

Inventory of Trees About Proposed Cell Tower at: 2591 Lerwick Road, Courtenay, BC



Prepared for:

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Assignment

Cypress Land Services has retained the services of Grow Tree Care to conduct an inventory of all trees within a 20.0m buffer area around a proposed cell tower (Tower) at 2591 Lerwick Road, Courtenay, BC (Property).

The proposed Tower will be 40.0m in height, and constructed on a concrete pad within a 10.0m x 10.0m fenced gravel pad. The proposed location of the Tower is on private Property, but is immediately adjacent to Lerwick Park (Park). The 0.94 hectare (ha) Property contains a home, long driveway, large grass area and several mature trees. Two (2) of the Property's trees are within the 20.0m buffer/assessment area. The adjacent Park is 7.6ha in size, and is entirely forested with mature trees. Thirty two (32) of the Park's trees are within the 20.0m buffer/assessment area, causing the Park trees to be the focus of the arborist assessment. Two (2) trees are within the Property's portion of the buffer/assessment area.

This Arborist Report includes: a table inventory of subject trees, a graphic depicting approximate location of subject trees, comment on each tree's biological health and structural condition, and an assigned Risk Rating for all relevant trees.

Assessment

An on site Arborist Assessment on was conducted on September 20, 2021. The approximate location of the cell Tower's footprint was flagged (*Photo 1.*), then the approximate boundary of the 20.0m buffer area from the Tower was flagged to identify the extent of the Assessment Area (*Photo 2. and 3.*). Each tree with a stem diameter (Dbh) >10.0cm was assessed, its location noted, and fitted with a numbered metal tree tag for identification.

The visual assessment followed the methodology provided by the ISA's (International Society of Arboriculture) 'Tree Risk Assessment Manual' ¹. The assessment was non invasive and ground based. Observations were made of the subject trees' crowns, branches, stems, visible roots, rooting areas, and their relative location to other trees and the proposed Tower. A mallet was used to 'sound' the trees for internal decay.

The 'Time Frame' for this assessment has been set at two (2) years. Meaning that, the assigned Risk Ratings should be valid for a two (2) year period after this assessment.

Assessment Results

Collected tree data is provided below in *Table 1.*, followed by a graphic depicting the approximate location of subject trees, before a description of each tree's relevant attributes. A 'Risk Rating' (from: *Low* to *Moderate*, *High* and *Extreme*) has been assigned to each tree that does, or may, present a hazard to the cell Tower and associated infrastructure. Arborist Recommendations are provided for all trees that require hazard abatement works or monitoring. Representative photos are included at the end of this report.

¹ Julian Dunster et al. 2013. Tree Risk Assessment Manual, Champaign, Illinois, International Society of Arboriculture.



Tree Data

Table 1. Inventory of Trees within 20.0m of Proposed Cell Tower at: 2591 Lerwick Road, Courtenay, BC

Tree #	Species	Dbh (cm)	Height (m)	Live Crown Ratio (%)	Condition (%)
202	Western red-cedar	82	25	95	40
203	Douglas fir	11	10	70	80
204	Douglas fir	22	13	25	80
205	Douglas fir	12	8	50	40
206	Douglas fir	12	4	70	30
207	Douglas fir	46	22	80	80
208	Douglas fir	10	9	70	70
209	Red-alder	40	17	50	50
210	Grand fir	38	13	80	30
211	Douglas fir	73	34	40	70
212	Grand fir	31	21	/	Dead
213	Bigleaf maple	43	22	70	80
214	Bigleaf maple	19	9	70	60
215	Douglas fir	84	39	40	70
216	Douglas fir	36	18	80	90
217	Red-alder	35	14	50	30
218	Red-alder	36	12	40	25
219	Grand fir	30	10	50	40
220	Red-alder	30	21	/	Dead
221	Grand fir	26	27	40	40
222	Red-alder	31	22	80	30
223	Grand fir	42	23	40	40
224	Red-alder	3x20	21	80	90
225	Grand fir	35	26	40	60
226	Douglas fir	72	41	60	80
227	Grand fir	45	32	50	60
228	Douglas fir	31	33	40	60
229	Grand fir	18	16	15	20
230	Grand fir	21	19	15	20
231	Grand fir	25	20	20	25
232	Douglas fir	51	18	/	Dead
233	Douglas fir	52	35	30	60
234	Bigleaf maple	107	21	50	60
235	Western red-cedar	89	23	100	70



