



Talbot Mackenzie & Associates
Consulting Arborists

Arborist Report

1201 Fort Street, Victoria

PREPARED FOR: Sam Ganong
Abstract Developments Inc.
301-1106 Cook St.
Victoria, BC V8V 3Z9

PREPARED BY: Talbot, Mackenzie & Associates
Graham Mackenzie – Consulting Arborist
ISA Certified # PN-0428A
TRAQ – Qualified

October 10, 2017

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October 10, 2017

Abstract Developments Inc.
301-1106 Cook St.
Victoria, BC V8V 3Z9

Attention: Sam Ganong

Re: 1201 Fort Street

Assignment: To tag and inventory the existing tree resource on the above-mentioned property. Review the proposed construction plans and identify those trees that are suitable to retain given their species, their existing health and structural condition and the proposed impacts. Provide a tree retention and construction damage mitigation plan for those trees deemed suitable to retain.

Methodology: All the bylaw protected trees on the property were tagged with a numbered metal tag and the tree locations are shown on the attached site sketch. Information such as tree species, size (dbh), crown spread, critical root zone (crz), health and structural condition, relative tolerance to construction impacts and general remarks and recommendations was recorded in the attached tree resource spreadsheet.

Observations: The property is well treed, with a mixture of native and non-native mature tree species. For the most part, the tree resource is in general good health with many of the structural and health concerns that we often find with trees in the urban environment including: deadwood, end weight and decay associated with old pruning wounds. Most of these concerns can be addressed using standard pruning practices. As part of the inventory, we identified 51 trees on the property, 23 of which are protected by the City of Victoria tree bylaw. The proposal we have reviewed has the potential to retain 22 of the trees, 13 of which are protected by the City of Victoria tree bylaw. All but one Garry Oak trees on the property are proposed for retention. In a recent site visit, we added an additional small Arbutus tree to the inventory that was not picked up in the initial survey.

The proposed underground parking entrance will encroach into the critical root zone of English Oak #2. Preliminary exploratory excavations conducted on August 24, 2017 indicate the proposed grades can be reached without impacting significant structural roots or removing a quantity of roots that would necessitate the tree's removal. The ability to retain this tree will have to be determined at the time of excavation for construction, but we anticipate it will be possible.

Portions of the underground parking area encroach in to some of the calculated critical root zones of trees designated for retention and efforts will have to be made to minimize this encroachment wherever possible. This will likely require using shoring techniques to achieve the proposed excavation depths without the need of cut slopes and minimizing the required working wherever possible. Where the proposed underground parking area encroaches into the calculated critical root zones of trees #25 and #28, there is an existing foundation and a rock outcrop that we feel has inhibited root growth in that area. From our discussions with the project architect, it is our understanding that the excavation for

the underground parking area in this location will not extend past the previous building foundation (see attached sketch).

Potential Impacts: In order to facilitate the proposed construction, we anticipate that it will be necessary to remove 29 of the trees that were inventoried, 10 of which are protected by the City of Victoria tree bylaw. The ability to retain the remaining trees will depend on the ability to protect them from the impacts associated with the proposed demolition and construction activity. The construction related activities that will have the most significant impacts on the ability to retain these trees includes: excavation for the proposed new building, underground parking and any below ground servicing that must be installed near trees to be retained.

Areas where we feel the most significant tree retention and construction conflicts will occur include:

- The entrance driveway off Fort Street where it encroaches into the critical root zone of trees #1 and #2.
- The excavation and construction activity related to the portion of the underground parking below Building A where it encroaches into the critical root zone of tree #12.
- The entrance off Pentrelew Place where it encroaches into the critical root zones of trees #28 and #25.
- The excavation and construction activity related to the portion of the underground parking below Building A where it encroaches into the critical root zone of tree #35.
- Any proposed excavation for servicing or landscape grade changes that may be proposed within the critical root zones of trees to be retained.

Recommendations:

- **Barrier fencing:** The areas, surrounding the trees to be retained, should be isolated from the construction activity by erecting protective barrier fencing. Where possible, the fencing should be erected at the perimeter of the critical root zones. The barrier fencing to be erected must be a minimum of 4 feet in height, of solid frame construction that is attached to wooden or metal posts. A solid board or rail must run between the posts at the top and the bottom of the fencing. This solid frame can then be covered with plywood, or flexible snow fencing (see attached diagram). The fencing must be erected prior to the start of any construction activity on site (i.e. demolition, excavation, construction), and remain in place through completion of the project. Signs should be posted around the protection zone to declare it off limits to all construction related activity. The project arborist must be consulted before this fencing is removed or moved for any purpose.

- **Demolition of existing building:** (See Demolition recommendations dated September 11, 2017). The demolition of the existing buildings and any services that must be removed or abandoned, must take the critical root zone of the trees to be retained into account. If any excavation or machine access is required within the critical root zones of trees to be retained, it must be completed under the supervision and direction of the project arborist.
- **Methods to avoid soil compaction:** In areas where construction traffic must encroach into the critical root zones of trees to be retained, efforts must be made to reduce soil compaction where possible by displacing the weight of machinery and foot traffic. This can be achieved by one of the following methods:
 - Installing a layer of hog fuel at least 20 cm in depth and maintaining it in good condition until construction is complete.
 - Placing medium weight geotextile cloth over the area to be used and installing a layer of crushed rock to a depth of 15 cm over top.
 - Placing two layers of 19mm plywood.
 - Placing steel plates.
- **Underground Parking excavation:** The excavation for the portions of the underground parking that encroach into the critical root zones of trees to be retained, must be supervised by the project arborist. To minimize the extent of the excavation, it will likely be necessary to use shoring techniques or similar methods to reduce the requirements for cut slope. Any roots critical to the trees survival must be retained and any non-critical roots in direct conflict with the excavation must be pruned to sound tissue to encourage new root growth. It may be necessary to excavate using a combination of hand digging, small machine excavation and hydro excavation to expose roots in conflict with the proposed excavation and determine if they can or cannot be pruned without having a significant impact on the trees. If it is found that large structural roots must be pruned to accommodate the proposed construction, it may be necessary to remove additional trees to eliminate any risk associated with them.
- **Blasting and rock removal:** At this time, we anticipate that blasting will be required adjacent to the trees that are to be retained. If areas of bedrock are encountered, the blasting to level these rock areas should be sensitive to the root zones located at the edge of the rock. Care must be taken to assure that the area of blasting does not extend into the critical root zones beyond the building and road footprints. The use of small low-concussion charges, and multiple small charges designed to pre-shear the rock face, will reduce fracturing, ground vibration, and reduce the impact on the surrounding environment. Only explosives of low phytotoxicity, and techniques that minimize tree damage, are to be used. Provisions must be made to store blast rock, and other construction materials and debris, away from critical tree root zones.

