



## GYE + ASSOCIATES

Consultants in Urban Forestry and Arboriculture

December 11, 2016

Moore Wilson Architects Inc.  
531 Herald Street  
Victoria BC  
Canada V8W 1S5

Attention: Carolyn Wilson

Dear Carolyn:

Re: 515 Foul Bay Road, Victoria

I met with Virginia and Jeff Errick earlier this summer to address a concern that the development, particularly of Lot C, may adversely impact several of their trees that are located along a shared boundary. These trees provide important screening between the Errick's home and the proposed development at 515 Foul Bay Rd. Various strategies were discussed during our meeting to address these concerns. Yesterday, I met with Fred Rhohani of Alpha Developments and yourself on site to familiarize you both with these concerns and the strategies proposed to mitigate them. You have asked me to summarize the results of our meeting for the purposes of our submission and to provide written assurance to the Erricks that their concerns have been understood and effectively addressed.

The trees in question are indicated on the attached sketch. They include Trees #s 22 A – H:

- Douglas Fir (#22A)
- Red Cedar (#22B)
- Garry Oak (#22C)
- 4 mature Monterey Cypress (#s 22D-G)
- Juvenile cypress sp. (#22H)

Standard tree protection measures will effectively protect all of the trees noted above. These measures include, but are not limited to, the following. (For a comprehensive list of measures, see the margin notes of the TMP.)

- Input by the arborist into the design of road and building placement and elevations;
- tree protection fencing, as indicated on the Tree Management Plan (TMP);
- where construction or road building must encroach into the protected root zone of any tree, the root zone will be protected by "armouring" it with such materials as thick plywood, 3" minus aggregate or road-base;
- active supervision during the site preparation, construction and landscaping phases of the development;

In addition to the above, additional measures shall be implemented to address specific tree concerns:



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Tree 22H (small 15cm dbh Cypress)

A 4-metre set-back, combined with standard tree protection measures, will allow the preservation of the small evergreen by the fence (#22H).

Tree 22G (multi-stemmed Monterey Cypress)

Only one of the four Monterey Cypress trees is implicated in the site preparation for Lot C, #22G. The root system of this tree is prevented from encroaching into the lot by a spine of bedrock that stands between it and the proposed garage.

The main floor elevation set for the proposed house on Lot C minimizes the amount of rock that must be chipped down during site preparation. This will allow us to use the non-invasive procedure of "hoe-ramming" to remove the rock adjacent to Tree #22G, rather than conventional blasting. If blasting is required further distant from the tree, special measures will be deployed to minimize the effects of the blast to the surrounding landscape. These measures include the following:

- pre-shearing during the drilling phase,
- establishing a cleared area on the side of the rock away from the trees for the blast wave to move into,
- using smaller charges,
- "decking" the charges to detonate explosives in sequence, rather than all at once;
- measuring and maintaining a maximum acceptable *peak particle velocity* of 25mm/sec at the nearest edge of the protected tree area.

It should be noted that one of the stems of Tree 22G encroaches into the building footprint of Lot 22C. This encroachment cannot be relieved by pruning and we recommend removing this minor stem in its entirety. Removal of the stem will not compromise the health or longevity of the remaining stems; nor will its removal reduce the screening provided the tree. In addition to this stem, several limbs arising from the remaining stems of Tree 22G encroach into the building area of Lot C and will need to be shortened or removed. Again, no impacts to the health or screening function of the tree are anticipated.

Tree 22B (96cm Red Cedar)

A hammer head turn-out is indicated on the site plan that encroaches well into the protected root zone of Tree 22B. This turn-out is a requirement of the fire department. Constructing the turn-out will impact the canopy on the west side of the tree (as we will have to limb it up on our side about 16'). The lower limbs left on the other three quadrants of the tree will maintain privacy to the neighbours.

Cedars are typically quite a shallow rooted tree, so particular care is needed in the design, excavation and construction of the turn-out. In addition to the standard protection measures noted above we recommend the following additional measures be adopted:

- Once the root horizon of the cedar has been exposed under the supervision of the arborist, the remaining soil removal needed to achieve the design depth for the turnout



shall be effected using hydro-excavation. Using water pressure to wash the residual soils away will maximize root retention if carried out carefully with a high volume/low pressure wash-gun.

