

# Talbot Mackenzie & Associates

**Consulting Arborists** 

March 20, 2018

Don Mann Excavating Ltd. 4098 Lochside Drive Victoria, BC V8X 2C8

Re: Review of preliminary plans for 980, 990, 1000 Beckwith Avenue subdivision proposal

#### **Assignment:**

Review the preliminary plans provided showing the proposed 17 lot subdivision of the 980, 990 and 1000 Beckwith Avenue properties, and prepare a report identifying which trees have the potential to be retained and those that will likely require removal

**Methodology:** Each bylaw-protected tree growing within the boundaries of the subject properties, all trees located on municipal property – fronting the subject properties, and trees located on neighbouring properties within 3 metres of the property boundaries were identified using numeric metal tags attached to the lower trunks. Information such as tree species, size(d.b.h.), critical root zone(c.r.z.), crown spread, health and structural condition, relative tolerance to construction impacts and general remarks and recommendations was recorded in the attached tree resource spreadsheet. As part of our assignment, we have also reviewed a preliminary service drawing, but have not reviewed any proposed offsite work or upgrades. Since our report dated September 14, 2016, we have reviewed changes to the proposal that move the building footprints of Lots 13 and 14 to the front of the building footprints and have identified additional trees on municipal property that will likely have to be removed for proposed road improvements.

#### **Tree Resource:**

- The tree resource that grows within the boundaries of the subject properties(not including proposed park dedication):
  - 131 Live Garry oak, 2 Dead Garry oak 6 Douglas-fir

Total – 137 live trees

Several hundred native trees grow within the areas proposed as park dedication (only the 16 trees located along the southern edge of the proposed park dedication to the north of proposed Lots 12-17 were included in our inventory. All 7 Garry oak trees located within the proposed park dedication near the south side of proposed Lot 17 were included in our inventory.

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#### Tree Resource (Cont'd)

The tree resource that grows on municipal property – fronting the subject properties:
 13 Lombardy poplars
 9 live Douglas-fir, 1 Dead Douglas-fir
 28 Garry oak
 Total – 50 live trees

- 2 Garry oak located on the neighbouring property at 4283 Oakfield Crescent within 3 metres of the property boundary (No tag 3 in poor health).

#### **Observations:**

- The trees located on the 1000 Beckwith Avenue property (south of Beckwith Avenue, 11-proposed lots), including trees located on municipal property directly fronting this property have been impacted by the industrial use of the property, and many are in declining health, or have significant structural defects as a result of mechanical injury or from the addition of large fill piles over their critical root zones.
- Trees growing on the 980 and 990 Beckwith Avenue properties consist entirely of small to medium sized Garry oak trees, many of which have longitudinal trunk wounds with decay, which suggests previous site disturbance from farming activity.
- Trees located on the 1000 Beckwith Avenue property (north of Beckwith Avenue) consist of a mixture of Garry oak and Douglas-fir trees. All Douglas-fir trees on the 1000 Beckwith Avenue property and several within the proposed Park dedication area have been previously topped, resulting in poor structural characteristics. Many of the Garry oak trees are in declining health, likely as a result of the previous use of the property, addition of backfill, and overhead utilities clearance pruning.

# **Potential impacts:**

#### **Building footprints:**

According to the plans provided, we anticipate that the following trees will require removal for excavation/blasting to create building footprints:

Lot #	Trees by Tag Number/None
1	260, 259 (non bylaw protected)
2	None
3	None
4	None
5	306 – row of 20 Leyland
	cypress tree – non bylaw
	protected
6	None
7	None
8	None
9	None

Lot #	Trees by Tag Number/None
10	None
11	None
12	310, 311, 312, 313, 314, 323,
	324, 325, 326, 327, 328 and
	329
13	315, 316, 317, 318, 320, 321,
	322, 356, 357, 358, 359, 360,
	361, 362, 363
14	369, 370, 371, 372, 373, 374,
	375, 376
15	None
16	None
17	928, 930, 926, 921 (dead)
Total	l – 39 bylaw-protected trees

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#### **Driveways/lot access:**

According to the plans provided the following trees are located within the footprints of the proposed driveways and will require removal:

Lot #	Trees for Removal or None
1	11: See offsite work below
12	None
13	None
14	367(shared municipal tree), 368
15	972
16	Driveway already constructed (we have not seen plans showing alterations to existing driveway location). 958 will be impacted by driveway installation, servicing and underground servicing – poor specimen for retention.
17	931, 934, 935
Total - 7 by	ylaw protected trees

#### Offsite work:

At this time we have only seen preliminary designs of the proposed changes to the Beckwith Avenue municipal frontage. We can comment further on the potential impacts to municipal trees along Beckwith Avenue once more detailed plans are available. Based on the plans provided, we anticipate the following trees on Municipal property will require removal:

- Trees 283, 284, 964, 965 located within the proposed sewer/drain
- Trees 285, 286, 287(dead) are located within the proposed common driveway entrance.
- Trees 288, 291, 295, 296, 952, 953, 954, 955, 956, 957, 959, 960, 961, 962, 963within the proposed roadway and cul-de-sac construction.

#### **Total for Removal: 21**

**Underground Servicing:** According to the conceptual servicing plan provided, the following trees are located where they will, be heavily impacted by excavation to install proposed underground sewer and drain lines as well as lateral connections to each proposed lot, and require removal:

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\*note – trees that would require removal for driveway and building footprints were not duplicated in this list.

