heterophylla*	50-60	5.0	30-35	80	health good, structure good; LOW risk rating	Lot 9; CRZ impacted by machinery (<1.0m from trunk)	retain & monitor
16	western hemlock, *Tsuga heterophylla*	25	3.4	15	50	health poor, structure good; LOW risk rating	Lot 10; foliage yellowing, tree dying - half of the CRZ buried in ~2.0m of fill	REMOVE
17	western hemlock, *Tsuga heterophylla*	34	4.1	30	60	health good, structure good; LOW risk rating	Lot 10; CRZ impacted by machinery (1.0m from trunk)	retain & monitor
18	western red cedar, *Thuja plicata*	41	4.6	25	80	DEAD; LOW risk rating	Lot 10; CRZ impacted by machinery (1.0m from trunk)	REMOVE

CERTIFIED ARBORIST ISA

(DBH =Diameter at Breast Height, HT = approx tree height, LCR = Live Crown Ratio;
number sequence interupted by existing tag numbers on some trees)

CENTRAL VALLEY ARBORIST CONSULTING LTD.

Tree Evaluation Summary Table

12631 Bell Street, Mission BC

January 20, 2023

ID #	Species	DBH (cm)	canopy spread *radius* (m)	~HT (m)	LCR (%)	Condition, TRAQ rating	Comments	Recommendations
19	western red cedar, *Thuja plicata*	119	5.6	45	70	health very poor, structure good; LOW risk rating	Lot 10; 3 tops, foliage yellowing, excess cone crop; CRZ impacted by machinery (4.5m from trunk)	retain & monitor
20	western hemlock, *Tsuga heterophylla*	64	4.0	50	85	health good, structure good; LOW risk rating	Lot 10; no significant issues; CRZ impacted by machinery (1.5m from trunk)	retain & monitor
21	western hemlock, *Tsuga heterophylla*	37	3.9	20	30	health fair, structure fair; LOW risk rating	Lot 11; crown suppressed; CRZ impacted by machinery (1.0m from trunk)	retain & monitor
22	western hemlock, *Tsuga heterophylla*	57	4.1	55	40	health very poor, structure good; HIGH risk rating	Lot 11; no significant issues; CRZ impacted by machinery (1.0m from trunk)	retain & monitor
23	western hemlock, *Tsuga heterophylla*	63	3.5	35	25	health very poor, structure very poor; HIGH risk rating	Lot 11; one co-dom top broke off, branch tip dieback and stunted growth – tree dying	REMOVE
24	western hemlock, *Tsuga heterophylla*	64	3.8	55	50	health very poor, structure good; HIGH risk rating	Lot 13; branch tip dieback, stunted growth, excess cone crop; CRZ impacted by machinery	REMOVE
25	western red cedar, *Thuja plicata*	71	4.5	40	70	health good, structure good; LOW risk rating	Lot 13; no significant issues; CRZ impacted by machinery (4.2m from trunk)	retain & monitor
26	(7) western hemlock, *Tsuga heterophylla* , (1) western red cedar, *Thuja plicata*	30-50	2.0-4.5	20-35	40-80	health fair-good, structure good; LOW risk rating	Lot 13; CRZ of 8 trees impacted by machinery (<1.0m – 2.0m from trunk)	retain & monitor

CERTIFIED ARBORIST ISA

(DBH =Diameter at Breast Height, HT = approx tree height, LCR = Live Crown Ratio;
number sequence interupted by existing tag numbers on some trees)

CENTRAL VALLEY ARBORIST CONSULTING LTD.

