TALBOT MACKENZIE & ASSOCIATES

CONSULTING ARBORISTS

2621 Douglas Street, Victoria, BC

Construction Impact Assessment &

Tree Management Plan

PREPARED FOR: Merchant House Capital
2621 Douglas Street
Victoria, BC
V8R 4M2

PREPARED BY: Talbot, Mackenzie & Associates
Noah Talbot – Consulting Arborist
ISA Certified # PN-6822A
Tree Risk Assessment Qualified

DATE OF ISSUANCE: December 16, 2020

CONTENTS

TABLES

APPENDICES

1. INTRODUCTION

Talbot Mackenzie & Associates was asked to complete a tree inventory, construction impact assessment and management plan for the trees at the following proposed project:

Site:	2621 Douglas Street
Municipality	City of Victoria
Client Name:	Merchant House Capital
Dates of Site Visit:	October 8, 2020
Site Conditions:	1 urban lot with the existing Victoria Press building at the West side of the property and a parking lot on the East side of the property. Ongoing construction activity to the interior of the building.
Weather During Site Visit:	Clear and sunny

The purpose of this report is to address requirements of the City of Victoria arborist report terms of reference, and Tree Preservation Bylaw No. 05-106. The construction impact assessment section of this report (section 8), is based on plans reviewed to date, including the Landscape plans (dated February 19, 2020) prepared by Murdoch De Greeff Inc) and site servicing plan (dated March 14, 2019) - prepared by JE Anderson & Associates.

2. TREE INVENTORY METHODOLOGY

For the purpose of this report, the size, health, and structural condition of trees located on the subject site and trees located on the municipal boulevard (fronting the subject site was documented). There were no private offsite trees observed with critical root zones extending onto the subject property. For ease of identification in the field, numerated metal tags were attached to the lower trunks of onsite trees (tag#'s 1898 – 1902). Trees located on the municipal frontage were not tagged (identified as NT 1 – NT 6). Each tree was visually examined on a limited visual assessment basis (level 1), in accordance with Tree Risk Assessment Qualification (TRAQ) methods (Dunster *et al.* 2017) and ISA Best Management Practices.

3. EXECUTIVE SUMMARY

Based on review of the Landscape plans and site servicing plan, 2 bylaw protected size onsite plum trees are proposed for removal due to impacts associated with the proposed new sidewalk design. An additional 1 non bylaw protected size onsite crabapple tree is proposed for removal due to due to impacts associated with the proposed new landscape design. The three trees proposed for removal were rated unsuitable for retention, due to their existing structural defects, poor rooting environment and poor soil conditions. Plum 1898 is infected with the wood decay pathogen *Ganodema applanatum.*

Two bylaw protected size onsite Japanese maple trees are located where they are possible for retention provided that the critical root zones can be adequately protected during proposed demolition and construction works. Six municipal boulevard trees are located on the Kings Road frontage, where they should be possible to protect using tree protection barriers.

4. TREE INVENTORY DEFINITIONS

Tag: Tree identification number on a metal tag attached to tree with nail or wire, generally at eye level. Trees on municipal or neighboring properties are not tagged.

NT: No tag due to inaccessibility or ownership by municipality or neighbour.

DBH: Diameter at breast height – diameter of trunk, measured in centimetres at 1.4m above ground level. For trees on a slope, it is taken at the average point between the high and low side of the slope.

* Measured over ivy

~ Approximate due to inaccessibility or on neighbouring property

Dripline: Indicates the radius of the crown spread measured in metres to the dripline of the longest limbs.

Relative Tolerance Rating: Relative tolerance of the tree species to construction related impacts such as root pruning, crown pruning, soil compaction, hydrology changes, grade changes, and other soil disturbance. This rating does not take into account individual tree characteristics, such as health and vigour. Three ratings are assigned based on our knowledge and experience with the tree species: Poor (P), Moderate (M) or Good (G).

Critical Root Zone: A calculated radial measurement in metres from the trunk of the tree. It is the optimal size of tree protection zone and is calculated by multiplying the DBH of the tree by 10, 12 or 15 depending on the tree's Relative Tolerance Rating. This methodology is based on the methodology used by Nelda Matheny and James R. Clark in their book "Trees and Development: A Technical Guide to Preservation of Trees During Land Development."

- 15 x DBH = Poor Tolerance of Construction
- 12 x DBH = Moderate
- 10 x DBH = Good

To calculate the critical root zone, the DBH of multiple stems is considered the sum of 100% of the diameter of the largest stem and 60% of the diameter of the next two largest stems. It should be noted that these measures are solely mathematical calculations that do not consider factors such

as restricted root growth, limited soil volumes, age, crown spread, health, or structure (such as a lean).

Health Condition:

- Poor - significant signs of visible stress and/or decline that threaten the long-term survival of the specimen
- Fair - signs of stress
- Good - no visible signs of significant stress and/or only minor aesthetic issues

Structural Condition:

- Poor - Structural defects that have been in place for a long period of time to the point that mitigation measures are limited
- Fair - Structural concerns that are possible to mitigate through pruning
- Good - No visible or only minor structural flaws that require no to very little pruning

Suitability ratings are described as follows:

Rating: Suitable.