Lot #	Tree Tags by Number/None
1	256, 257, 258 (non bylaw
	protected
2	None
3	None
4	255
5	None
6	Clearing the non-bylaw
	protected Trembling aspen
	trees will be required.
7	304, 305

Lot #	Tree Tags by Number/None
8	None
9	None
10	None
11	None
12	None
13	None
14	None
15	Dependant on blasting
	requirements.
16	None
17	None
Total - 5 k	ylaw protected trees

Douglas-fir 958 will likely require removal if upgrades are required to existing service connections to the existing residence on Lot 16. This tree has poor structural characteristics due to historic topping.

In our experience, hydroexcavation has been a successful method of installing residential water service connections, within critical root zones of trees. In instances where bedrock is anticipated, hoe ramming or localized blasting may be required. At this time we have not seen details on how the lots will be serviced with hydro, gas or communication lines. Once the servicing plans are finalized, we can provide recommendations to mitigate impacts to trees that may be possible to retain.

**Trees with structural concerns:** The following trees have poor structural characteristics, and we recommend that they be examined more thoroughly, if they are to be retained, and new targets are introduced: 0291, 0395, 0397, 0398, 0399, 0400 and 0401, 0958.

**Re-planting:** It is our understanding that a comprehensive landscape and re-planting plan is being developed that will replace any tree that requires removal. If there is not enough space, or if soil conditions are unsuitable on individual lots to support new plantings, there is potential planting space within areas proposed to be dedicated to parkland, to ensure that there are healthy native trees for future generations.

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**Summary:** From reviewing the plans provided showing the conceptual lot layout, and building and driveway footprints, we anticipate that 39 bylaw-protected trees will require removal to facilitate the construction of building foundations, and 7 bylaw-protected trees will require removal for driveway access. Additionally, 5 bylaw-protected trees will require removal to facilitate the proposed sewer and drain services proposed on site.

From reviewing the preliminary underground servicing details and proposed road and cul de sac design, we anticipate that 21 trees on municipal property will require removal. In addition there are 13 Lombardy Poplar trees on municipal property in front of Lots 1 and 2 that the municipality have indicated that they have no objections to removal. We can comment further on the potential impacts to municipal trees along Beckwith Avenue once more detailed plans are available.

In addition to the areas proposed to be dedicated to parkland, it is our understanding that a comprehensive replanting strategy is in place to replace trees that will require removal. In our opinion, the proposed lot sizes should provide adequate space for replanting. If there is not enough space, or if soil conditions are unsuitable on individual lots to support new plantings, there is potential planting space within areas proposed to be dedicated to parkland, to ensure that there are healthy native trees for future generations.

Please do not hesitate to call us at (250) 479-8733 should you have any further questions. Thank You.

Yours truly,

Talbot Mackenzie & Associates

Tom Talbot & Graham Mackenzie

ISA Certified, & Consulting Arborists

Encl. – Tree Resource Spreadsheets - 25 pages, tree resource spreadsheet(phase 1) – 4 pages, Key to headings in resource table, Tree Removal Plan, Tree Condition Plan

#### Disclosure Statement

Arborists are professionals who examine trees and use their training, knowledge and experience to recommend techniques and procedures that will improve their health and structure or to mitigate associated risks.

Trees are living organisms, whose health and structure change, and are influenced by age, continued growth, climate, weather conditions, and insect and disease pathogens. Indicators of structural weakness and disease are often hidden within the tree structure or beneath the ground. It is not possible for an Arborist to identify every flaw or condition that could result in failure nor can he/she guarantee that the tree will remain healthy and free of risk.

Remedial care and mitigation measures recommended are based on the visible and detectable indicators present at the time of the examination and cannot be guaranteed to alleviate all symptoms or to mitigate all risk posed.