Location of Subject Trees

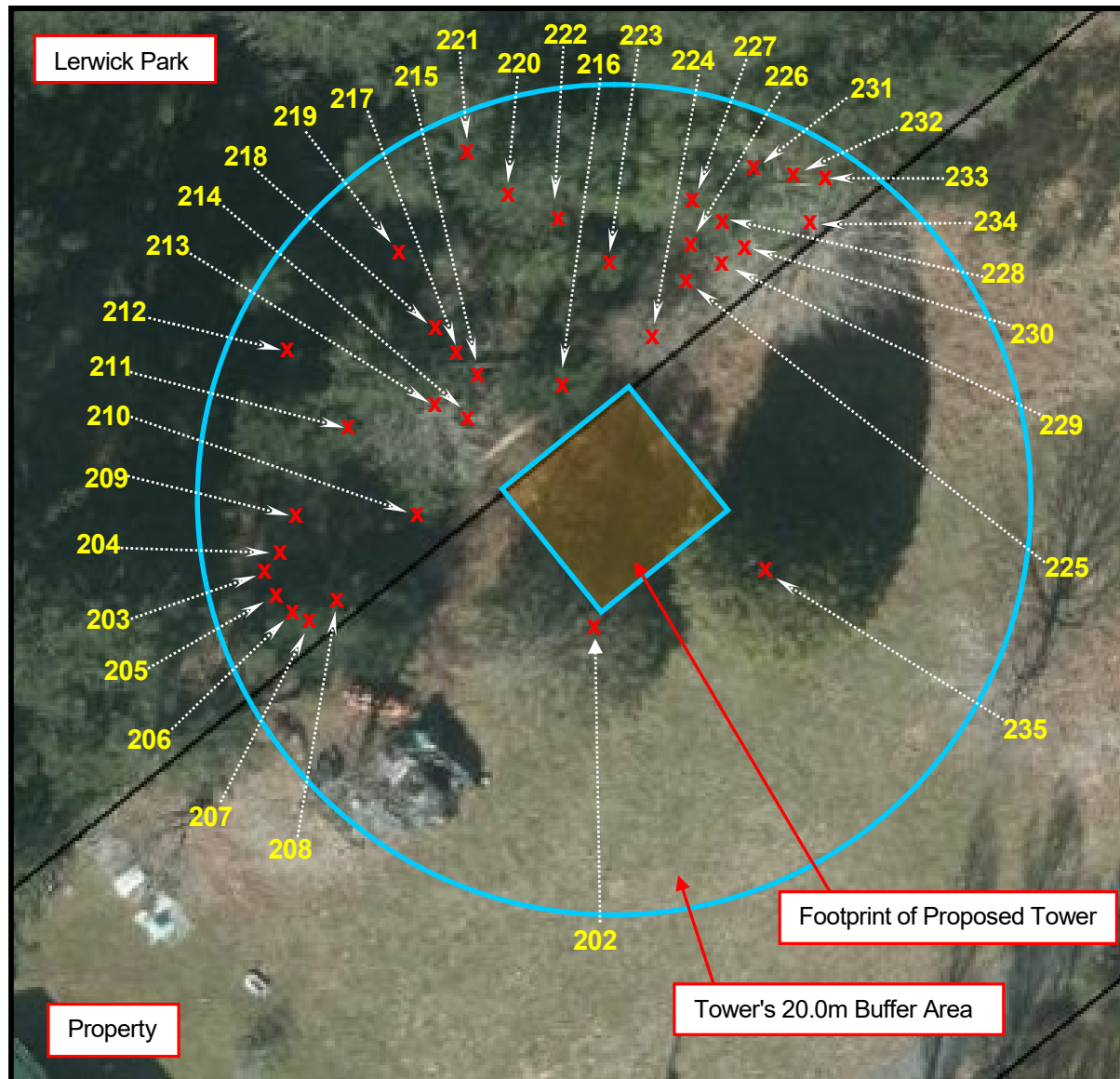


Figure 1. Location of trees within 20.0m buffer assessment area about the proposed cell Tower at 2591 Lerwick Road.





Description of tree attributes, with risk ratings and arborist recommendations

- # 202 This maturing western red-cedar is located within the Property, immediately south of the proposed Tower's gravel pad. The tree is showing signs of a lack of vigor and is in declining health, evidenced by a sparse foliage, particularly in its upper crown. The Proposed gravel pad will significantly impact this tree's rooting area, and the tree's limbs will interfere with the Tower's hardware if/when it grows in size. The Property owner has expressed an interest in removing this tree to facilitate the Tower installation project (See *Photo 4.*).

Recommendation: Cut this tree to facilitate the Tower's installation.