- A tree with no visible or minor health or structural defects, is tolerant to changes to the growing environment and is a possible candidate for retention provided that the critical root zone can be adequately protected.

Rating: Conditional.

- A tree with good health but is a species with a poor tolerance to changes to its growing environment or has a structural defect(s) that would require that certain measures be implemented, in order to consider it suitable for retention (ie. retain with other codominant tree(s), structural pruning, mulching, supplementary watering, etc.)

Rating: Unsuitable.

- A tree with poor health, a major structural defect (that cannot be mitigated using ANSI A300 standards), or a species with a poor tolerance to construction impacts, and unlikely to survive long term (in the context of the proposed land use changes).

Retention Status:

- Remove - Not possible to retain given proposed construction plans
- Retain - It is possible to retain this tree in the long-term given the proposed plans and information available. This is assuming our recommended mitigation measures are followed
- Retain * - See report for more information regarding potential impacts

Table 1. Tree Inventory

Tag or ID #	Location (On, Off, Shared, City)	Surveyed ?	Bylaw protected?	Name		dbh (cm)	Ht (m)	Critical root zone radius (m)	Dripline radius (m)	Condition		Retention Suitability (onsite trees)	Relative tolerance	Remarks	Tree Retention Comments	Retention status
				Common	Botanical					Health	Structural					
NT1	**City**	**No**	**Yes**	Upright European hornbeam	Carpinus betulus 'fastigiate'	5	4	0.53	0.5	Good	Good		Good	Located on municipal boulevard, juvenile tree.	Project arborist to supervise any excavation required within the critical root zone.	Retain
NT2	**City**	**No**	**Yes**	English hawthorn	*Craetagus laevigata*	9	4	0.95	1.5	Fair	Fair		Good	Located on municipal boulevard, weed water damage at root collar.	Project arborist to supervise any excavation required within the critical root zone.	Retain
NT3	**City**	**No**	**Yes**	Upright European hornbeam	*Carpinus betulus 'fastigiate'*	4	4	0.42	0.5	Good	Good		Good	Located on municipal boulevard, juvenile tree.	Project arborist to supervise any excavation required within the critical root zone.	Retain
NT4	**City**	**Yes**	**Yes**	English hawthorn	*Craetagus laevigata*	25	6	2.63	3	Fair/good	Fair/good		Good	Located on municipal boulevard, beginning to conflict with overhead utilities, multiple leaders form at 2m above grade - no major weaknesses visible at stem unions.	Project arborist to supervise any excavation required within the critical root zone.	Retain
NT5	**City**	**Yes**	**Yes**	English hawthorn	*Craetagus laevigata*	30	6	3.15	3	Fair/good	Fair/good		Good	Located on municipal boulevard, beginning to conflict with overhead utilities, codominant leaders form at 2m above grade - no major weaknesses visible at stem union, historic pruning wounds with associated surface decay.	Project arborist to supervise any excavation required within the critical root zone.	Retain
NT6	**City**	**Yes**	**Yes**	English hawthorn	*Craetagus laevigata*	31	6	3.26	3	Fair/good	Fair/good		Good	Located on municipal boulevard, beginning to conflict with overhead utilities, multiple leaders form at 2m above grade - no major weaknesses visible at stem unions, pruning and small tear out wounds with associated surface decay.	Project arborist to supervise any excavation required within the critical root zone.	Retain
1898	**On**	**Yes**	**Yes**	Purple leaf plum	*Prunus cerasifera*	41	7	4.31	4	Fair/good	Fair/poor	Unsuitable	Good	Located on municipal property, heavily compacted soils surrounding root collar, growing within confined area (existing concrete retaining wall to East, existing concrete sidewalk to West, existing brick pavers to North and South), *Ganodema applanatum* fruiting bodies attached to root collar, suckering from base, injuries to topsides of surface roots with associated decay.	Located within footprint of the proposed new sidewalk.	Remove
1899	**On**	**Yes**	**Yes**	Purple leaf plum	*Prunus cerasifera*	32	7	3.36	4	Fair/good	Fair/poor	Unsuitable	Good	Located on municipal property, heavily compacted soils surrounding root collar, growing within confined area (existing concrete retaining wall to East, existing concrete sidewalk to West, existing brick pavers to North and South), trunk leaning to East - corrected, injuries to topsides of surface roots, asymmetric crown on West side due to sidewalk clearance pruning.	Located within footprint of the proposed new sidewalk.	Remove