# for 931 Beckwith Avenue

Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
101	42	5.0	spruce	8.0	Fair	Fair	Moderate	Non-bylaw protected.
102	64	9.5	Douglas- fir	12.0	Good	Fair	Poor	Municipal tree, history of limb failure.
103	88	13.0	Lombardi poplar	14.0	Fair	Fair	Poor	Municipal tree.
104	51	7.5	Douglas- fir	10.0	Fair	Fair	Poor	
105	68	10.0	Douglas- fir	18.0	Good	Fair	Poor	Small secondary leader in upper canopy.
106	52	8.0	Douglas- fir	8.0	Fair	Fair	Poor	Municipal tree, small secondary leader in upper canopy, deadwood.
107	47	5.5	Western Red cedar	10.0	Good	Fair	Moderate	Near west property line, deadwood.
108	65	10.0	Lombardi poplar	8.0	Fair	Fair	Poor	Included bark.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
109	56	8.5	Douglas- fir	12.0	Fair	Fair	Poor	Municipal tree, compacted soil, end-weighted.
110	39	6.0	Douglas- fir	8.0	Fair	Fair	Poor	Compacted soil.
112	62	7.5	Ponerosa pine	10.0	Fair	Fair/poor	Moderate	Co-dominant tops with included bark - cable brace if retained.
113	56	8.5	Douglas- fir	10.0	Fair	Fair	Poor	Near west property line, deadwood.
0251	26, 28	6.0	Western Red cedar	10.0	Good	Fair	Moderate	Co-dominant.
0252	mult. Stems	mult.	Leylandii	mult. Stems	Fair	Fair/poor	Moderate	Row of 25 individual trees - many with multiple stems. The tagged tree is the only tree in the row that was bylaw-protected size at the time of the inventory. Many trees in the row have experienced recent limb failure.
0253	mult. Stems	mult.	Trembling aspen	mult. Stems	Good	Fair/poor	Poor	Grove of approximately 100 trees groiwng along the south property boundary. Between 2 to 35cm in diameter. Many of the larger trees in the grove are decayed.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0254	34	4.0	Western Red cedar	8.0	Fair	Fair	Moderate	Clothes line reel attached to trunk.
0255	approx. 60cm	7.0	Lombardi poplar	6.0	Poor	Poor	Poor	Growing near east property line, advanced stage of decline, ivy covered trunk. Removal recommended.
0256	approx.	88.0	Lombardi poplar	10.0	Fair	Poor	Poor	Extensive trunk decay, history of large stem failure, ivy covered trunk. Removal.
0257	approx. 60cm	7.0	Lombardi poplar	10.0	Poor	Poor	Poor	Declining health, ivy covered. Removal.
0258	approx. 50cm	6.0	Lombardi poplar	10.0	Poor	Poor	Poor	Declining health, ivy covered. Removal.
0259	approx. 50cm	6.0	Lombardi poplar	12.0	Fair/poor	Fair/poor	Poor	Ivy covered trunk. Poor species to retain in a residential area.
0260	approx. 60cm	7.0	Lombardi poplar	12.0	Fair	Fair/poor	Poor	Ivy covered trunk. Poor species to retain in a residential area.
0261	approx. 90cm	10.0	Lombardi poplar	12.0	Fair	Fair/poor	Poor	Ivy covered trunk. Poor species to retain in a residential area.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
No Tag 1	35	5.5	Spruce	5.0	Good	Good	Poor	Located on neighbouring property at 4151 Jagat Place.
0389	74	7.5	Garry oak	10.0	Poor	Poor	Good	Located within Beckwith Park. Extensive decay along trunk and within root collar. Barbed wire embedded in trunk. Large dead limbs. Will require modification if new targets are introduced.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0262	20	2.5	Lombardi poplar	4	Fair	Fair/poor	moderate	Municipal tree, central leader previously topped - deflected new leader.
0263	21	2.5	Lombardi poplar	4	Fair	Fair/poor	moderate	Municipal tree, central leader previously topped - deflected new leader.
0264	25, 28	4	Lombardi poplar	6	Fair	Fair/poor	moderate	Municipal tree, co-dominant, trunk decay.
0265	23	3	Douglas-fir	4	Fair	Fair	poor	Municipal tree, extensive surface rooting.
0266	27	3	Douglas-fir	5	Fair	Fair	poor	Municipal tree, corrected lean.
0267	40, 48	7	Lombardi poplar	6	Fair	Fair	moderate	Municipal tree, multiple stems, large deadwood.
0268	16	2	Douglas-fir	3	Fair	Fair	poor	Municipal tree, low live crown ratio, small top previously failed.
0269	91	10	Lombardi poplar	9	Good	Good	moderate	Municipal tree, fire hydrant at base, splits into codominant stems above d.b.h., active growth at main stem union.
0270	20, 24	3	Lombardi poplar	3	Fair	Fair	moderate	Municipal tree, fire hydrant at base.
0271	19, 31, 36	5	Lombardi poplar	5	Fair	Fair	moderate	Municipal tree, small deadwood.

