Fig-1. Area described as "forest stand" - view from Del Monte Avenue to the east.

Fig-2. Area described as "forest stand" - view from below the street level to the north-east.

TREE INVENTORY TABLE

G&A Tree ID	Common Name	DBH (cm)	Protected Root Zone Radius (m)	Crown Radius (m)	Health (Good, Fair, Poor)	Structural Condition (Good, Fair, Poor)	Bylaw Protected Tree?	Recommendations
440	Arbutus	34	6	4	Good	Fair	Yes	Retain and protect
441	Douglas fir	42	8	4	Good	Good	Yes	Retain and protect
442	Douglas fir	64	8	5	Good	Good	Yes	Remove
443	Douglas fir	58	7	5	Good	Good	Yes	Remove
444	Douglas fir	72	9	7	Good	Good	Yes	Retain and protect
445	Grand fir	76	9	6	Good	Good	Yes	Remove
446	Red cedar X2	42;14	5	4	Good	Fair	Yes	Remove
447	Douglas fir	60	7	6	Good	Good	Yes	Retain and protect
448	Bigleaf maple X2	30;26	7	6	Good	Fair	Yes	Retain and protect
449	Red cedar	60	8	7	Good	Good	Yes	Retain and protect
450	Sycamore maple	40	7	5	Good	Good	No	Retain and protect
456	Grand fir	72	9	6	Good	Fair	Yes	Remove
457	Laurel X3	36;30;20	5	4	Fair	Fair	Yes	Remove
461	Grand fir	60	7	6	Good	Good	Yes	Retain and protect
463	Municipal Douglas fir	64	8	6	Good	Good	Yes	Retain and protect
464	Municipal Bigleaf maple	34	6	4	Good	Good	Yes	Retain and protect
464A	Municipal Grand fir	80	12	7	Good	Good	Yes	Retain and protect
466	Red alder	38	7	5	Good	Fair	Yes	Retain and protect
466A	Bigleaf maple X2	60;60	10	7	Good	Fair	Yes	Retain and protect
467	Bigleaf maple	14	3	2	Good	Fair	Yes	Retain and protect
468	Bigleaf maple	40	7	4	Good	Good	Yes	Remove
470	Bigleaf maple X2	30;20	5	4	Good	Fair	Yes	Remove
471	Grand fir	34	6	3	Good	Fair	Yes	Remove
474	Douglas fir	110	13	8	Good	Fair	Yes	Retain and protect
475	Grand fir	42	8	4	Good	Good	Yes	Retain and protect
478	Hemlock	16	3	2	Fair	Fair	No	Retain and protect
479	Douglas fir	98	12	7	Good	Fair	Yes	Retain and protect
480	Hemlock	22	4	3	Fair	Fair	No	Retain and protect
481	Grand fir	16	3	3	Fair	Fair	No	Retain and protect
483	Grand fir	56	7	5	Good	Good	Yes	Retain and protect
484	Grand fir	26	5	2	Fair	Fair	No	Retain and protect
487	Douglas fir	98	12	7	Good	Good	Yes	Retain and protect
488	Douglas fir	30	5	4	Good	Fair	Yes	Retain and protect
489	Douglas fir	60	7	6	Fair	Good	Yes	Retain and protect
490	Douglas fir	26	5	2	Good	Good	No	Retain and protect
491	Douglas fir	62	7	6	Good	Good	Yes	Retain and protect
492	Garry oak	16	3	2	Poor	Poor	Yes	Remove
494	Hazelnut multi stem	2 to 16	4	4	Good	Fair	No	Retain and protect
495	Grand fir	56	7	5	Good	Good	Yes	Retain and protect
499	Gary oak	34	6	5	Good	Good	Yes	Retain and protect
500	Gary oak	30	5	4	Good	Good	Yes	Retain and protect
501	Horse chestnut	32;30	6	5	Good	Fair	No	Retain and protect
503	Douglas fir	94	11	7	Good	Good	Yes	Remove
505	Red cedar	52	9	5	Good	Good	Yes	Retain and protect
506	Red cedar	54	6	5	Good	Good	Yes	Retain and protect
507	Douglas fir	52	9	6	Good	Good	Yes	Retain and protect
509	Grand fir	80	10	6	Good	Fair	Yes	Retain and protect
511	Douglas fir	60	7	5	Good	Good	Yes	Retain and protect
512	Douglas fir	84	10	7	Fair	Fair	Yes	Remove
513	Bigleaf maple X3	62;58;38	9	8	Fair	Fair	Yes	Remove
514	Bigleaf maple	40	7	5	Good	Fair	Yes	Remove
515	Bigleaf maple	50	9	6	Good	Fair	Yes	Remove
517	Pacific dogwood	22	4	3	Good	Fair	Yes	Retain and protect
518	Bigleaf maple	40	7	5	Good	Fair	Yes	Retain and protect
519	Bigleaf maple	44	8	6	Good	Fair	Yes	Retain and protect
520	Douglas fir	82	10	7	Good	Good	Yes	Retain and protect

SUMMARY TREE STATISTICS

CATEGORY	# OF TREES
Total number of trees indicated on Tree Plan	56
On-site Bylaw-Protected Trees	45
Trees on Municipal property	3
Adjacent Private Off-site Trees	0
On-site Unprotected Trees	8
Proposed Protected Tree Removals for Site Servicing during S/D	6
Additional Protected Tree Removals Anticipated During Building Phase	9
ProtectedTrees Retained After Site Servicing Phase	39
Total Residual Protected Trees Retained After Full Build Out	30
Replacement Trees for Site Servicing Phase Required by Tree Bylaw (2:1 replacement ratio)	12
Replacement Trees for Building Phase Required by Tree Bylaw (1:1 replacement ratio)	9
New Boulevard Trees Required by Sub-division bylaw	4

ANTICIPATED PROTECTED TREE REMOVALS

SITE SERVICING PHASE		BUILDING PERMIT PHASE
Tree location	Tree ID	Tree ID
Lot #1	443	503
	445	
	446	
Lot #2	442	492
	-	512
	-	513
	-	514
	-	515
Lot #3	456	-
	457	-
Lot #4	-	468
	-	470
	-	471
TREE REMOVALS: 6		TREE REMOVALS: 9

"Forest stand" area description

1) **Location:** south and south-east of the proposed lot # 4 and behind the properties at 802 and 806 Piedmont Gardens.