Tag or ID #	Location (On, Off, Shared, City)	Surveyed ?	Bylaw protected?	Name		dbh (cm)	Ht (m)	Critical root zone radius (m)	Dripline radius (m)	Condition		Retention Suitability (onsite trees)	Relative tolerance	Remarks	Tree Retention Comments	Retention status
				Common	Botanical					Health	Structural					
1900	**On**	**No**	**No**	Crabapple	*Malus sp.*	14	5	1.47	3	Fair	Fair/poor	Unsuitable	Good	Non bylaw protected size tree, growing within confined root environment - existing retaining wall .3m from North side of root collar, existing concrete planter within .3m of South/East/West side of root collar, sucker it from base, pruning wounds with associated surface decay, shaded by building.	Shown on landscape plan to be removed and replaced with a new shrub.	Remove
1901	**On**	**Yes**	**Yes**	Japanese maple	*Acer palmatum*	12,6,14,14 ,11,14	5	3.23	4	Good	Fair	Suitable	Good	Located within landscape bed - on slope, confined root system on South side - existing retaining wall within .2m of root collar, heavily surface rooted on embankment, multiple stems form at 3m above grade - narrow angles of attachment.	*Existing concrete stairway within critical root zone proposed for removal. Project arborist to supervise all excavation and fill placement required within the critical root zone.	Retain*
1902	**On**	**Yes**	**Yes**	Japanese maple	*Acer palmatum*	7,7,13,13, 10,10,5,7, 12,12,16,6	5	3.26	4	Good	Fair	Suitable	Good	Located within landscape bed - on slope, confined root system on South side - existing retaining wall within .2m of root collar, heavily surface rooted on embankment, multiple stems form at3m above grade - narrow angles of attachment.	*Existing concrete stairway within critical root zone proposed for removal. Project arborist to supervise all excavation and fill placement required within the critical root zone.	Retain*

*CRZ calculated above and drawn as follows on Tree Management Plan (T1): **CRZ + 0.5 * d.b.h**. (drawn from the center of the stem)

5. SITE INFORMATION & PROJECT UNDERSTANDING

The development site consists of a large City lot (2621 Douglas Street), in Victoria, B.C., which has the existing Victoria Press building at the West side of the property and a parking lot on the East side of the property. Ongoing construction activity was occurring within the interior of the building at the time of our tree inventory. It is our understanding that the proposal is to renovate the West side of the exterior of the building and the existing planting areas, construction of a new sidewalk along the West side of the property, and installation of new hard landscape features, new trees and new shrubs.

Below is a general observation of the tree resource, as it appeared at the time of our site visit:

6. FIELD OBSERVATIONS

The onsite tree resource consists of 4 bylaw protected trees (tag #'s 1898, 1899, 1901 & 1902), located between the existing building and the West property boundary. One non-bylaw protected crabapple (tag# 1900) was also observed within an existing planter near the front of the building. Six boulevard trees (NT1 – NT6) were observed on the Kings Road frontage (see photographs 1 & 2 – *appendix B*). The onsite plum trees are growing in a confined planting area, with heavy foot traffic, resulting in compacted soils and injuries to the topsides of the surface roots (see photograph 3,4 and 5 – *appendix B*). The Onsite crabapple and Japanese maples are also growing in confined planting locations, in the existing planters (see photograph 6,7 and 8 – *appendix B).*

figure 1: Site context air photo: The boundary of the subject site is outlined in Yellow.

7. TREE RISK ASSESSMENT

During our October 08, 2020 site visit and in conjunction with the tree inventory, onsite trees were assessed for risk, on a limited visual assessment basis (level 1), and in the context of the existing land uses. The time frame used for the purpose of our assessment is one year (from the date of the October 08, 2020 tree inventory). Unless otherwise noted herein, we did not conduct a detailed (level 2) or advanced (level 3) risk assessment, such as resistograph testing, increment core sampling, aerial examinations, or subsurface root/root collar examinations.

Existing Land Uses

We did not observe any trees that were deemed to be moderate, high or extreme risk (in the context of the existing land uses, that would require hazard abatement to eliminate present and/or future risks (within a 1-year timeframe). Targets considered during this TRAQ assessment include: occupants of the existing onsite building (constant use), occupants of vehicles travelling on Douglas Street and Kings Road (frequent use), pedestrians travelling along existing sidewalks (frequent use), hydro lines (constant use).

8. CONSTRUCTION IMPACT ASSESSMENT

8.1. RETENTION AND REMOVAL OF MUNICIPAL TREES

The following municipal trees (indicated by ID #) are located where they is possible for retention providing that their critical root zones are adequately protected during construction. The project arborist must be onsite to supervise and excavation or fill placement required within the critical root zone (shown on the tree management plan (T1) in *appendix A*):

Retain and protect 6 municipal trees

- NT1, NT2, NT3, NT4, NT5, NT6

***Note that the municipality will need to provide consent, prior the removal of any trees that are located on Municipal property.**

8.2. RETENTION AND REMOVAL OF ONSITE TREES

The following Bylaw protected size onsite trees (indicated by tag #) are located where they are possible for retention providing that their critical root zones are adequately protected during construction. The project arborist must be onsite to supervise and excavation or fill placement required within their critical root zones (shown on the tree management plan (T1) in *appendix A*):

Retain and protect 2 bylaw protected onsite trees

- 1901, 1902.

The following bylaw protected size onsite trees (indicated by tag #) are located where they are in conflict with the proposed new sidewalk design and are proposed for removal:

Remove 2 bylaw protected onsite trees

- 1898, 1899.