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0272	24	3	Lombardi poplar	3	Fair	Fair	moderate	Municipal tree, water meter at base.
0273	46	5	Lombardi poplar	3	Fair/poor	Fair	moderate	Municipal tree, water meter at base, dieback, health stress.
0274	27, 35	5	Lombardi poplar	4	Fair/poor	Fair	moderate	Municipal tree, dieback.
0275	31, 40	6	Lombardi poplar	8	Fair	Fair	moderate	Municipal tree.
0276	35	4	Lombardi poplar	4	Fair	Fair	moderate	Municipal tree, deadwood.
0277	23	3	Douglas-fir	5	Fair	Fair	poor	Municipal tree.
0211	23	3	Douglas-III	3	raii	raii	poor	inunicipal tree.
0278	26	3	Douglas-fir	5	Fair	Fair	poor	Municipal tree.
0279	29	3.5	Douglas-fir	4	Fair	Fair	poor	Municipal tree.
0280	27	3	Douglas-fir	3	Fair	Fair	poor	Municipal tree.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
	, ,		•	,				
	24, 25,		Lombardi					
0281	36	6	poplar	6	Fair	Fair	moderate	Municipal tree, located at edge of existing driveway.
0282	39	4.5	Douglas-fir	9	Fair	Fair	poor	Municipal tree, small top previously removed, deflected new top, growing in heavily disturbed area.
0283	45	4.5	Garry oak	9	Fair	Fair	Good	Municipal tree, large deadwood, split lower scaffold limb.
0284	27	3	Garry oak	5	Fair	Fair	Good	Municipal tree, one-sided form, old wire fence wrapped around trunk.
0285	20	2	Garry oak	4	Fair	Fair	Good	Municipal tree, one-sided form, deadwood.
0286	37	3.5	Garry oak	14	Fair	Good	Good	Municipal tree, conflicting with overhead utilities.
0287	25	N/A	Douglas-fir	N/A	N/A	N/A	N/A	Municipal tree, dead snag.
0288	26, 30, 35	6	Garry oak	11	Fair	Fair	Good	Municipal tree, ivy covered trunk, tri-dominant, deadwood.
0289	16	1.5	Garry oak	5	Fair	Fair/poor	Good	Municipal tree, ivy covered trunk, suppressed.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0290	13	1.5	Garry oak	2	Fair	Fair/poor	Good	Municipal tree, one-sided form, suppressed, top dieback.
0291	70	8	Douglas-fir	10	Poor	Poor	poor	Municipal tree, previously topped - decay evident at large topping wound, weakly attached leaders at topping location, declining health. Not recommended for retention in a high target area.
0292	33	3.5	Garry oak	5	Fair/poor	Fair/poor	Good	Municipal tree, ivy covered trunk, epicormic growth.
0293	22	2	Garry oak	4	Fair	Fair/poor	Good	Municipal tree, ivy covered trunk.
0294	20	2	Garry oak	4	Fair	Fair	Good	Municipal tree, large mulch pile around trunk, ivy covered.
0295	35	3.5	Garry oak	4	Fair	Fair	Good	Municipal tree, ivy covered.
0296	15	1.5	Garry oak	3	Fair/poor	Fair/poor	Good	Municipal tree, ivy covered, weighted over street, dead top.
0297	17	2	Garry oak	4	Fair/poor	Fair	Good	Sparse top, fill piled around root collar.
0298	30	3	Garry oak	4	Fair/poor	Fair	Good	Sparse top, fill piled around root collar.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
	, ,		-	,				
0299	16	1.5	Garry oak	3	Fair/poor	Fair	Good	Fill piled around root collar.
0300	4, 5	1.5	Garry oak	2	Fair	Fair	Good	Rooted at base of rock outcrop, tag hung from top branch,small stem grows prostrate along rock.
0301	24	2.5	Garry oak	6	Fair	Fair	Good	Located at southeast corner of property.
0302	20	2	Garry oak	5	Fair/poor	Fair/poor	Good	Soil piled around trunk, tearout injury, may originate from same root system as 0303. Difficult to assess structure due to fill pile.
0303	30	3	Garry oak	5	Fair	Fair/poor	Good	Soil piled around trunk, tearout injury, may originate from same root system as 0302. Difficult to assess structure due to fill pile.
0304	50	5	Garry oak	10	Fair/poor	Poor	Good	Heavily decayed at base, large dead limbs, soil piled around base, fungus on backside of trunk. Poor specimen for retention in a high target area.
0305	90	9	Garry oak	20	Good	Good	Good	Soil piled within crz, endweighted limbs, deadwood, rooted on rock outcrop, recent large scaffold limb failure, evidence of historic limb failures.
0306	mult. Stems	mult.	leylandii	mult.	Fair	Fair/poor	moderate	Overgrown hedge row(10 stems), not maintained, between 20-45cm d.b.h., not measured at d.b.h. due to fill pile.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0307	29, 41	6	Garry oak	12	Fair	Fair	Good	Municipal tree, ivy covered, located at southwest corner of property, co-dominant, difficult to assess structure due to ivy.
0308	55	5.5	Garry oak	10	Fair	Fair	Good	Ivy covered, located in close proximity to 0307, difficult to assess structure due to ivy.
0309	23, 43, 45	9	Garry oak	18	Fair	Fair/poor	Good	Tri-dominant, old trunk wounds/cavities in all stems. Closer exam recommended if retained.
0310	10, 34, 29, 25, 34, 35	7	Garry oak	12	Fair/poor	Fair	Good	1731 stake attached to trunk, large deadwood, health stress, low soil volume, 6 stem cluster, one stem previously removed, cavities in 2 stems.
0311	26	2.5	Garry oak	5	Fair	Fair/poor	Good	Vertical trunk cavity, canopy weighted to one side.
0312	14	1.5	Garry oak	4	Fair	Fair/poor	Good	Canopy weighted to one side.