- **Proposed driveway entrance off Fort Street:** Based on the exploratory excavation we conducted on August 24, 2017, the proposed grades for the driveway entrance to the underground parking area can be reached without impacting significant structural roots or removing a quantity of roots that would necessitate the tree's removal. Therefore, we anticipate the tree can be retained, but this will have to be determined at the time of excavation. If during excavation it is determined that the tree can be retained, we recommend the portions of driveway where roots can be retained be constructed using minimal excavation completed under the direction of the projection arborist and incorporate floating permeable driveway techniques (see attached specifications).
- **The proposed entrance off Pentrelew Place:** It is our understanding that this proposed entrance has taken the existing critical root zones and soil grades into consideration, and minimal root disturbance is anticipated. Any proposed excavation within the critical root zones of the trees to be retained in this area must be reviewed and supervised by the project arborist.
- **Arborist supervision:** Any excavation that is proposed within the critical root zone of the trees to be retained must be supervised by the project arborist. Any roots critical to the trees survival must be retained and any non-critical roots in direct conflict with the excavation must be pruned to sound tissue to encourage new root growth. It may be necessary to excavate using a combination of hand digging, small machine excavation and hydro excavation to expose roots in conflict with the proposed excavation and determined if they can be pruned or not without having a significant impact on the trees. If it is found that large structural roots must be pruned to accommodate the proposed construction, it may be necessary to remove additional trees to eliminate any risk associated with them.
- **Servicing:** There are no servicing details shown on the plans provided, but it is our understanding that they are to be located outside of the critical root zone of trees to be retained. If services must be located within the critical root zones of trees to be retained it must be reviewed with the project arborist. Installing services within critical root zones will likely require a combination of hand digging, small machine or hydro excavation. If significant roots are encountered that are critical to the health and stability of the trees and they cannot be retained, it may be necessary to remove additional trees.
- **Landscaping, irrigation, and lighting:** Any proposed landscaping, irrigation or lighting must take the critical root zones of trees to be retained into consideration. Any proposed grade changes or excavations within the critical root zones of trees to be retained must be reviewed by the project arborist. If determined that the proposed work can be completed without having a significant impact on trees to be retained, a plan will be provided by the project arborist on how to proceed.

- **Pathways and hardscape within critical root zones:** In areas that are proposed for pathways or patios over the critical root zones of trees to be retained, we recommend that floating permeable paving techniques are used. See attached specifications. (The exact specifications may change during the construction phase depending on the extent of the proposed paving).
- **Concrete work:** Provisions must be made to ensure that no concrete wash or left over concrete material be permitted to wash into the root zone of the trees. This may involve using plastic or tarps or similar methods to temporarily isolate the root zones of the trees from any of the concrete installation or finishing work.
- **Pruning:** It will likely be necessary to prune limbs from several of the trees to be retained that are close to the proposed new buildings. The buildings have been located so that any pruning should be minimized, and we do not anticipate that this pruning will have a significant impact on the health or structure of the trees. We recommend that any pruning be reviewed by the project arborist and be completed by an ISA Certified arborist.
- **Arborist Role:** It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:
 - Locating the barrier fencing
 - Reviewing the report with the project foreman or site supervisor
 - Locating work zones, where required
 - Supervising any excavation for the road upgrades and service footprints that are within the critical root zones of trees to be retained.
 - Reviewing and advising of any pruning requirements for machine clearances.
- **Review and site meeting:** Once the project receives approval, it is important that the project arborist meet with the principals involved in the project to review the information contained herein. It is also important that the arborist meet with the site foreman or supervisor before any demolition, site clearing or other construction activity occurs.

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. 1-page site plan with tree locations, 1-page landscaping plan, 1-page proposed underground in relation to existing foundation, 6-page tree resource spreadsheet, 1-page floating driveway and patio specifications, 1-page barrier fencing specifications, demolition 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 or 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.

TREE RESOURCE
1201 Fort Street

Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread (m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations	Bylaw protected	To be retained	On-site
0001	52	6.0	Big Leaf maple	17.0	Good	Fair	Moderate	Ivy covered at base. Paved over 30% of root system, competing with oak 0002.	No	Yes	No
0002	91	9.0	English oak	19.0	Fair	Fair	Good	Previously topped, large deadwood, visible decay at base.	Yes	Yes	Yes
0003	45	5.5	Deodar cedar	9.0	Good	Good	Moderate	Relatively young tree.	No	No	Yes
0004	32, 39, 33, 31	7.0	Scotts pine	10.0	Fair	Fair/poor	Moderate	Included bark in main union, small deadwood.	Yes	No	Yes
0005	25	4.0	Douglas-fir	5.0	Fair/poor	Fair	Poor	Young tree, sparse foliage.	No	No	Yes
0006	21, 27, 47	7.0	Big Leaf maple	10.0	Poor	Poor	Moderate	Sparse foliage, insect damage.	Yes	Yes	No
0007	48	6.0	Big Leaf maple	9.0	Fair/good	Fair	Moderate	Large deadwood.	No	Yes	No
0008	64	6.5	Garry oak	12.0	Good	Fair	Good	Asymmetric crown, some endweighted limbs.	Yes	Yes	No
0009	43	4.5	Red oak	13.0	Fair	Fair	Good	Large deadwood.	No	Yes	Yes
0010	47, 55	7.0	Incense cedar	8.0	Fair	Fair	Moderate	Co-dominant.	Yes	Yes	Yes

Prepared by:

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TREE RESOURCE
1201 Fort Street

Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread (m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations	Bylaw protected	To be retained	On-site
0011	38	4.5	Ponderosa pine	8.0	Fair	Fair	Moderate	Multiple tops, shaded by incense cedar 0010.	No	No	Yes
0012	97	9.5	Garry oak	18.0	Fair	Fair	Good	Previous tearout injury, large deadwood, sparse.	Yes	Yes	Yes
0013	71	7.0	Copper beech	15.0	Good	Good	Good	Some deadwood.	No	No	Yes
0014	134	16.0	Sequoiadendron Giganteum	11.0	Fair	Fair/poor	Moderate	Nesting hole, possible internal cavities, seam, cracked limbs. Closer examination recommended.	Yes	No	Yes
0015	138	16.5	Sequoiadendron Giganteum	10.0	Fair	Fair	Moderate	Sparse at top, pitching from lower trunk.	Yes	No	Yes
0016	38	4.5	Chamaecyparis	5.0	Good	Good	Moderate	Some ivy.	No	No	Yes
0017	44	5.5	Chamaecyparis	6.0	Good	Good	Moderate	Some ivy.	No	No	Yes
0018	31	4.0	Shore pine	6.0	Fair	Fair	Moderate	Ivy up main trunk, co-dominant top.	No	No	Yes
0019	41, 42	6.0	Chamaecyparis	8.0	Fair	Fair	Moderate	Co-dominant, multiple tops.	No	No	Yes
0020	50	6.0	Western Red cedar	9.0	Fair/poor	Fair	Moderate	Dead top.	No	Yes	Yes