The following non bylaw protected size onsite tree (indicated by tag #) is located where it is in conflict with the proposed new landscape design and is proposed for removal:

Remove 1 non bylaw protected onsite tree

- 1900

8.3. TREE REPLACEMENT

Pursuant to City of Victoria Tree Preservation Bylaw No. 05-106, the tree replacement calculations are as follows:

Quantity of Existing bylaw protected trees	# of Trees Retained	# of Trees Removed	Replacement Tree Ratio	Replacement Trees Required	Replacement Trees Proposed	Replacement Trees in Deficit
Onsite						
4	2	2	2:1	4	Refer to Landscape plans	Refer to Landscape plans
City owned Trees						
6	6	0	2:1	N/A	N/A	N/A
Private offsite Trees						
0	N/A	N/A	2:1	N/A	N/A	N/A
			Total:	**4**	Refer to Landscape plans	Refer to Landscape plans

Based on bylaw criteria, 4 replacement trees are required to replace the 2 onsite trees that are proposed for removal (2:1 ratio). Refer to the Landscape plan (prepared by others) for replacement tree planting locations and specifications. If the site cannot accommodate the required quantity of replacement trees, the deficit will be compensated to the City via a cash in lieu payment by the owner. Current arboricultural best management practices and BCSLA/BCLNA standards apply to; quality, root ball, health, form, handling, planting, guying/staking and establishment care of replacement trees.

9. IMPACT MITIGATION

Tree Protection Barrier: The areas, surrounding the trees to be retained should be isolated from the construction activity by erecting protective barrier fencing (see *Appendix A* for municipal barrier specifications). Where possible, the fencing should be erected at the perimeter of the critical root zone. 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 flexible snow fencing. 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.

Arborist Supervision: All excavation occurring within the critical root zones of protected trees should be completed under supervision by the project arborist. Any severed or severely damaged roots must be pruned back to sound tissue to reduce wound surface area and encourage rapid compartmentalization of the wound. In particular, the following activities should be completed under the direction of the project arborist:

- Excavation to remove the existing concrete stairway within the critical root zone of maple 1901
- Excavation to remove the existing concrete stairway within the critical root zone of maple 1902
- Any fill addition within the critical root zones of maple 1901 and 1902.
- Any excavation to upgrade of install new underground utilities within critical root zones of bylaw protected trees or trees located on municipal property.

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 or coarse wood chips 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.

Demolition of the Existing Buildings: The demolition of the existing houses, driveways, 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. If temporarily removed for demolition, barrier fencing must be erected immediately after the supervised demolition.

Paved Surfaces Above Tree Roots:

If the new paved surfaces within the CRZ of tree to be retained require excavation down to bearing soil and roots are encountered in this area, this could impact their health and structural stability. If tree retention is desired, a raised and permeable paved surface should be constructed in the areas within the critical root zone of the trees. The “paved surfaces above root systems” diagram and specifications is attached.

The objective is to avoid root loss and to instead raise the paved surface and its base layer above the roots. This may result in the grade of the paved surface being raised above the existing grade (the amount depending on how close roots are to the surface and the depth of the paving material and base layers). Final grading plans

should take this potential change into account. This may also result in soils which are high in organic content being left intact below the paved area.

To allow water to drain into the root systems below, we also recommend that the surface be made of a permeable material (instead of conventional asphalt or concrete) such as permeable asphalt, paving stones, or other porous paving materials and designs such as those utilized by Grasspave, Gravelpave, Grasscrete and open-grid systems.

Mulching: Mulching can be an important proactive step in maintaining the health of trees and mitigating construction related impacts and overall stress. Mulch should be made from a natural material such as wood chips or bark pieces and be 5-8cm deep. No mulch should be touching the trunk of the tree. See “methods to avoid soil compaction” if the area is to have heavy traffic.

Blasting: Care must be taken to ensure that the area of blasting does not extend beyond the necessary footprints and into the critical root zones of surrounding trees. The use of small low-concussion charges and multiple small charges designed to pre-shear the rock face will reduce fracturing, ground vibration, and overall impact on the surrounding environment. Only explosives of low phytotoxicity and techniques that minimize tree damage should be used. Provisions must be made to ensure that blasted rock and debris are stored away from the critical root zones of trees.

Scaffolding: This assessment has not included impacts from potential scaffolding including canopy clearance pruning requirements. If scaffolding is necessary and this will require clearance pruning of retained trees, the project arborist should be consulted. Depending on the extent of pruning required, the project arborist may recommend that alternatives to full scaffolding be considered such as hydraulic lifts, ladders or platforms. Methods to avoid soil compaction may also be recommended (see “Minimizing Soil Compaction” section).

Landscaping and Irrigation Systems: The planting of new trees and shrubs should not damage the roots of retained trees. The installation of any in-ground irrigation system must take into account the critical root zones of the trees to be retained. Prior to installation, we recommend the irrigation technician consult with the project arborist about the most suitable locations for the irrigation lines and how best to mitigate the impacts on the trees to be retained. This may require the project arborist supervise the excavations associated with installing the irrigation system. Excessive frequent irrigation and irrigation which wets the trunks of trees can have a detrimental impact on tree health and can lead to root and trunk decay.