0313	11	1.5	Garry oak	5	Fair	Fair/poor	Good	Canopy weighted to one side.
No Tag 2	70	7	Garry oak	20	Good	Fair	Good	Located on neighbouring property at 4283 Oakfield Crescent, roots obstructed by rock outcrop, deadwood, previous large stem removal.
No Tag 3	40	4	Garry oak	6	Poor	Poor	Good	Located on neighbouring property at 4283 Oakfield Crescent, roots obstructed by rock outcrop, declining health.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0314	25	2.5	Garry oak	6	Fair	Fair/poor	Good	Canopy weighted to one side, epicormic growth, basal cavity.
0315	13	1.5	Garry oak	4	Poor	Poor	Good	Almost entirely dead.
0316	20	2	Garry oak	4	Fair	Fair	Good	One-sided/asymmetric form.
0317	23	2.5	Garry oak	4	Fair	Fair	Good	1740 stake attached to trunk, one-side form, epicormic growth.
0318	26	2.5	Garry oak	6	Fair/poor	Fair/poor	Good	One-sided form, dead top.
0319	26	2.5	Garry oak	5	Fair	Fair	Good	Some epicormic growth.
0320	30	3	Garry oak	5	Fair	Fair	Good	Some epicormic growth.
0321	13	1.5	Garry oak	12	Fair/poor	Poor	Good	Stunted form, unlikley to become a well-structured tree.
0322	28, 33	5	Garry oak	10	Fair	Fair	Good	Co-dominant, large deadwood, epicormic growth, indicators of health stress.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0323	31	3	Garry oak	6	Fair	Poor	Good	Epicormic growth, one-sided form, indicators of health stress, vertical trunk cavity with decay.
0324	27	2.5	Garry oak	6	Fair	Fair	Good	Epicormic growth, large deadwood, indicators of health stress.
0325	27	2.5	Garry oak	4	Fair	Poor	Good	One-sided canopy form, basal cavity and vertical trunk seam.
0326	20	2	Garry oak	4	Fair	Fair	Good	One-sided canopy form.
0327	17	2	Garry oak	5	Fair	Fair	Good	One-sided canopy form.
0328	12	1.5	Garry oak	3	Fair	Fair/poor	Good	Stunted form.
0329	33	3.5	Garry oak	8	Fair	Fair/poor	Good	Large deadwood, epicormic growth, some indicators of health stress.
0330	28, 28	5	Garry oak	10	Fair	Fair/poor	Good	Large deadwood, epicormic growth, some indicators of health stress.
0331	33	3.5	Garry oak	8	Fair	Fair	Good	Located near West property line, one-sided form.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0332	19	2	Garry oak	8	Fair	Fair	Good	Located near West property line, one-sided form.
0333	20	2	Garry oak	8	Fair	Fair	Good	Located near West property line, one-sided form.
			,					
0334	41	4	Garry oak	8	Fair	Fair	Good	Deadwood.
0335	30, 36	5	Garry oak	14	Good	Fair	Good	Stake 1735 attached to trunk, large deadwood.
0336	11	1.5	Garry oak	3	Fair	Fair	Good	Suppressed.
0337	21, 33	4	Garry oak	8	Fair	Fair	Good	Weighted over neighbouring property, health stress.
	,		,					3 31 1 37
0338	7	1.5	Garry oak	3	Fair	Fair	Good	Suppressed.
0339	15	1.5	Garry oak	3	Fair	Fair/poor	Good	Decay in old pruning wounds.
0340	21	2	Garry oak	4	Fair	Fair/poor	Good	Deadwood, decay in old pruning wounds.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0341	24	2.5	Garry oak	4	Fair	Fair/poor	Good	Deadwood, dead top.
0342	20	2	Garry oak	4	Fair	Fair/poor	Good	Deadwood, dead top.
0343	6	1.5	Garry oak	2	Fair	Fair	Good	Young tree.
0344	8	1.5	Garry oak	2	Fair	Fair	Good	Young tree.
0345	21	2	Garry oak	4	Fair	Fair/poor	Good	Sparse foliage.
0346	15, 25	3.5	Garry oak	8	Fair	Fair/poor	Good	Co-dominant, 15cm stem decayed, poor turnk taper.
0347	16	1.5	Garry oak		Poor	Poor	Good	1742 ribbon, declining health, dead top.
	27				Fair	Fair		
0348		3	Garry oak	3			Good	Deadwood.
0349	18	2	Garry oak	3	Fair/poor	Fair/poor	Good	Deadwood, declining health.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0350	18	2	Garry oak	3.0	Fair	Fair/poor	Good	Deadwood, poor trunk taper.
0351	14	1.5	Garry oak	3.0	Fair	Fair/poor	Good	Poor trunk taper, trunk cavities.
0352	19	2	Garry oak	4.0	Fair	Fair/poor	Good	Trunk cavities.
0353	11	1.5	Garry oak	4.0	Poor	Poor	Good	Declining health, sloughing bark.
0354	30	3	Garry oak	12.0	Fair	Fair	Good	Deadwood.
0355	12, 19	3	Garry oak	8.0	Fair	Fair	Good	1743 ribbon. Co-dominant, deadwood.
	13, 25,							
0356	33	5	Garry oak	12.0	Fair	Fair	Good	Large deadwood, tri-dominant, 13cm stem decayed.
0357	21	2	Garry oak	6.0	Fair	Fair/poor	Good	Poor trunk taper.
0358	23	2.5	Garry oak	8.0	Fair	Fair/poor	Good	Poor trunk taper, decay in old pruning wounds.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0359	25	2.5	Garry oak	8.0	Fair	Fair/poor	Good	Poor trunk taper, heavily weighted to one side.
0360	24, 33	5	Garry oak	10.0	Fair	Fair	Good	1755 stake at base, co-dominant.
0361	19	2	Garry oak	3.0	Fair	Poor	Good	Heavily decayed.
0362	15	1.5	Garry oak	3.0	Fair	Fair	Good	One-sided form.
0363	28	3	Garry oak	10.0	Fair	Fair	Good	One sided form, large pruning wounds.
0364	43	4.5	Garry oak	8.0	Fair/poor	Fair/poor	Good	Municipal tree, heavily pruned for hydro clearance, health stress.
0365	27, 31	5	Garry oak	5.0	Fair	Fair	Good	Municipal tree, deadwood.
	7, 13,							