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1201 Fort Street

Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread (m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations	Bylaw protected	To be retained	On-site
0021	24	3.5	Birch	7.0	Fair	Fair	Poor	Some deadwood.	No	Yes	Yes
0022	35	5.5	Birch	12.0	Fair	Fair	Poor	Some deadwood, wires embedded in trunk.	No	Yes	Yes
0023	42	5.0	Atlas cedar	8.0	Fair	Fair	Moderate	Recent large stem tearout.	No	No	Yes
0024	38	4.5	Chamaecyparis	6.0	Fair	Fair	Moderate	Shaded by 0023 and 0025.	No	No	Yes
0025	121	14.5	Monterey cypress	20.0	Fair	Fair	Moderate	Included bark, some end-weight.	Yes	Yes	Yes
0026	34	4.0	Incense cedar	7.0	Good	Fair	Moderate	Some shading from 0025.	No	No	Yes
0027	44	5.5	Dogwood	5.0	Fair	Fair	Moderate	Multiple tops, some decay in old wounds, wound in lower trunk.	Yes	Yes	Yes
0028	92	9.0	Red oak	22.0	Fair	Fair	Good	Large deadwood.	Yes	Yes	Yes
0029	152	18.0	Incense cedar	15.0	Good	Fair	Moderate	Multiple stems, may have been topped previously, possible decay.	Yes	No	Yes
0030	82	12.5	Douglas-fir	12.0	Fair	Fair/poor	Poor	Conflicting with retaining wall, end-weighted limbs.	Yes	No	Yes

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread (m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations	Bylaw protected	To be retained	On-site
0031	64	9.5	Douglas-fir	10.0	Fair	Fair	Poor	Surface rooted.	Yes	No	Yes
0032	54	6.5	Chamaecyparis	6.0	Good	Fair	Moderate	One sided form.	No	No	Yes
0033	32	4.0	Chamaecyparis	5.0	Good	Fair	Moderate	One sided form.	No	No	Yes
0034	117	12.0	English oak	18.0	Good	Fair	Good	Large deadwood, broken limbs over driveway.	Yes	No	Yes
0035	69	7.0	Garry oak	18.0	Fair	Fair	Good	Sparse foliage, insect damage, some end-weight, large deadwood.	Yes	Yes	Yes
0036	76	7.5	Garry oak	15.0	Good	Fair	Good	Asymmetric form, large deadwood, weighted toward neighbouring property.	Yes	Yes	Yes
0037	51	5.0	Garry oak	10.0	Good	Fair	Good	Large deadwood, some loose bark.	Yes	Yes	Yes
0038	45	4.5	Garry oak	10.0	Good	Fair	Good	Asymmetric form, small deadwood.	Yes	Yes	Yes
0039	40	4.0	Garry oak	7.0	Fair/good	Fair/good	Good	Some epicormic growth.	Yes	Yes	Yes
0040	51	5.0	Garry oak	7.0	Fair/good	Fair/good	Good	Large deadwood, epicormic growth.	Yes	Yes	Yes

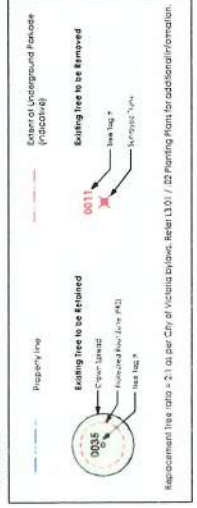
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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread (m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations	Bylaw protected	To be retained	On-site
0041	36	4.5	Pine	5.0	Good	Fair	Moderate	Deflected top.	No	No	Yes
0042	94	9.5	Garry oak	17.0	Fair	Fair	Good	Some insect damage, sparse foliage, large deadwood, decay associated with old pruning wounds.	Yes	No	Yes
No tag 1	13, 22	3.0	Crab apple	6.0	Fair	Fair	Moderate	Old pruning wounds with surface decay.	No	No	Yes
No tag 2	39	4.5	Chamaecyparis	5.0	Good	Fair/Poor	Moderate	Included bark at co-dominant stem union.	No	No	Yes
No tag 3	Multi stems	5.0	Port Laurel	12.0	Fair	Fair/Poor	Good	Recent large stem failure - internal decay visible at point of failure, Likely decay in additional stems.	No	No	Yes
No tag 4	13, 14	3.0	Spruce	4.0	Fair	Fair/Poor	Moderate	Co-dominant, one-sided canopy, sparse interior foliage.	No	No	Yes
No tag 5	25	3.5	Cherry	6.0	Fair	Fair	Moderate	Evidence of cherry bark tortrix.	No	No	Yes
No tag 6	35	3.5	Pine	4.0	Fair	Fair	Good	Located on neighbouring property	No	Yes	No
No tag 7	25	3.0	Pine	4.0	Fair	Fair	Good	Located on neighbouring property	No	Yes	No
No tag 8	24	3.0	Pine	4.0	Fair	Fair	Good	Located on neighbouring property	No	Yes	No

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Tree #	d.b.h. (cm)	CRZ	Species	Crown Spread (m)	Condition Health	Condition Structure	Relative Tolerance	Remarks / Recommendations	Bylaw protected	To be retained	On-site
No tag 9	3	2.0	Arbutus	1.0	Good	Fair	Poor	Small tree, may be able to try to transplant	Yes	No	Yes

LEGEND



EXISTING TREE INVENTORY*

* Based on Tree Inventory Report from Sabot MacKenzie, dated April 28, 2016. Refer to Arborist Report for details on tree conditions and Arborist recommendations.