Tree Evaluation Summary Table

12631 Bell Street, Mission BC

January 20, 2023

ID #	Species	DBH (cm)	canopy spread *radius* (m)	~HT (m)	LCR (%)	Condition, TRAQ rating	Comments	Recommendations
27	western hemlock, *Tsuga heterophylla*	37	3.5	30	25	health very poor, structure very poor; HIGH risk rating	west of Lot 13; tree has fallen – leans into another tree	REMOVE
28	western hemlock, *Tsuga heterophylla*	15,27 28,29	3.4	33	50	health very poor, structure very poor; HIGH risk rating	west of Lot 13; 4 trunks, sparse canopy, yellow foliage, stunted growth – tree dying; CRZ impacted by machinery	REMOVE
29	western hemlock, *Tsuga heterophylla*	33	2.2	50	15	health fair, structure very poor; HIGH risk rating	west of Lot 14; low LCR, low trunk taper, stand-alone tree, prone to wind throw	REMOVE
30	western hemlock, *Tsuga heterophylla*	47	0	25	0	DEAD; HIGH risk rating	Lot 15; dead, targets new build	REMOVE
31	western red cedar, *Thuja plicata*	114	4.2	4.4	656	health fair, structure good; LOW risk rating	Lot 15; sparse canopy; excavator work just outside of CRZ	retain & monitor
32	western hemlock, *Tsuga heterophylla*	71	3.1	50	85	health fair, structure good; LOW risk rating	Lot 15; stress symptoms; excavator work just outside of CRZ	retain & monitor
33	western hemlock, *Tsuga heterophylla*	76	3.9	55	0	DEAD; HIGH risk rating	Lot 15; died of natural causes; may target new build	REMOVE
34	western hemlock, *Tsuga heterophylla*	68	3.9	50	0	health very poor, structure fair; HIGH risk	Lot 16; tree dying; excavator work within CRZ	REMOVE

number sequence interupted by existing tag numbers on some trees)

CENTRAL VALLEY ARBORIST CONSULTING LTD.

Tree Evaluation Summary Table

12631 Bell Street, Mission BC

January 20, 2023

ID #	Species	DBH (cm)	canopy spread *radius* (m)	~HT (m)	LCR (%)	Condition, TRAQ rating	Comments	Recommendations
35	western hemlock, *Tsuga heterophylla*	54	2.7	55	40	health fair, structure good; MODERATE risk rating	Lot 16; sparse canopy; CRZ impacted by machinery (2.0m from trunk)	retain & monitor
36	western hemlock, *Tsuga heterophylla*	44-63	5.7	45	60	health very poor, structure poor; HIGH risk rating	Lot 16; dying, apparently from natural causes; excavator work just outside of CRZ	REMOVE
37	western hemlock, *Tsuga heterophylla*	71	2.4	50	50	health fair, structure good; MODERATE risk rating	Lot 18; tree in decline; excavator work within CRZ	retain & monitor
38	western hemlock, *Tsuga heterophylla*	56	2.1	45	40	health fair, structure poor; LOW risk rating	Lot 18; tree in decline; excavator work within CRZ	retain & monitor
39	western red cedar, *Thuja plicata*	89	5.3	45	40	health poor, structure fair; MODERATE risk rating	Lot 21; sparse canopy; excavator work just outside of CRZ	retain & monitor
40	western hemlock, *Tsuga heterophylla*	37	2.8	30	15	health very poor, structure good; HIGH risk rating	Lot 6; dying; CRZ impacted by machinery (2.0m from trunk)	REMOVE
41	big-leaf maple, *Acer macrophyllum*	66	5.1	25	70	health fair, structure fair; MODERATE risk rating	Lot 22; no symptoms apparent at this time; CRZ impacted by machinery (1.7m from trunk) ***in SPEA**	retain & monitor
60	western hemlock, *Tsuga heterophylla*	67	5.9	50	60	health very poor, structure good; HIGH risk rating	west of Lot 13; branch tip dieback and stunted growth – tree dying; CRZ impacted by machinery (3.0m from trunk)	REMOVE
87	western hemlock, *Tsuga heterophylla*	87	4.9	50	65	health fair, structure good; MODERATE risk rating	Lot 16; branch tip dieback; CRZ impacted by machinery (3.1m from trunk)	retain & monitor

CERTIFIED ARBORIST ISA

(DBH =Diameter at Breast Height, HT = approx tree height, LCR = Live Crown Ratio;
number sequence interupted by existing tag numbers on some trees)

CENTRAL VALLEY ARBORIST CONSULTING LTD.