0366	15	4	Garry oak	18.0	Fair	Fair	Good	Municipal tree, long end-weighted limbs.
0367	17	2	Garry oak	6.0	Fair/poor	Fair/poor	Good	Municipal tree, epicormic growth, co-dominant stem previously removed - some associated decay.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0368	22	2	Garry oak	6.0	Fair	Fair	Good	Deadwood.
0369	30	3	Garry oak	8.0	Fair	Fair/poor	Good	Ribbon 1764, basal decay, boulder embedded in root collar.
0370	27	3	Garry oak	6.0	Poor	Poor	Good	Declining health, extensive trunk decay.
0371	4cm @ caliper	1.5	Garry oak	mult.	Fair	Fair	Good	Cluster of juvenile oak, tag in only stem of protected size.
0372	16	1.5	Garry oak	6.0	Fair	Fair	Good	Deadwood.
0373	32	3	Garry oak	12.0	Fair/poor	Fair	Good	Epicormic growth, health stress.
0374	29	3	Garry oak	12.0	Fair	Fair	Good	1762 Ribbon. One-sided form, deadwood.
0375	16, 40	5	Garry oak	10.0	Good	Good	Good	Small deadwood, separate 16cm d.b.h. Garry oak growing 3 meters away.
0376	16	1.5	Garry oak	6.0	Fair	Fair	Good	Rooted on rock, deflected trunk.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0377	18	2	Garry oak	5.0	Fair	Fair	Good	Rooted on rock.
0378	4, 14	2	Garry oak	4.0	Fair	Fair	Good	1758 Ribbon. Rooted on rock.
0379	16	1.5	Garry oak	5.0	Fair	Fair	Good	Rooted on rock.
0380	14	1.5	Garry oak	3.0	Fair	Fair/poor	Good	Shallow soil conditions, heavily weighted to one side.
0381	13	1.5	Garry oak	3.0	Fair	Fair/poor	Good	Shallow soil conditions, heavily weighted to one side.
0382	21	2	Garry oak	3.0	Fair	Fair	Good	Shallow soil conditions, small deadwood.
0383	6, 8, 12	2	Garry oak	4.0	Fair/poor	Fair	Good	Rooted on rock, epicormic growth, tri-dominant.
0384	6	1.5	Garry oak	3.0	Fair/poor	Fair	Good	Rooted on rock, epicormic growth.
0385	7, 8, 11, 15	2	Garry oak	4.0	Fair	Fair	Good	Located within proposed park dedication, 1773 Ribbon, 4 stem cluster.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0386	6, 6, 10, 10, 10	3	Garry oak	6.0	Fair	Fair	Good	Located within proposed park dedication, rooted on rock, 5 stem cluster.
0387	54	5.5	Douglas-fir	8.0	Fair	Fair/poor	Poor	Located within proposed park dedication, previously topped.
0388	70	7	Douglas-fir	10.0	Fair	Fair	Poor	Located within proposed park dedication, deadwood.
0389	25	2.5	Garry oak	8.0	Fair	Fair	Good	Located within proposed park dedication, ivy covered, located behind shed. Difficult to assess structure due to ivy.
0390	13	1.5	Garry oak	4.0	Fair	Fair	Good	Located within proposed park dedication, ivy covered, located behind shed.
0391	13	1.5	Garry oak	4.0	Fair	Fair	Good	Located within proposed park dedication, ivy covered, located behind shed.
0392	30	3	Garry oak	9	Fair	Fair	Good	Located within proposed park dedication, small deadwood.
0393	51	5	Douglas-fir	12	Fair	Fair/poor	Poor	Located within proposed park dedication, ivy covered trunk, previously topped.
0394	53	5.5	Douglas-fir	12	Fair	Fair/poor	Poor	Located within proposed park dedication, ivy covered trunk, previously topped.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0395	56	5.5	Douglas-fir	8	Poor	Poor	Poor	Ivy covered trunk, previously topped, declining health, woodpecker activity, <i>Phaeolus schweinitzii</i> fruinging body at base. Removal recommended.
0396	49	5	Garry oak	13	Fair/poor	Fair	Good	Health stress, compacted soil, one-sided form, deadwood.
0397	51	5	Douglas-fir	10	Fair	Fair/poor	Poor	Previously topped.
0398	65	6.5	Douglas-fir	10	Fair	Fair/poor	Poor	Previously topped.
0399	63	6.5	Douglas-fir	8	Fair	Poor	Poor	Ribbon 1838. Previously topped, weakly attached leaders. Removal.
0400	62	6	Douglas-fir	8	Fair	Poor	Poor	Previously topped, weakly attached leaders. Removal.
0401	67	6.5	Douglas-fir	10	Fair	Poor	Poor	Ribbon 1836, previosly topped, weakly attached leaders.
0402	32	3	Garry oak	12	Fair	Fair	Good	Located within proposed park dedication, located at edge of park, deadwood, shallow soil conditions.
0403	13	1.5	Garry oak	3	Fair/poor	Fair/poor	Good	Located within proposed park dedication, stunted form, decayed, shallow soil conditions.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0404	11	1.5	Garry oak	3	Fair	Fair/poor	Good	Located within proposed park dedication, poor trunk taper, shallow soil conditions.
0405	22	2	Garry oak	6	Fair	Fair	Good	Located within proposed park dedication, one-sided form, deadwood, shallow soil conditions.
0406	28	3	Garry oak	12	Fair	Fair	Good	Located within proposed park dedication, epicormic growth, deadwood, shallow soil conditions.
0901	43, 44, 45	8	Garry oak	16	Good	Fair/poor	Good	Located within proposed park dedication, rooted at toe of rock, deadwood, trunk growing against rock bluff. Closer exam recommended if new targets are introduced.
0902	31	3	Garry oak	8	Fair	Fair	Good	Located within proposed park dedication, rooted on rock.
0903	33	3.5	Garry oak	12	Good	Fair	Good	Located at edge of existing patio, backfilled historically.