TIME TAG #	DBH (cm)	PIZ (radius in m)	SPECIES	CROWN SPREAD (m)	STATUS
0001*	5.3	6.0	Big Leaf Maple	17.0	11A
0002*	9.1	9.0	Brown Pine	10.0	Brown Pine
0003*	21.27	4.2	Big Leaf Maple	9.0	11A
0004*	4.8	4.0	Big Leaf Maple	9.0	11A
0005*	4.8	4.0	Big Leaf Maple	9.0	11A
0006*	4.8	4.0	Big Leaf Maple	9.0	11A
0007*	4.8	4.0	Big Leaf Maple	9.0	11A
0008*	4.8	4.0	Big Leaf Maple	9.0	11A
0009*	4.8	4.0	Big Leaf Maple	9.0	11A
0010*	4.8	4.0	Big Leaf Maple	9.0	11A
0011*	4.8	4.0	Big Leaf Maple	9.0	11A
0012*	4.8	4.0	Big Leaf Maple	9.0	11A
0013*	4.8	4.0	Big Leaf Maple	9.0	11A
0014*	4.8	4.0	Big Leaf Maple	9.0	11A
0015*	4.8	4.0	Big Leaf Maple	9.0	11A
0016*	4.8	4.0	Big Leaf Maple	9.0	11A
0017*	4.8	4.0	Big Leaf Maple	9.0	11A
0018*	4.8	4.0	Big Leaf Maple	9.0	11A
0019*	4.8	4.0	Big Leaf Maple	9.0	11A
0020*	4.8	4.0	Big Leaf Maple	9.0	11A
0021*	4.8	4.0	Big Leaf Maple	9.0	11A
0022*	4.8	4.0	Big Leaf Maple	9.0	11A
0023*	4.8	4.0	Big Leaf Maple	9.0	11A
0024*	4.8	4.0	Big Leaf Maple	9.0	11A
0025*	4.8	4.0	Big Leaf Maple	9.0	11A
0026*	4.8	4.0	Big Leaf Maple	9.0	11A
0027*	4.8	4.0	Big Leaf Maple	9.0	11A
0028*	4.8	4.0	Big Leaf Maple	9.0	11A
0029*	4.8	4.0	Big Leaf Maple	9.0	11A
0030*	4.8	4.0	Big Leaf Maple	9.0	11A
0031*	4.8	4.0	Big Leaf Maple	9.0	11A
0032*	4.8	4.0	Big Leaf Maple	9.0	11A
0033*	4.8	4.0	Big Leaf Maple	9.0	11A
0034*	4.8	4.0	Big Leaf Maple	9.0	11A
0035*	4.8	4.0	Big Leaf Maple	9.0	11A
0036*	4.8	4.0	Big Leaf Maple	9.0	11A
0037*	4.8	4.0	Big Leaf Maple	9.0	11A
0038*	4.8	4.0	Big Leaf Maple	9.0	11A
0039*	4.8	4.0	Big Leaf Maple	9.0	11A
0040*	4.8	4.0	Big Leaf Maple	9.0	11A
0041*	4.8	4.0	Big Leaf Maple	9.0	11A
0042*	4.8	4.0	Big Leaf Maple	9.0	11A
0043*	4.8	4.0	Big Leaf Maple	9.0	11A
0044*	4.8	4.0	Big Leaf Maple	9.0	11A
0045*	4.8	4.0	Big Leaf Maple	9.0	11A
0046*	4.8	4.0	Big Leaf Maple	9.0	11A
0047*	4.8	4.0	Big Leaf Maple	9.0	11A
0048*	4.8	4.0	Big Leaf Maple	9.0	11A
0049*	4.8	4.0	Big Leaf Maple	9.0	11A
0050*	4.8	4.0	Big Leaf Maple	9.0	11A
0051*	4.8	4.0	Big Leaf Maple	9.0	11A
0052*	4.8	4.0	Big Leaf Maple	9.0	11A
0053*	4.8	4.0	Big Leaf Maple	9.0	11A
0054*	4.8	4.0	Big Leaf Maple	9.0	11A
0055*	4.8	4.0	Big Leaf Maple	9.0	11A
0056*	4.8	4.0	Big Leaf Maple	9.0	11A
0057*	4.8	4.0	Big Leaf Maple	9.0	11A
0058*	4.8	4.0	Big Leaf Maple	9.0	11A
0059*	4.8	4.0	Big Leaf Maple	9.0	11A
0060*	4.8	4.0	Big Leaf Maple	9.0	11A
0061*	4.8	4.0	Big Leaf Maple	9.0	11A
0062*	4.8	4.0	Big Leaf Maple	9.0	11A
0063*	4.8	4.0	Big Leaf Maple	9.0	11A
0064*	4.8	4.0	Big Leaf Maple	9.0	11A
0065*	4.8	4.0	Big Leaf Maple	9.0	11A
0066*	4.8	4.0	Big Leaf Maple	9.0	11A
0067*	4.8	4.0	Big Leaf Maple	9.0	11A
0068*	4.8	4.0	Big Leaf Maple	9.0	11A
0069*	4.8	4.0	Big Leaf Maple	9.0	11A
0070*	4.8	4.0	Big Leaf Maple	9.0	11A
0071*	4.8	4.0	Big Leaf Maple	9.0	11A
0072*	4.8	4.0	Big Leaf Maple	9.0	11A
0073*	4.8	4.0	Big Leaf Maple	9.0	11A
0074*	4.8	4.0	Big Leaf Maple	9.0	11A
0075*	4.8	4.0	Big Leaf Maple	9.0	11A
0076*	4.8	4.0	Big Leaf Maple	9.0	11A
0077*	4.8	4.0	Big Leaf Maple	9.0	11A
0078*	4.8	4.0	Big Leaf Maple	9.0	11A
0079*	4.8	4.0	Big Leaf Maple	9.0	11A
0080*	4.8	4.0	Big Leaf Maple	9.0	11A
0081*	4.8	4.0	Big Leaf Maple	9.0	11A
0082*	4.8	4.0	Big Leaf Maple	9.0	11A
0083*	4.8	4.0	Big Leaf Maple	9.0	11A
0084*	4.8	4.0	Big Leaf Maple	9.0	11A
0085*	4.8	4.0	Big Leaf Maple	9.0	11A
0086*	4.8	4.0	Big Leaf Maple	9.0	11A
0087*	4.8	4.0	Big Leaf Maple	9.0	11A
0088*	4.8	4.0	Big Leaf Maple	9.0	11A
0089*	4.8	4.0	Big Leaf Maple	9.0	11A
0090*	4.8	4.0	Big Leaf Maple	9.0	11A
0091*	4.8	4.0	Big Leaf Maple	9.0	11A
0092*	4.8	4.0	Big Leaf Maple	9.0	11A
0093*	4.8	4.0	Big Leaf Maple	9.0	11A
0094*	4.8	4.0	Big Leaf Maple	9.0	11A
0095*	4.8	4.0	Big Leaf Maple	9.0	11A
0096*	4.8	4.0	Big Leaf Maple	9.0	11A
0097*	4.8	4.0	Big Leaf Maple	9.0	11A
0098*	4.8	4.0	Big Leaf Maple	9.0	11A
0099*	4.8	4.0	Big Leaf Maple	9.0	11A
0100*	4.8	4.0	Big Leaf Maple	9.0	11A