Tree Evaluation Summary Table

12631 Bell Street, Mission BC

January 20, 2023

ID #	Species	DBH (cm)	canopy spread *radius* (m)	~HT (m)	LCR (%)	Condition, TRAQ rating	Comments	Recommendations
89	western hemlock, *Tsuga heterophylla*	62	3.5	45	0	DEAD; HIGH risk rating	Lot 18; dead, may target new build	REMOVE
94	western hemlock, *Tsuga heterophylla*	43	4.3	45	35	health very poor, structure poor; HIGH risk	north of Lot 21; co-dom tops; sparse canopy, branch tip dieback	REMOVE
96	western red cedar, *Thuja plicata*	81	5.2	35	35	health very poor, structure very poor; HIGH risk rating	Lot 4; ~30◦ lean to SE; CRZ impacted by machinery (2.4m from trunk)	REMOVE
99	western hemlock, *Tsuga heterophylla*	71	6.8	45	60	health fair, structure good; LOW risk rating	Lot 7; CRZ impacted by machinery (5.0m from trunk)	retain & monitor
273	western hemlock, *Tsuga heterophylla*	45	4.2	30	40	health very poor, structure poor; HIGH risk rating	Lot 10; sparse canopy, stunted growth – tree dying; CRZ impacted by machinery (1.0m from trunk)	REMOVE

(DBH =Diameter at Breast Height, HT = approx tree height, LCR = Live Crown Ratio; number sequence interupted by existing tag numbers on some trees)

Pictures 1-3: Lot 3/Lot 4 high risk trees; clearing outside of SPEA

Pictures 4-7: examples of low-density areas (few protected-size trees)

Pictures 8-11: examples of wind damage, north edge

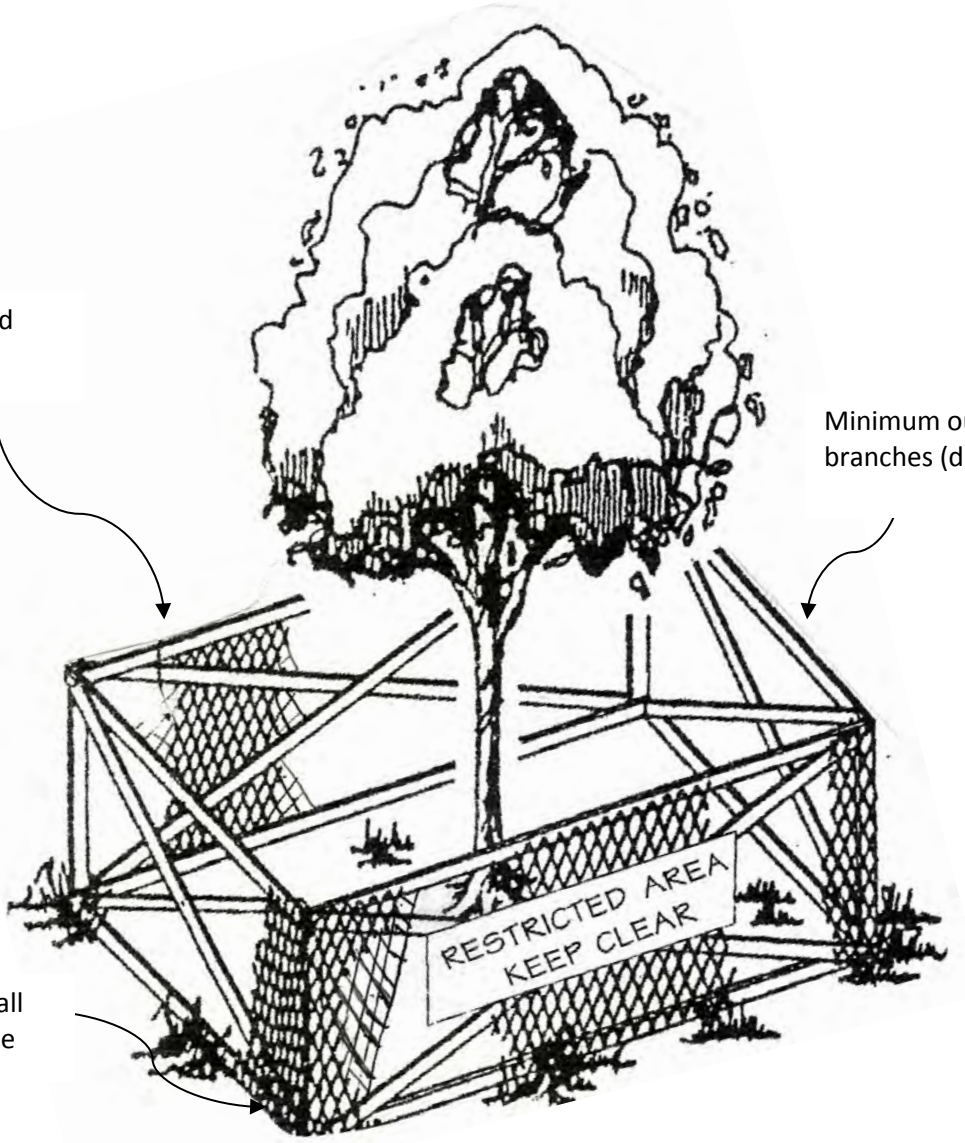
Pictures 12-14: trees in decline, south edge