0904	37	4	Garry oak	14	Fair/poor	Fair/poor	Good	Decay in old tearout wounds, existing retaining wall .5 meters from trunk, backfilled historically, endweighted, health stress.
0905	23	2.5	Garry oak	10	Fair/poor	Fair/poor	Good	Health stress, backfilled historically, existing retaining wall .5 meters from trunk, one-sided form.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0906	25, 34	5	Garry oak	14	Fair/poor	Fair	Good	Epicormic growth, co-dominant.
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0907	43	4.5	Garry oak	14	Fair	Fair	Good	Canopy weighted to one side, deadwood.
0908	40	4	Garry oak	14	Fair	Fair	Good	Small deadwood.
0910	14	1.5	Garry oak	3	Fair/poor	Fair/poor	Good	Dead top, located at edge of rock embankment.
0911	12	1.5	Garry oak	4	Fair	Fair/poor	Good	Girdled by wire, located at edge of rock embankment.
0912	20	n/a	Garry oak	N/A	N/A	Poor	n/a	Dead snag. Removal.
0913	27	3	Garry oak	6	Fair	Fair/poor	Good	Basal cavity, poor trunk taper.
0914	20	2	Garry oak	6	Fair	Fair/poor	Good	Located at top of retaining wall, poor trunk taper, backfilled historically.
0915	2, 3, 31, 41	6	Garry oak	12	Fair	Fair	Good	Tri-dominant, epicormic growth, health stress, deadwood, backfilled historically.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0916	34, 37	6	Garry oak	12	Fair	Fair	Good	Deadwood, co-dominant, some historic backfill on North side.
0917	17, 19	3	Garry oak	8	Fair	Fair/poor	Good	One-sided canopy form, located under hydro lines.
0918	16, 32	4	Garry oak	12	Fair	Fair	Good	Ribbon 1939, one-sided canopy form, co-dominant.
0919	27	3	Garry oak	8	Fair	Fair	Good	Small deadwood.
0920	18	2	Garry oak	4	Poor	Poor	Good	Almost entirely dead.
0921	26	n/a	Garry oak	N/A	N/A	Poor	n/a	Ribbon 1940, dead snag.
0922	17	1.5	Garry oak	4	Poor	Fair	Good	Declining health, epicormic growth, poor structure.
0923	33	3.5	Garry oak	8	Fair/poor	Fair	Good	Deadwood, sparse, epicormic growth, health stress.
0924	26, 29	5	Garry oak	12	Fair	Fair	Good	Co-dominant, end-weighted.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0925	25, 36	5	Garry oak	12	Fair	Fair	Good	Co-dominant.
0926	21	2	Garry oak	6	Fair/poor	Fair	Good	Trunk girdled by wire, shallow soil conditions.
0927	4	1.5	Garry oak	3	Fair/poor	Poor	Good	Juvenile tree, epicormic growth, poor form, shallow soil conditions.
0928	24	2.5	Garry oak	6	Fair/poor	Fair/poor	Good	Epicormic growth, health stress, one-sided form, shallow soil conditions.
0929	9	1.5	Garry oak	2	Fair/poor	Poor	Good	Dead top, health stress, shallow soil conditions.
0930	5	1.5	Garry oak	4	Fair/poor	Fair/poor	Good	Cluster of 3 juvenile trees, sparse foliage, shallow soil conditions.
0931	25	2.5	Garry oak	6	Fair/poor	Fair	Good	Wire wrapped around trunk, health stress.
0932	31, 36	5	Garry oak	12	Fair	Fair	Good	Co-dominant, large deadwood.
0933	27	2.5	Garry oak	10	Fair	Fair	Good	One-sided.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0934	13	1.5	Garry oak	4	Fair/poor	Fair/poor	Good	Poor trunk taper, epicormic growth, conflicting with overhead utilities.
0935	32	3	Garry oak	8	Fair	Fair	Good	Large deadwood.
0936	12, 18, 19	3	Garry oak	5	Poor	Poor	Good	Declining health.
0937	19	2	Garry oak	4	Fair	Fair/poor	Good	Poor trunk taper.
0938	15	1.5	Garry oak	4	Fair	Fair/poor	Good	Poor trunk taper.
0939	20, 30	5	Garry oak	14	Fair	Fair/poor	Good	One-sided form, end-weighted, shallow soil conditions, large deadwood.
0940	15, 21	4	Garry oak	10	Fair	Fair/poor	Good	One-sided form, end-weighted, shallow soil conditions, large deadwood.
0941	51	5	Garry oak	14	Fair	Fair	Good	Deadwood, boulder at base, may be co-dominant with 0942.
0942	40	4	Garry oak	8	Fair	Fair	Good	One-sided form, boulder at base, may be co-dominant with 0941.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0943	20	2	Garry oak	6	Fair/poor	Fair/poor	Good	Health stress, asymmetric form due to overhead utilities pruning, located on industrial portion of property.
0944	20, 28	5	Garry oak	12	Fair/poor	Fair	Good	Located within proposed park dedication, health stress, epicormic growth.
0945	34	3.5	Garry oak	8	Fair	Fair/poor	Good	Located within proposed park dedication, tearout wound, large deadwood, heavily weighted over street.
0946	28, 30, 36	6	Garry oak	8	Fair	Fair	Good	Located within proposed park dedication, tridominant, deadwood, end-weighted over street.
0947	11	1.5	Garry oak	3	Fair	Fair	Good	Located within proposed park dedication, suppressed, deadwood.
0948	19, 19, 23	5	Garry oak	7	Fair/poor	Fair/poor	Good	Located within proposed park dedication,19cm stem dead, large deadwood, health stress, end-weighted, woodpecker activity.
0949	21, 34	5	Garry oak	12	Fair/poor	Fair/poor	Good	Municipal tree, health stress, large deadwood, epicormic growth, one-sided canopy from overhead utilities pruning.
0950	7, 7, 16	2	Garry oak	6	Fair	Fair	Good	Municipal tree, small deadwood.
0951	41	4	Garry oak	14	Fair	Fair	Good	End-weighted.