REMOVED TREES

TIME TAG #	DBH (cm)	PIZ (radius in m)	SPECIES	CROWN SPREAD (m)	STATUS
0001	4.0	3.0	Big Leaf Maple	9.0	11A
0002	3.0	2.0	Big Leaf Maple	9.0	11A
0003	3.0	2.0	Big Leaf Maple	9.0	11A
0004	3.0	2.0	Big Leaf Maple	9.0	11A
0005	3.0	2.0	Big Leaf Maple	9.0	11A
0006	3.0	2.0	Big Leaf Maple	9.0	11A
0007	3.0	2.0	Big Leaf Maple	9.0	11A
0008	3.0	2.0	Big Leaf Maple	9.0	11A
0009	3.0	2.0	Big Leaf Maple	9.0	11A
0010	3.0	2.0	Big Leaf Maple	9.0	11A
0011	3.0	2.0	Big Leaf Maple	9.0	11A
0012	3.0	2.0	Big Leaf Maple	9.0	11A
0013	3.0	2.0	Big Leaf Maple	9.0	11A
0014	3.0	2.0	Big Leaf Maple	9.0	11A
0015	3.0	2.0	Big Leaf Maple	9.0	11A
0016	3.0	2.0	Big Leaf Maple	9.0	11A
0017	3.0	2.0	Big Leaf Maple	9.0	11A
0018	3.0	2.0	Big Leaf Maple	9.0	11A
0019	3.0	2.0	Big Leaf Maple	9.0	11A
0020	3.0	2.0	Big Leaf Maple	9.0	11A
0021	3.0	2.0	Big Leaf Maple	9.0	11A
0022	3.0	2.0	Big Leaf Maple	9.0	11A
0023	3.0	2.0	Big Leaf Maple	9.0	11A
0024	3.0	2.0	Big Leaf Maple	9.0	11A
0025	3.0	2.0	Big Leaf Maple	9.0	11A
0026	3.0	2.0	Big Leaf Maple	9.0	11A
0027	3.0	2.0	Big Leaf Maple	9.0	11A
0028	3.0	2.0	Big Leaf Maple	9.0	11A
0029	3.0	2.0	Big Leaf Maple	9.0	11A
0030	3.0	2.0	Big Leaf Maple	9.0	11A
0031	3.0	2.0	Big Leaf Maple	9.0	11A
0032	3.0	2.0	Big Leaf Maple	9.0	11A
0033	3.0	2.0	Big Leaf Maple	9.0	11A
0034	3.0	2.0	Big Leaf Maple	9.0	11A
0035	3.0	2.0	Big Leaf Maple	9.0	11A
0036	3.0	2.0	Big Leaf Maple	9.0	11A
0037	3.0	2.0	Big Leaf Maple	9.0	11A
0038	3.0	2.0	Big Leaf Maple	9.0	11A
0039	3.0	2.0	Big Leaf Maple	9.0	11A
0040	3.0	2.0	Big Leaf Maple	9.0	11A
0041	3.0	2.0	Big Leaf Maple	9.0	11A
0042	3.0	2.0	Big Leaf Maple	9.0	11A
0043	3.0	2.0	Big Leaf Maple	9.0	11A
0044	3.0	2.0	Big Leaf Maple	9.0	11A
0045	3.0	2.0	Big Leaf Maple	9.0	11A
0046	3.0	2.0	Big Leaf Maple	9.0	11A
0047	3.0	2.0	Big Leaf Maple	9.0	11A
0048	3.0	2.0	Big Leaf Maple	9.0	11A
0049	3.0	2.0	Big Leaf Maple	9.0	11A
0050	3.0	2.0	Big Leaf Maple	9.0	11A
0051	3.0	2.0	Big Leaf Maple	9.0	11A
0052	3.0	2.0	Big Leaf Maple	9.0	11A
0053	3.0	2.0	Big Leaf Maple	9.0	11A
0054	3.0	2.0	Big Leaf Maple	9.0	11A
0055	3.0	2.0	Big Leaf Maple	9.0	11A
0056	3.0	2.0	Big Leaf Maple	9.0	11A
0057	3.0	2.0	Big Leaf Maple	9.0	11A
0058	3.0	2.0	Big Leaf Maple	9.0	11A
0059	3.0	2.0	Big Leaf Maple	9.0	11A
0060	3.0	2.0	Big Leaf Maple	9.0	11A
0061	3.0	2.0	Big Leaf Maple	9.0	11A
0062	3.0	2.0	Big Leaf Maple	9.0	11A
0063	3.0	2.0	Big Leaf Maple	9.0	11A
0064	3.0	2.0	Big Leaf Maple	9.0	11A
0065	3.0	2.0	Big Leaf Maple	9.0	11A
0066	3.0	2.0	Big Leaf Maple	9.0	11A
0067	3.0	2.0	Big Leaf Maple	9.0	11A
0068	3.0	2.0	Big Leaf Maple	9.0	11A
0069	3.0	2.0	Big Leaf Maple	9.0	11A
0070	3.0	2.0	Big Leaf Maple	9.0	11A
0071	3.0	2.0	Big Leaf Maple	9.0	11A
0072	3.0	2.0	Big Leaf Maple	9.0	11A
0073	3.0	2.0	Big Leaf Maple	9.0	11A
0074	3.0	2.0	Big Leaf Maple	9.0	11A
0075	3.0	2.0	Big Leaf Maple	9.0	11A
0076	3.0	2.0	Big Leaf Maple	9.0	11A
0077	3.0	2.0	Big Leaf Maple	9.0	11A
0078	3.0	2.0	Big Leaf Maple	9.0	11A
0079	3.0	2.0	Big Leaf Maple	9.0	11A
0080	3.0	2.0	Big Leaf Maple	9.0	11A
0081	3.0	2.0	Big Leaf Maple	9.0	11A
0082	3.0	2.0	Big Leaf Maple	9.0	11A
0083	3.0	2.0	Big Leaf Maple	9.0	11A
0084	3.0	2.0	Big Leaf Maple	9.0	11A
0085	3.0	2.0	Big Leaf Maple	9.0	11A
0086	3.0	2.0	Big Leaf Maple	9.0	11A
0087	3.0	2.0	Big Leaf Maple	9.0	11A
0088	3.0	2.0	Big Leaf Maple	9.0	11A
0089	3.0	2.0	Big Leaf Maple	9.0	11A
0090	3.0	2.0	Big Leaf Maple	9.0	11A
0091	3.0	2.0	Big Leaf Maple	9.0	11A
0092	3.0	2.0	Big Leaf Maple	9.0	11A
0093	3.0	2.0	Big Leaf Maple	9.0	11A
0094	3.0	2.0	Big Leaf Maple	9.0	11A
0095	3.0	2.0	Big Leaf Maple	9.0	11A
0096	3.0	2.0	Big Leaf Maple	9.0	11A
0097	3.0	2.0	Big Leaf Maple	9.0	11A
0098	3.0	2.0	Big Leaf Maple	9.0	11A
0099	3.0	2.0	Big Leaf Maple	9.0	11A
0100	3.0	2.0	Big Leaf Maple	9.0	11A