- # 203 This young Douglas fir is in good condition but suppressed under the canopies of neighboring trees.
- # 204 This young Douglas fir is in good condition.
- # 205 This young Douglas fir is in poor condition with a broken top and a wound on its lower stem.
- # 205 This young Douglas fir is in poor condition with a broken top and a wound on its mid stem.
- # 207 This maturing Douglas fir at the edge of the Park is in good condition.
- # 208 This young Douglas fir at the edge of the Park has a bent/non uniform lower stem, but is in otherwise good condition.
- # 209 This maturing red-alder is in fair to poor condition with stem decay at the main limb unions and a slight lean to the south. This tree does not target the Tower should it fail.
- # 210 This maturing grand fir is in poor condition with a previously failed stem at 5.0m above grade and a regrown top attached to the decaying upper stem. The tree has a current risk rating of *Low*, but as it grows in size and the stem decay progresses the risk rating will become *Moderate* or *High*. The tree is 6.0m from the Tower's pad and could target the Tower should it fail (See *Photo 5.*).

Recommendation: Cut this tree now to a wildlife stump to prevent future hazard to the Tower.

- # 211 This maturing Douglas fir is in good to moderate condition.
- # 212 This recently dead grand fir with stem decay will likely lose its top before it fails from the base and is a *Low* hazard to the tower.
- # 213 This maturing bigleaf maple has a non uniform stem base, a regular branching structure, an old corrected lean to the south and would strike the Tower if it failed to the east from root or lower stem failure (See *Photo 6.*).

Recommendation: Monitor this tree for structural stress at its base, and cut to a wildlife stump if it becomes a hazard.

- # 214 This young bigleaf maple has previously been pushed over and has regrown to a leaning form. It does not pose a risk at this time, but may pose a *Moderate* Risk as it matures.

Recommendation: Monitor this tree, and cut to a wildlife stump if it becomes a hazard.

- # 215 This mature Douglas fir is the closest large tree to the proposed Tower. It is displaying a loss of vigor with a bent top, slight resinosis at 1/3 height and a very compact/small crown. The tree has a slight stem kink at ¼ height and a slight lean to the west (away from the Tower). The tree has a current risk rating of *Low* (See *Photo 7.*).

Recommendation: Monitor for signs of further biological decline, and cut to a wildlife stump if the tree's risk rating rises to *Moderate*.

- # 216 This maturing Douglas fir is in good condition as is located 1.0m from the Tower's pad.
- # 217 This maturing red-alder is in poor condition with advanced stem decay. It will likely shed its limbs before its stem fails. The tree has a risk rating of *Low* at this time, but it may become *Moderate* if the tree grows significantly in size (See *Photo 8.*). **Recommendation:** Monitor, and cut if the crown later targets the Tower.



218 This maturing red-alder is in poor condition with advanced stem decay. This tree does not target the Tower.

219 This young grand fir is in poor condition and has included bark with a neighboring dead western red-cedar. It currently has a risk rating of *Low*, but this rating may rise to *Moderate* over time.

Recommendation: Monitor, and cut to a wildlife stump if its risk rating rises.

220 This red-alder is dead and does not target the Tower.

221 This grand fir is dead and does not target to the Tower.

222 This maturing red-alder is in poor condition with advanced stem decay, is leaning towards the north-east (away from the Tower) and will soon fail. The tree does not target the Tower.

223 This maturing grand fir is in poor condition with possible mid-stem decay and poor vigor. It is 10.0m from the Tower's pad and has a current risk rating of *Low* (See *Photo 9*.).

Recommendation: Monitor this tree, and cut later if its risk rating rises.

224 This maturing multi-stemmed red- alder is in good condition.

225 This maturing grand-fir is in good condition.

226 This mature Douglas fir is in good condition with a slight lean to the north (away from the Tower). This is the tallest tree in the assessment area.

227 This maturing grand fir is in fair condition with a broken/regrown top.

228 This mature Douglas fir is in fair condition with a poor trunk taper.

229 This maturing grand fir is in decline with poor vigor, but has a risk rating of *Low*.

#230 This maturing grand fir is in decline with poor vigor, but has a risk rating of *Low*.

#231 This maturing grand fir is in decline with poor vigor, but has a risk rating of *Low*.

#232 This dead Douglas fir has lost its top and will likely fail in chunks from the top as it decays without targeting the Tower.

#233 This mature Douglas fir has poor trunk taper and a slight lean to the north (away from the Tower).

#234 This overmature bigleaf maple has lost its upper scaffold limbs and the main stems are heavily decayed, with the lower branches in good condition. This tree will crumble in place as the decay advances.

235 This maturing western red-cedar is in fair condition with a slightly thinning crown. The tree is within the Property and is located immediately south-east of the Tower's pad. Similar to Tree # 202, the roots of this tree will be somewhat impacted by the installation of the Tower's gravel pad, and with time the tree's limbs may interfere with the Tower's hardware.