2) **Estimated size:** 850 square meters.

3) **Tree layer general description:** Second-growth mature conifer dominated stand.

4) **Estimated species composition:** Red cedar 40% Bigleaf maple 28% Grand fir 18% Douglas fir 12% Red alder 2%.

5) **Estimated density:** 350 stem per hectare.

6) **Tree biometrics:** Red cedar DBH range 20 to 60 cm, estimated height range 15 to 28 m; Bigleaf maple DBH range 20 to 60 cm, estimated height range 12 to 26 m: Grand fir DBH 40 to 80 cm, estimated height range 20 to 30 m; Douglas fir DBH 40 to 70 cm, estimated height range 20 to 30 m; Red alder DBH 18 to 24 cm, estimated height range 16 to 22 m.

7) **General notes:** The trees located in this area have the critical root zones on the terrain sloping south-east and away from the proposed development. These trees are unlikely to be negative affected by the demolition and the new construction.

Tree Protection Fencing Detail

Robust Tree Protection Fencing shall be constructed with a 2x4 frame and supports. (See photo below.) Snow-fencing will then be affixed to the frame using zip-ties, staples wire or nails. All-weather signage will be attached, clearly designating the area within as a TREE PROTECTION AREA – NO TRESPASSING.

LEGEND

- Trees described as forest stand area
- Proposed new park
- Existing park

CONIFER
TREE CANOPY
TREE CENTRE
PROTECTED ROOT ZONE
TREE FENCING
COVENANT FENCING
Trees to be retained

DECIDUOUS
REPLACEMENT TREE
NEW BOULEVARD TREE
TREE TAG #
REMOVE TREE SYMBOL
Tree removals sub-division phase
Tree removals building permit phase

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TREE PRESERVATION MEASURES

1. Before site preparation begins, the owner and contractor shall meet with the arborist to review the Tree Protection Plan.

2. A full-sized weather-proof copy of this tree plan shall be posted in plain site in the site trailer for all to see. The general contractor shall ensure that all relevant sub-trades review the drawing.

3. The Project Arborist shall blaze all trees indicated for removal during site servicing phase prior to felling. ONLY TREES INDICATED RED HIGHLIGHT in the attached Tree Table shall be blazed.

4. Tree fencing to be erected before further site preparation or construction and remain in good condition throughout the duration of the project. **In sections adjacent to trees designated for removal, it is recommended that fencing be delayed until after tree removal is complete.** Chip up tree branches and leave chip mulch on site for distribution within reduced tree areas.

5. The arborist shall be present to oversee stump removal, excavation, service trenching, site grading or blasting within, or adjacent to, the tree protection areas (TPAs).

6. Procedure for rock removal near tree root zones:
a) The general contractor will convene a meeting with the arborist and blasting contractor prior to drilling to develop a work plan that minimizes rock removal impacts to protected trees.
b) Where considered necessary by the aborist, alternate rock removal techniques, such as hoe-ramming, shall be used in place of blasting.
c) Blasting vibrations at the closest edge of the Tree Protection Areas are not to exceed a measured peak particle velocity of 25 mm/sec. PPVs will be recorded and a copy submitted to the arborist.
d) Use DYNAMITE as the explosive product. No fertilizer-based explosive is permitted, due to its toxicity to tree roots.
e) The contractor shall prevent rock debris from the blast site from entering the TPA.

7. Any tree roots damaged shall be pruned back to undamaged tissue by the arborist.

8. The vertical face of the excavation adjacent to the TPAs shall be covered with geo-textile to prevent soil dessication and erosion.

9. In areas where the root zone of the tree has been reduced by excavation, the remaining area shall be top-dressed with 10cm of tree chip mulch.

10. Retained trees shall be irrigated twice weekly during the dry summer period to a minimum effective depth of 30cm.

11. Temporary construction access within a TPA must be approved and supervised by the project arborist.

10. If it should prove necessary to reduce the tree fencing, the exposed TPA outside the fencing shall be armoured with 3/4" plywood or a temporary cover of geo-textile and 200mm of road-base, moderately compacted with a plate compactor.

11. No equipment, materials or excavated soil shall be placed or stored within the TPA. THIS PARTICULARLY INCLUDES HOARDING OF EXCAVATED SOILS NEEDED FOR BACKFILLING OF THE HOUSE FOUNDATION.

12. Excavation for sidewalk construction along Delmonte Ave. shall be supervised by the project arborist.

13. 21 replacement trees will be planted (according to the District of Saanich Tree Protection Bylaw standards).

14. In addition, 4 new boulevard trees shall be planted as required by the Sub-division bylaw.

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PROJECT
5147 Del Monte Avenue, Saanich, BC

SHEET TITLE
Tree Management Plan
Subdivision and Servicing Phase

REV NO	DESCRIPTION	DATE
0	FOR REVIEW	

PROJECT NO.	17-093
DATE	February 13, 2018
SCALE	1:200
DRAWN BY	LS
SHEET NO.	T - 1