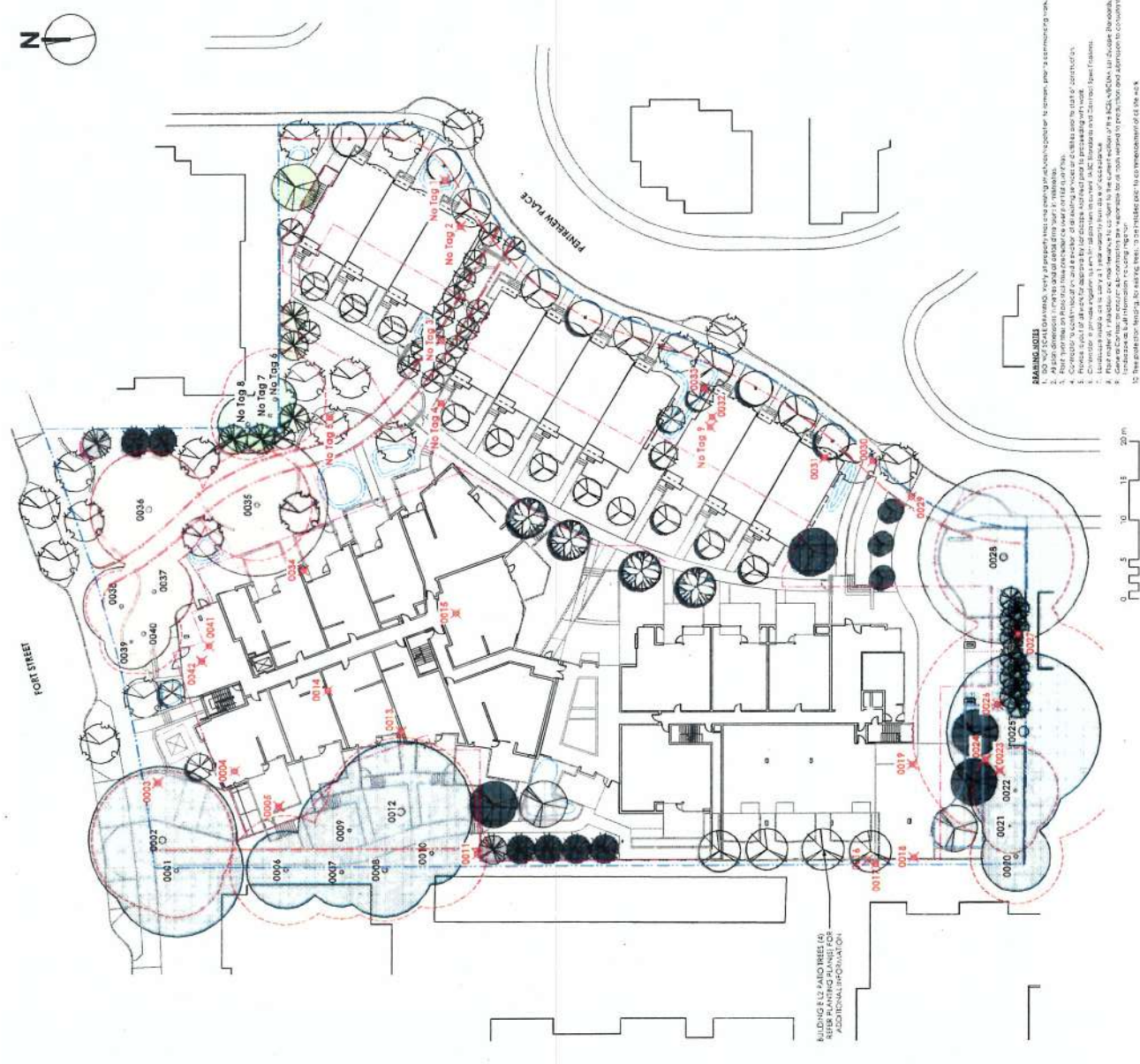
REPLACEMENT TREES

Replacement tree ratio = 2:1 as per City of Victoria bylaw.

TOTAL REMOVED TREES: 20

TOTAL REPLACEMENT TREES: 40

TOTAL NEW TREES: 20



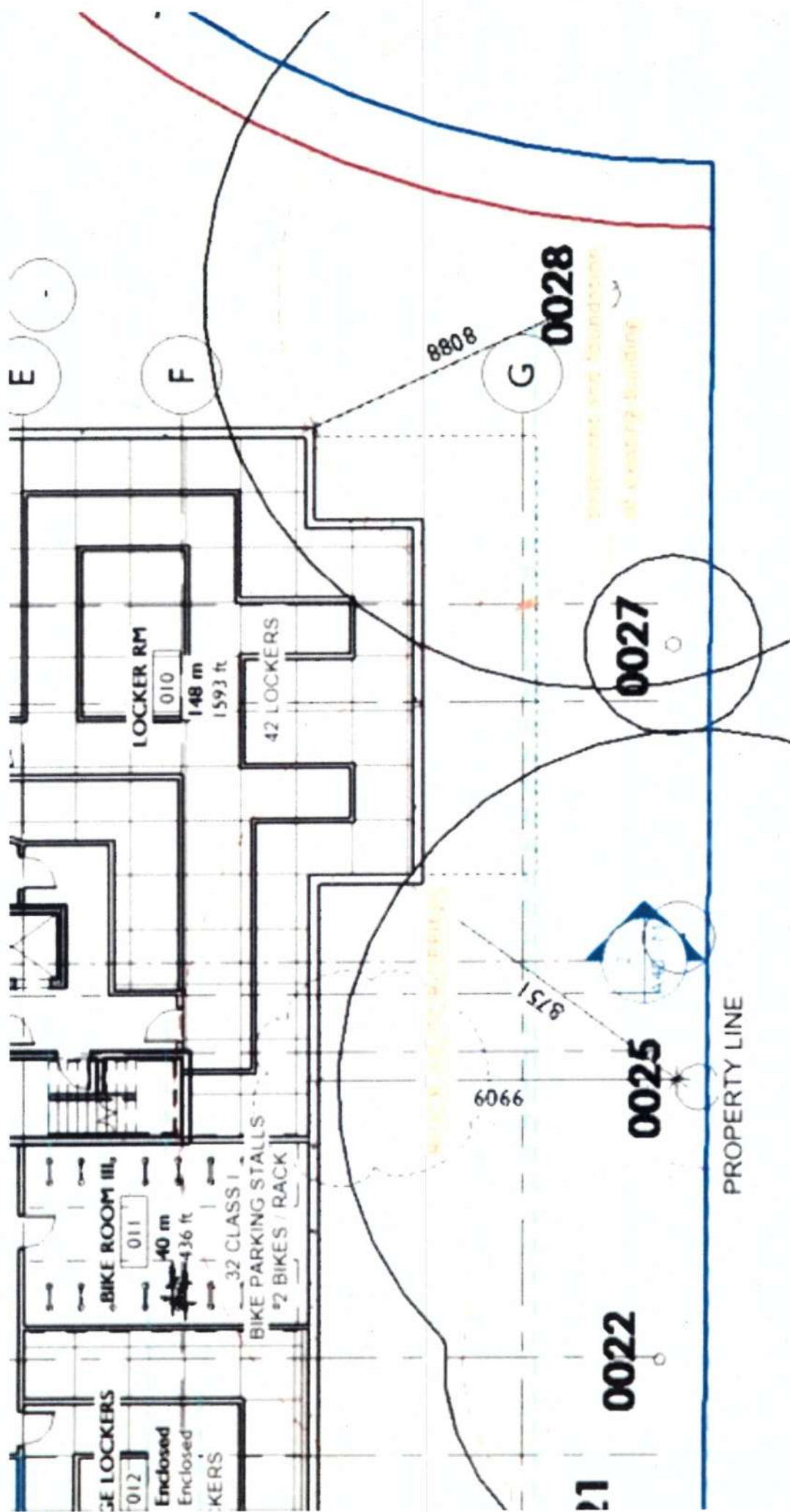
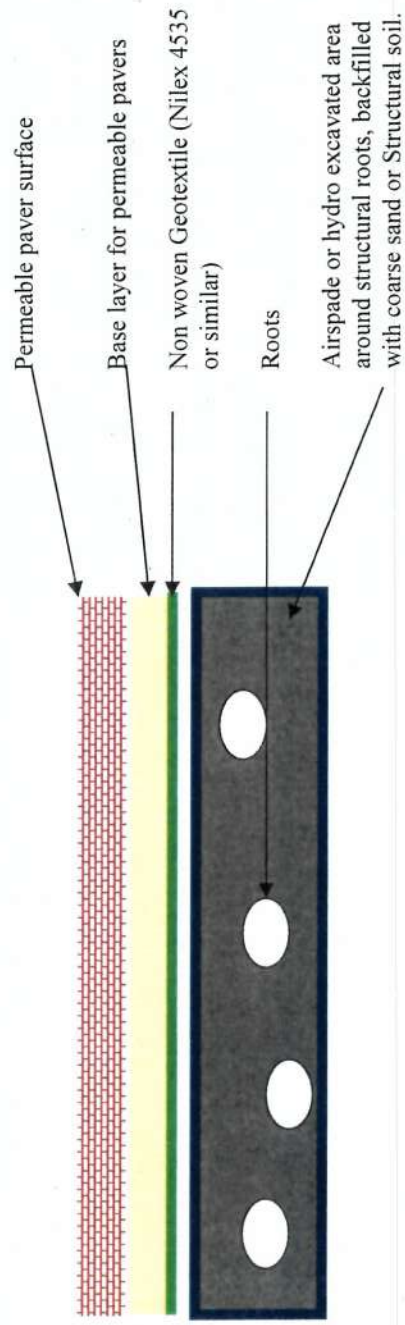