Recommendation: The north-west edge of this tree's canopy will require reduction pruning to make space for the gravel pad and Tower.



If you have any questions or comments regarding this Arborist Report please feel free to contact me at:
(250) 702 2716 or a.salt@growtreecare.com

Sincerely,

A handwritten signature in black ink, appearing to read 'Aaron Salt', with a stylized, cursive script.

Aaron Salt

AScT, QEP
ISA Certified Arborist PN-2015A
ISA Tree Risk Assessment Qualified



Photos

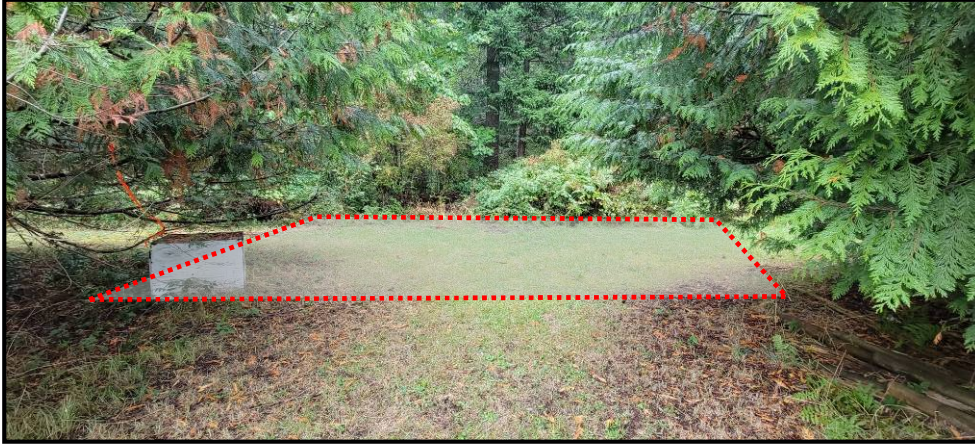


Photo 1. North-west view of location of proposed cell Tower (Tree # 202 at picture left).



Photo 2. East view of north part of Park assessment area (Tree # 222 at picture right).



Photo 3. North view from near Property boundary of central part of Park assessment area (Tree # 217 at picture centre).



Photo 4. North-west view of Tree # 202.

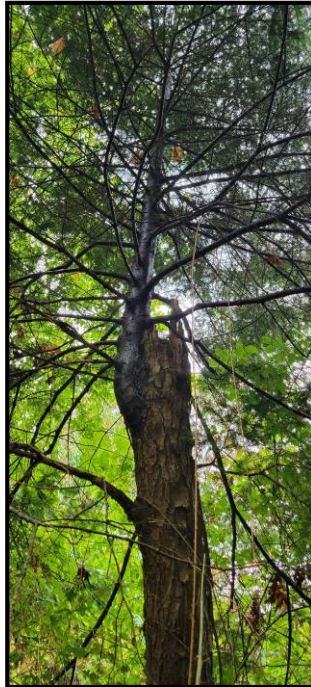


Photo 5. Tree # 210.

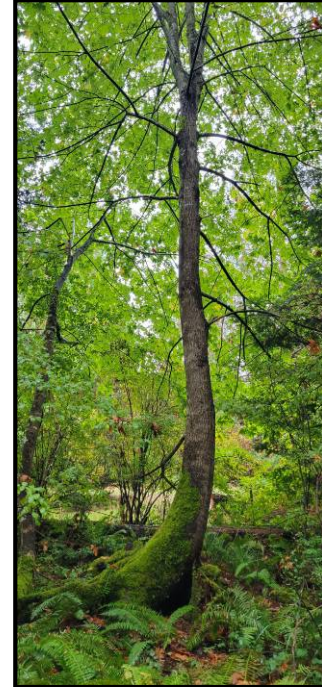


Photo 6. Tree # 213.

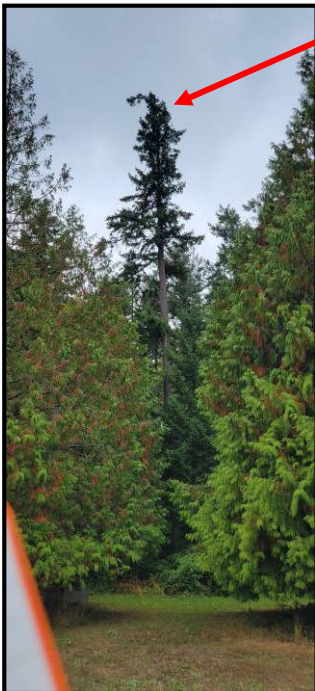


Photo 7. Tree # 215.



Photo 8. Tree # 217.



Photo 9. Tree # 224.