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 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 site clearing, tree removal, demolition, or other construction activity occurs and to confirm the locations of the tree protection barrier fencing.

10. DISCLOSURE STATEMENT

This arboricultural field review report was prepared by Talbot Mackenzie & Associates for the exclusive use of the Client and may not be reproduced, used or relied upon, in whole or in part, by a party other than the Client without the prior written consent of Talbot Mackenzie & Associates. Any unauthorized use of this report, or any part hereof, by a third party, or any reliance on or decisions to be made based on it, are at the sole risk of such third parties. Talbot Mackenzie & Associates accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, in whole or in part.

Arborists are professionals who examine trees and use their training, knowledge, and experience to recommend techniques and procedures that will improve a tree's 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. The arborist's review is limited to a visual examination of tree health and structural condition, without excavation, probing, resistance drilling, increment coring, or aerial examination. There are inherent limitations to this type of investigation, including, without limitation, that some tree conditions will inadvertently go undetected. The arborist's review followed the standard of care expected of arborists undertaking similar work in British Columbia under similar conditions. No warranties, either express or implied, are made as to the services provided and included in this report.

The findings and opinions expressed in this report are based on the conditions that were observed on the noted date of the field review only. The Client recognizes that passage of time, natural occurrences, and direct or indirect human intervention at or near the trees may substantially alter discovered conditions and that Talbot Mackenzie & Associates cannot report on, or accurately predict, events that may change the condition of trees after the described investigation was completed.

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. The only way to eliminate tree risk entirely is to remove the entire tree. All trees retained should be monitored on a regular basis. 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.

Immediately following land clearing, grade changes or severe weather events, all trees retained should be reviewed for any evidence of soil heaving, cracking, lifting or other indicators of root plate instability. If new information is discovered in the future during such events or other activities, Talbot Mackenzie & Associates should be requested to re-evaluate the conclusions of this report and to provide amendments as required prior to any reliance upon the information presented herein.

11. IN CLOSING

We trust that this report meets your needs. Should there be any questions regarding the information within this report, please do not hesitate to contact the undersigned.

Yours truly,

Talbot Mackenzie & Associates

Prepared by:

Noah Talbot, BA
ISA Certified Arborist PN – 6822A
Tree Risk Assessment Qualification
Email: tmtreehelp@gmail.com