Diagram –Permeable paver driveway crossing over Critical Root Zone



Specifications for permeable paver driveway crossing over critical root zone

1. Excavate to a 6-8 inch depth, for the required permeable driveway surface, under the supervision of an ISA Certified Arborist.
2. Excavation for area around structural roots with an Airspade or by Hydro Excavation to bearing layer of soil if required.
3. Backfill area around roots with coarse sand or a structural soil mix
4. A layer of medium weight non woven Geotextile (Nilex 4535 or similar) is to be installed over the backfilled area of the driveway.
5. Construct base layer and permeable surface over Geotextile layer to required grade.



Talbot Mackenzie & Associates

Consulting Arborists

September 11, 2017

Abstract Developments Inc.
301-1106 Cook St.
Victoria, BC V8V 3Z9

Attention: Sam Ganong

1201 Fort Street - Demolition

Assignment: To review the strategy for demolishing the existing buildings at 1201 Fort Street and comment on how the demolition may impact bylaw protected trees on the property. Provide recommendations for mitigating any impacts the proposed demolition activity may have on the existing trees.

Methodology and Observations: On September 5, 2017, we met with Kyle Ryan of Abstract Developments to review the plans for demolishing the existing buildings. It is our understanding that all of the excavators, trucks and bins that are to be used for the demolition can be located on the existing asphalt or within the existing building foot print once demolition commences. The site provides ample paved surfaces for demolition equipment and material storage and there are no plans to have any machinery outside of the paved areas or building footprints. Given this proposed strategy, we feel that any potential impacts to the existing tree resource can be mitigated with the following recommendations.

Recommendations:

- **Barrier fencing (see attached diagram):** The areas, surrounding the trees to be retained, should be isolated from the construction activity by erecting protective barrier fencing. Where possible, the fencing should be erected at the perimeter of the critical root zones. The barrier fencing can incorporate the construction fencing that is currently on site that has been used to keep the public out of the buildings during the hazardous material removal. The fencing must be erected prior to the start of any demolition activity on site, and remain in place through completion of the project. Signs should be posted around the protection zone to declare it off limits to all construction related activity. The project arborist must be consulted before this fencing is removed or moved for any purpose.

.../2

Box 48153 RPO Uptown
Victoria, BC V8Z 7H6
Ph: (250) 479-8733 ~ Fax: (250) 479-7050
Email: treehelp@telus.net

- **Demolition near trees:** In the areas that there is to be portions of buildings and foundations removed that are within the critical root zones of trees to be retained, the project arborist must be on site to supervise the removal. It must be completed in such a way that the critical root zones of the trees are not damaged and any significant roots encountered must be left in place. The project arborist will document any roots encountered and provide a memo on the findings.
- **Care of trees after demolition:** Once the buildings are removed any impacts to the trees to be retained can be better assessed. Remedial action may include installing soil and mulch to provide a better rooting environment for the trees that are impacted. At that time the arborist will provide a field report on the results of the demolition, detailing any impacts the demolition may have had on the existing trees and recommendations for maintaining and improving tree health.

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. 1-page barrier fencing locations

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 or 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.

BC LAND SURVEYORS SITE PLAN OF:

Civic: 1201 Fort Street

Lot A, Fairfield Farm Estate and Spring Ridge, Victoria, Plan 40449

Parcel Identifier: 000-185-011

Prepared for: VICTORIA TRUTH CENTRE INC

0 5 10 20

All distances are shown in metres.
The extended plot size of this plan
is 300m in width by 140m in height
(50m) when plotted at a scale of 1:250.