CENTRAL VALLEY
ARBORIST CONSULTING LTD.

PROTECTIVE FENCING INSTRUCTIONS

Solid barrier firmly staked into the ground (2”x4”)

Minimum outside of branches (drip-line)



Plastic mesh screening on all portions of protective fence

Note: No storage of building materials within or against protection barrier and no booms or equipment to enter drip-line at anytime. Barrier is not to be moved once erected.

Qualifications of Author

Robert F. Kwak

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V2T 6Z7

Cell: 604-850-4938
Email: kwak@centralvalley.ca

- President and owner of Central Valley Arborist Consulting Ltd; 2006 to present
- President and owner of Central Valley Tree and Arborist Services Ltd; 2003 to 2015
- Tamarack Tree Service, Manager for BC (Hydro contractor); 2002 to 2003
- Manager of Westland Tree Services 2000 to 2002
- President and owner of B.K. Tree Services Ltd; 1981 to 1999
- International Society of Arboriculture; Certified Arborist PN-1736A
- PNW-ISA Certified Tree Risk Assessor; Certification (TRAQ)
- WCB Wildlife Danger Tree Assessor: Parks and Recreation Module; Certification #P0072
- Consulting Arborist; June 2000 – Present
- Member: International Society of Arboriculture (ISA)
  Pacific Northwest Chapter of Arborist
- Over 40 of years professional work in the tree industry and land clearing business.
- Insurance policy #040149195 ($5,000,000 Liability) – Saxbee Insurance Agencies Ltd.
- Business License: Abbotsford Intra Municipal #2021-120721
  City of White Rock #00024576
- Work Safe BC – 961482-AA

Qualifications of Author

Wyatt Sjodin

- Over 30 years of experience in the field of arboriculture
- Professional Member, International Society of Arboriculture (ISA)
- Arborist; ISA Certified #PN-0430 (1993)
- Certified Tree Risk Assessor #0341 (2005)
- Wildlife/Dangerous Tree Assessor, Parks & Recreation #P3059 (2022)
- Certified Pesticide Applicator #191294 and #190700 (1993)
- Certified Utility Arborist #0025-TT-95 (1995)
- Certified Arborist Technician ITA# 00007-TA-12 (2012)
- Davey Institute of Tree Sciences graduate, (2000)

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