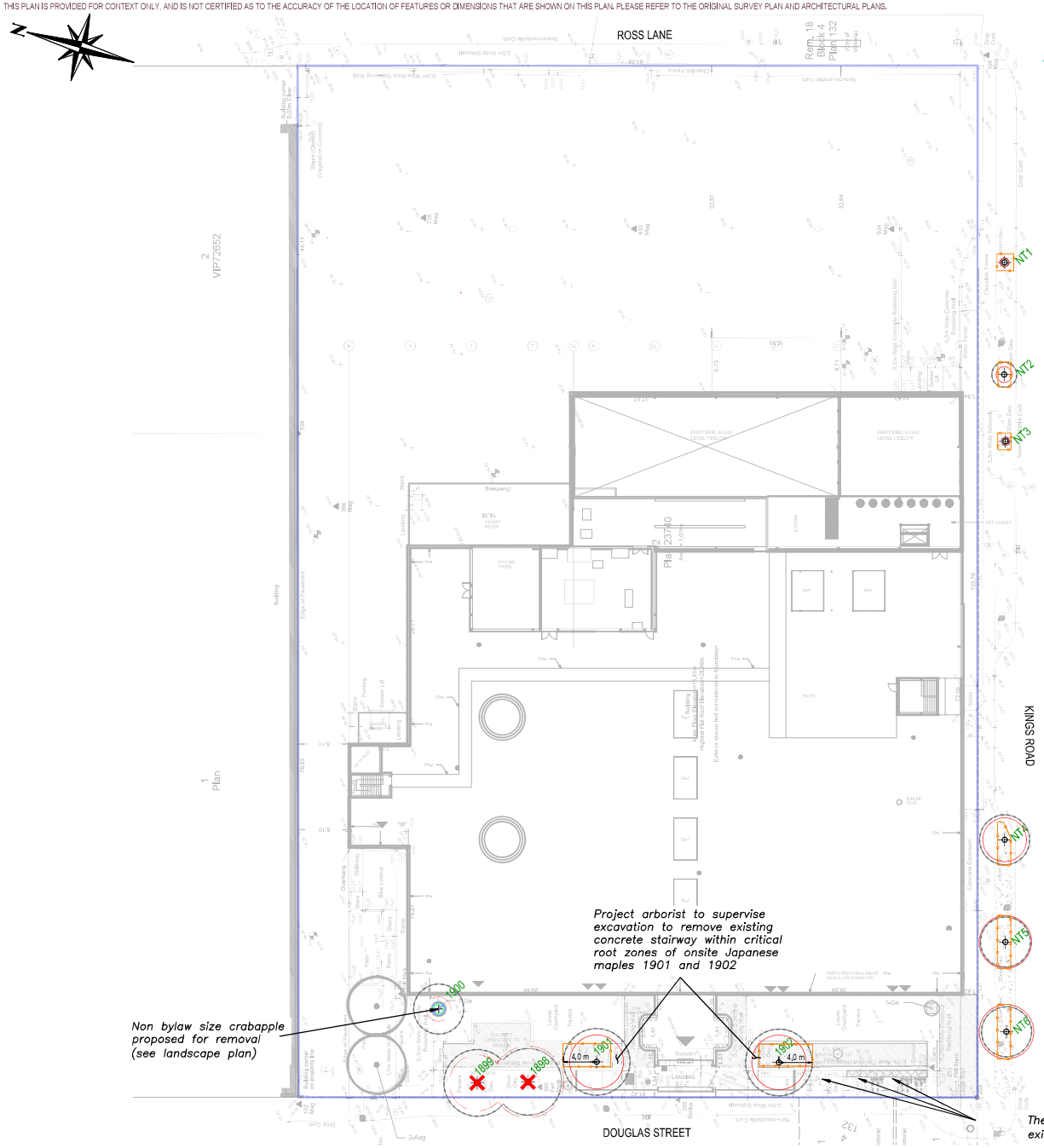
12. REFERENCES

Dunster, J.A., E.T. Smiley, N. Matheny, and S. Lily. 2017. Tree Risk Assessment Manual, International Society of Arboriculture (ISA).

The City of Victoria Tree Preservation Bylaw No. 05-106.

APPENDIX A - TREE MANAGEMENT PLAN (T1)

THIS PLAN IS PROVIDED FOR CONTEXT ONLY, AND IS NOT CERTIFIED AS TO THE ACCURACY OF THE LOCATION OF FEATURES OR DIMENSIONS THAT ARE SHOWN ON THIS PLAN. PLEASE REFER TO THE ORIGINAL SURVEY PLAN AND ARCHITECTURAL PLANS.



TREE PROTECTION NOTES

Tree protection barrier: 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 zone. The barrier fencing to be erected must be a minimum of 1200mm 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 flexible snow fencing. 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.

Arborist supervision: All excavation occurring within the critical root zones of protected trees must be completed under the supervision of the project arborist. Any severed or severely damaged roots must be pruned back to sound tissue to reduce wound surface area and encourage rapid compartmentalization of the wound.

Demolition: The demolition of the existing houses, driveways, 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 of the project arborist. If temporarily removed for demolition, barrier fencing must be erected immediately after the supervised demolition.

Methods to avoid soil compation: 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 or coarse wood chips at least 20cm 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 15cm over top.
- Placing two layers of 19mm plywood.
- Placing steel plates.

Mulching: Mulching can be an important proactive step in maintaining the health or trees and mitigating construction related impacts and overall stress. Mulch should be made from a natural material such as wood chips or bark pieces and be 5-8cm deep. No mulch should be touching the trunk of the tree. See "methods to avoid soil compaction" if the area is to have heavy traffic.

Pruning: We recommend that any pruning of bylaw-protected trees be performed to ANSI A300 standards and Best Management Practices.

Paved surfaces above tree roots: Where paved areas cannot avoid encroachment within critical root zones of trees to be retained, construction techniques, such as floating permeable paving, may be required. The "paved surfaces above tree roots" detail above offers a compromise to full depth excavation (which could impact the health or structural stability of the tree). The objective is to avoid root loss and to instead raise the paved surface above the existing grade (the amount depending on how close roots are to the surface and the depth of the paving material and base layers). Final grading plans should take this potential change into account. This may also result in soils which are high in organic content being left intact below the paved area. To allow water to drain into the root systems below, we also recommend that the surface be made of a permeable material (instead of conventional asphalt or concrete) such as permeable asphalt, paving stones, or other porous paving materials and designs such as those utilitzed by Grasspave, Gravelpave, Grasscrete and open-grid systems.

Blasting and rock removal: Care must be taken to ensure that the area of blasting does not extend beyond the necessary footprints and into the critical root zones of surrounding trees. The use of small low-concussion charges and multiple small charges designed to pre-shear the rock face will reduce fracturing, ground vibrations and overall impact to the surrounding environment. Only explosives of low phytotoxicity and techniques that minimize tree damage should be used. Provisions must be made to ensure that blasted rock and debris are stored away from the critical root zones of trees.

Scaffolding: This assessment has not included impacts from potential scaffolding including canopy clearance pruning requirements. If scaffolding is necessary and this will require clearance pruning of retained trees, the project arborist should be consulted. Depending on the extent of pruning required, the project arborist may recommend that alternatives to full scaffolding be considered such as hydraulic lifts, ladders or platforms. Methods to avoid soil compaction may also be recommended (see "Minimizing Soil Compaction" section).

Landscaping and irrigation systems: The planting of new trees and shrubs should not damage the roots of retained trees. The installation of any in-ground irrigation system must take into account the critical root zones of the trees to be retained. Prior to installation, we recommend the irrigation technical consult with the project arborist about the most suitable locations for the irrigation lines and how best to mitigate the impacts on the trees to be retained. This may require the project arborist supervise the excavations associated with installing the irrigation system. Excessive frequent irrigation and irrigation which wets the trunks of trees can have a detrimental impact on the tree health and can lead to root and trunk decay.