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0952	18	2	Garry oak	6	Fair	Fair/poor	Good	municipal tree, topped for overhead utilities, epicormic growth, decay in topping wound.
0953	28, 59	7	Garry oak	12	Fair	Fair	Good	Municipal tree. Ribbon 1926, large deadwood, one-sided from overhead utilities clearance pruning.
0954	15	1.5	Garry oak	4	Fair	Fair	Good	Municipal tree, suppressed.
0955	13	1.5	Garry oak	4	Fair	Fair	Good	Municipal tree, located under hydro lines.
0956	25, 37	6	Garry oak	10	Fair	Fair	Good	Municipal tree, ribbon 1937, one-sided canopy form from overhead utilities clearance pruning.
0957	23, 37	6	Garry oak	12	Fair	Fair	Good	Deadwood, co-dominant.
0958	80	10	Douglas-fir	11	Fair	Poor	Poor	1938 Ribbon, ivy covered trunk, extensive decay in old topping/tearout wound, weakly atached central leader, rooted at toe of rock outcrop. Not recommended for retention if new targets introduced.
0959	3, 5	1.5	Garry oak	3	Fair	Fair	Good	Seedling trees.

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0960	10, 20	3	Garry oak	6	Fair	Fair/poor	Good	Municipal tree, co-dominant, trunk seam and indicators of decay in 19cm stem, one-sided canopy form, epicormic growth.
0961	32	3	Garry oak	8	Fair	Fair	Good	Municipal tree, one -sided canopy form from overhead utilities clearance pruning, epicormic growth.
0962	17	1.5	Garry oak	5	Fair	Fair	Good	Municipal tree, one -sided canopy form from overhead utilities clearance pruning.
0963	17, 31	5	Garry oak	5	Fair	Fair/poor	Good	Municipal tree, co-dominant, basal cavity, narrow stem union.
0964	22	2	Garry oak	6	Fair	Fair	Good	Municipal tree, located under hydro lines, end- weighted.
0965	25	2.5	Garry oak	8	Fair	Fair/poor	Good	Boulder embedded at base, basal cavity.
0966	32	3	Garry oak	8	Fair	Fair	Good	Rooted at edge of rock outcrop, large deadwood.
0967	31	3	Garry oak	10	Fair	Fair	Good	Rooted at edge of rock outcrop, one-sided form, end-weighted.
0968	21	2	Garry oak	6	Fair/poor	Fair	Good	Rooted at edge of rock outcrop, epicormic growth, health stress.

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread(m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations
0969	36	3.5	Garry oak	8	Fair	Fair	Good	Rooted on rock, small deadwood.
0970	6	1.5	Garry oak	3	Fair	Fair	Good	Rooted on rock, small deadwood, suppressed.
0971	34	3.5	Garry oak	10	Fair	Fair	Good	Rooted on rock, small deadwood.
0972	12 stems	mult.	Garry oak	8	Fair	Fair	Good	Between 2 - 8 cm d.b.h., clused of 12 stems rooted on rock outcrop.

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#### **Key to Headings in Resource Table**

d.b.h. – *diameter at breast height* - diameter of trunk, measured in centimetres at 1.4 metres above ground level

CRZ – *critical root zone* - estimated optimal size of tree protection zone based on tree species, condition and age of specimen and the species tolerance to root disturbance. Indicates the radial distance from the trunk, measured in metres.

Crown spread – indicates the diameter of the crown spread measured in metres to the dripline of the longest limbs.

Condition health/structure -

- Good no visible or minor health or structural flaw
- Fair health or structural flaw present that can be corrected through normal arboricultural or horticultural care.
- Poor significant health or structural defects that compromise the longterm survival or retention of the specimen.

Relative Tolerance – relative tolerance of the selected species to development impacts.