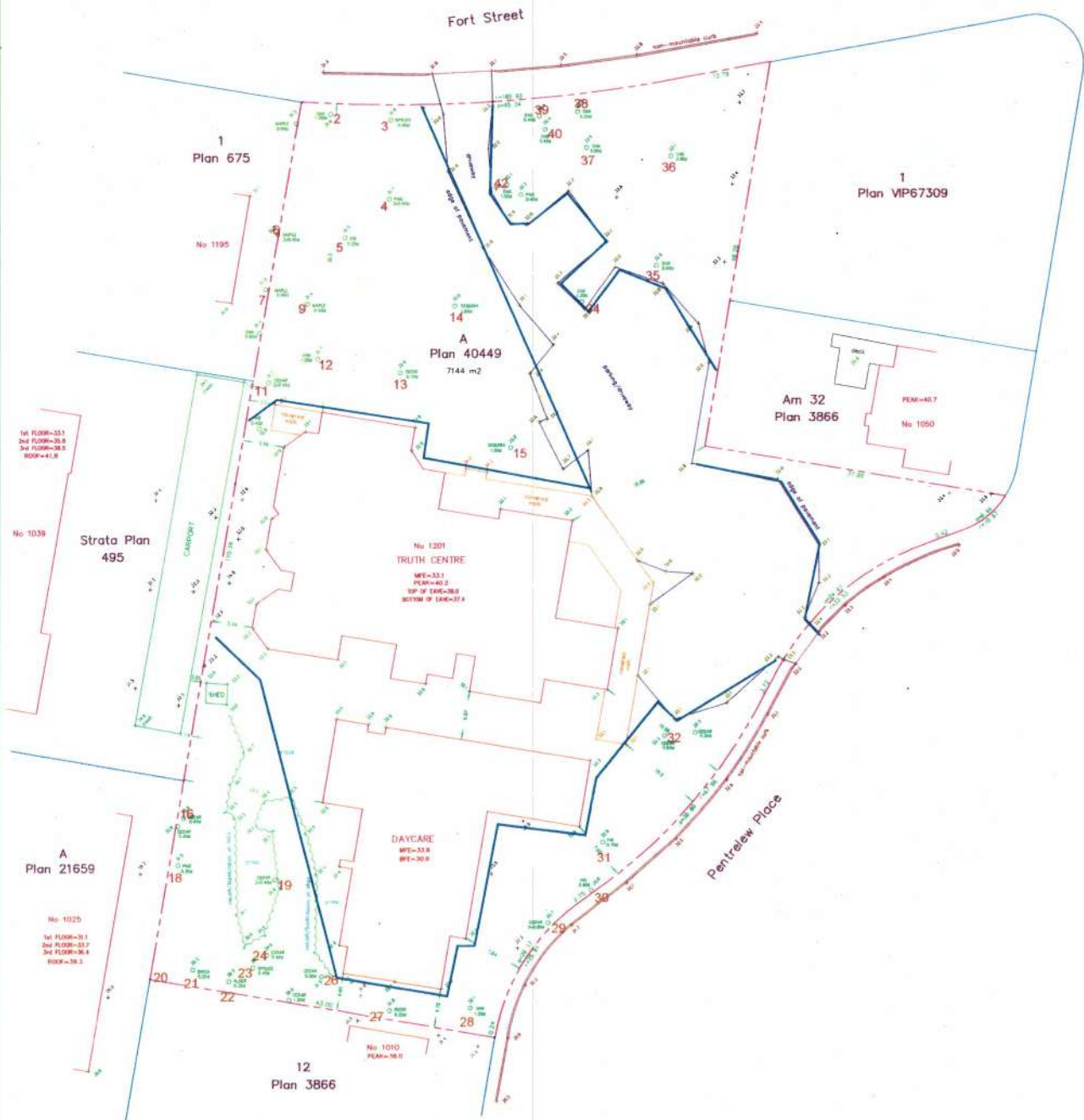
LEGEND

Distances are provided in metres referred to City of Victoria
Integrated Survey Monument 8-13 (also = 34.00m)

- denotes — Mainline
- denotes — Lamp Standard
- denotes — Utility Post
- denotes — Utility Pole with Transformer
- denotes — Stop sign
- denotes — Existing elevation

File: 11250-9
POWELL & ASSOCIATES
B.C. Land Surveyors
250-2500 Douglas Street
Victoria, BC V8T 4K4
phone (250) 382-8855
November 1, 2011

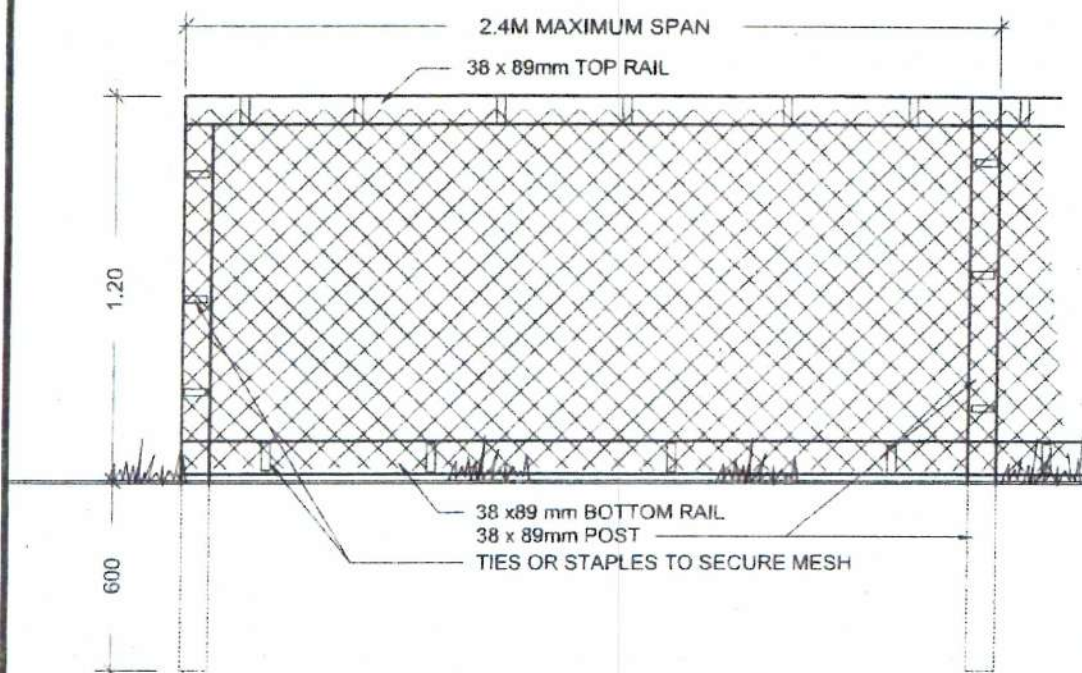
Proposed Barrier Fencing Locations



Setbacks are derived from field survey.

Parcel dimensions shown herein are
derived from Land Title Office records.

This document shows the relative location of the surveyed marks found
and this document shall not be used to define property boundaries.



TREE PROTECTION FENCING

FENCE WILL BE CONSTRUCTED USING

38 X 89 mm (2"X4") WOOD FRAME:

TOP, BOTTOM AND POSTS. *

USE ORANGE SNOW-FENCING MESH AND

SECURE TO THE WOOD FRAME WITH

"ZIP" TIES OR GALVANIZED STAPLES

* IN ROCKY AREAS, METAL POSTS (T-BAR
OR REBAR) DRILLED INTO ROCK WILL BE
ACCEPTED

DETAIL NAME:

TREE PROTECTION FENCING

DATE	Oct 30/07
DRAWN	DM
APP'D	RR
SCALE	N.T.S.

E105
DRAWING