- By placing a layer of "Combi-grid" on the exposed roots and sub-soil before building up the road base with structural aggregates, the depth of the road bed can be minimized to preserve as much residual soil habitat for the tree as possible beneath the road bed.
- Given the gently sloping character of the land on the neighbour's side down toward the turn-out, it will not be necessary to consider porous media in place of asphalt for the turn-out. Rainwater should infiltrate the soils on the neighbour's side upslope of the tree and migrate down to irrigate the roots beneath the pavement of the turnout.

It is my professional opinion that if these measures are competently implemented, there will be no lasting impacts to the health of the trees in question and effective tree screening will be maintained between the two properties.

Respectfully submitted,

Jeremy Gye – Senior Consultant  
Gye and Associates, Urban Forestry Consultants Ltd.

Consulting Arborist (Diploma, American Society of Consulting Arborists, 1997)  
ISA Certified Arborist (Certification No. PN-0144A)  
ISA Municipal Specialist (Certification No. PN-0144AM)  
ISA Tree Risk Assessment Qualified  
Certified Master Woodland Manager (Small Woodlands Program of BC)



## Soil Description - 515 Foul Bay

**Soil Pit #1 description (40X40cm pit, 4m north-west of Oak 19)**

**Depth to the bedrock +80cm.**

**Soil profile and Texture:**

LFH: 1cm

Ah: 0-4cm Silt-loam

ABh: 4-6cm Silt-loam

B: 6-45cm Silt-loam

C: 45-80+cm

**Structure:** very fine to fine granular

**Percent coarse fragments (>2mm diam.):** gravel sub-rounded 35%.

**Tree roots** are located in the top 45-50cm with an abundant presence of all size classes: very fine (<1mm), fine (1-2mm), medium (3-10mm) and coarse (>10mm).



Fig. 1. Pit #1 soil profile.

**Soil Pit #2 description (40X40cm pit, 13m south of Arbutus 20)**

**Depth to the bedrock** 30cm.

**Soil profile and Texture:**

LFH: 4cm

Ah: 0-6cm Silt-loam

ABh: 6-10cm Silt-loam

B: 10-30cm Silt-loam

**Structure:** very fine to fine granular

**Percent coarse fragments (>2mm diam.):** gravel sub-rounded 30%.

**Tree roots** are located in the top 30cm with an abundant presence of all size classes: very fine (<1mm), fine (<1mm), fine (1-2mm), medium (3-10mm) and coarse (>10mm).



Fig. 2. Pit #2 soil profile.

**Soil Pit #3 description (40X40cm pit, 3m north of Oak 28)**

**Depth to the bedrock** +80cm.

**Soil profile and Texture:**

Sod: 4cm

Ah: 0-4cm Silt-loam

ABh: 4-10cm Silt-loam

B: 10-60cm Silt-loam

C: 60-70+cm

**Structure:** very fine to fine granular

**Percent coarse fragments (>2mm diam.):** gravel sub-rounded 40%.



**Tree roots** are located in the top 60cm with an abundant presence of all size classes: very fine (<1mm), fine (1-2mm), medium (3-10mm) and coarse (>10mm).



Fig. 3. Pit #3 soil profile.

**Soil Pit #4 description (20X300cm pit, 7m east of Oak 23).**

This trench was designed to capture the root extend of tree # 23 and #24 and was excavated using a compressed air-spade.

**Depth to the bedrock 30+cm.**

**Soil profile and Texture:**

Sod: 4cm

Ah: 0-2cm Silt-loam

ABh: 2-10cm Silt-loam

B: 10-30+cm Silt-loam

**Structure:** very fine to fine granular

**Percent coarse fragments (>2mm diam.):** gravel sub-rounded 30%.

**Tree roots** are located in the top 30cm with an abundant presence of all size classes: very fine (<1mm), fine (1-2mm), medium (3-10mm) and coarse (>10mm).



Fig. 4. Pit #4 overview.



Fig. 5. Pit #4 roots extend detail.



**Soil Sample #5 description:**

This sample is located on the exposed rock with no soil. A thin layer of moss is present.



Fig. 6. Pit #5 location details.