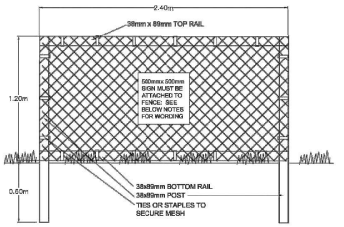
Arborists role: It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:

- Locating the barrier fencing.
- Reviewing the report with the project foreman or site supervisor.
- Locating work zones and machine access corridors where required.
- Supervising excavation for any areas within the critical root zones of trees to be retained including any proposed retaining wall footings and review any proposed fill areas near trees to be retained.

LEGEND

- Existing tree with tag or ID #
- Dripline radius (m)
- Tree protection fencing
- Critical root zone radius (m)
- Bylaw tree proposed for removal
- Unsurveyed tree
- Non-bylaw undersize tree
- Site boundary

TREE PROTECTION FENCING DETAIL



TREE PROTECTION FENCING

1. FENCE WILL BE CONSTRUCTED USING 38 mm X 89mm WOOD FRAME: TOP, BOTTOM AND POSTS * USE ORANGE SNOW-FENCING MESH AND SECURE THE WOOD FRAME WITH"ZIP" TIES OR GALVANIZED STAPLES.
2. ATTACH A 500mm X 500mm SIGN WITH THE FOLLOWING WORDING: PROTECTED ROOT ZONE - NO ENTRY. THIS SIGN MUST BE AFFIXED ON EVERY FENCE OR AT LEAST EVERY 10 LINEAR METERS.

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

Tree Management Plan- T1

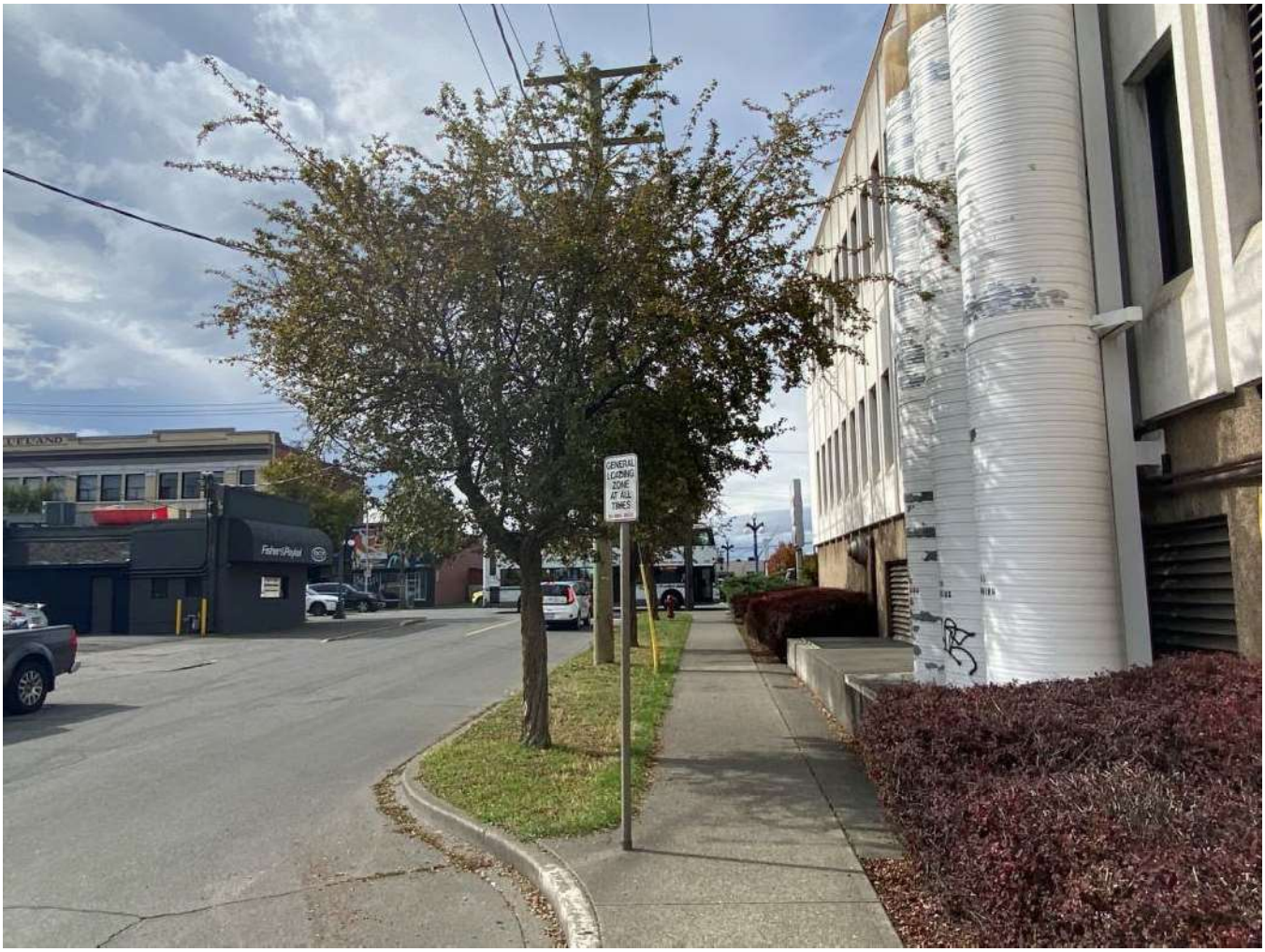
Victoria Press Building
2621 Douglas Street
Victoria, BC

DATE: Decmeber 16, 2020
PREPARED FOR: Merchant House Capital
SCALE: 1 : 500 @ 11" X 17"
DRAWN BY: NT
REVISION: 0

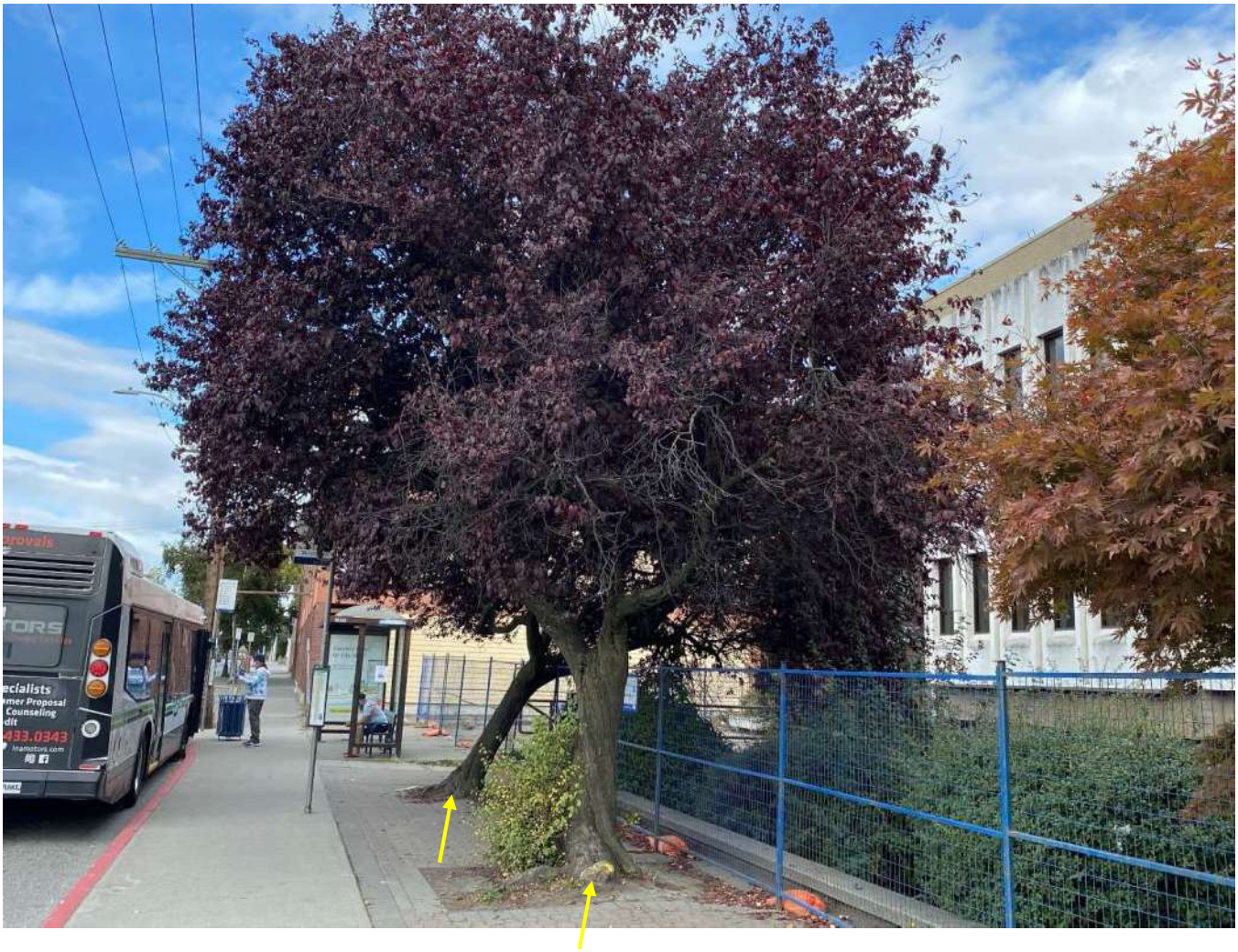
TALBOT MACKENZIE & ASSOCIATES
CONSULTING ARBORISTS
BOX 48153
VICTORIA, BC, V8Z 7H2
TEL: 250-479-8733
EMAIL: tmtreehelp@gmail.com
www.treehelp.ca

APPENDIX B - PHOTOGRAPHS

Photograph 1. City trees NT1, NT2 & NT3 located on the Kings Road frontage.



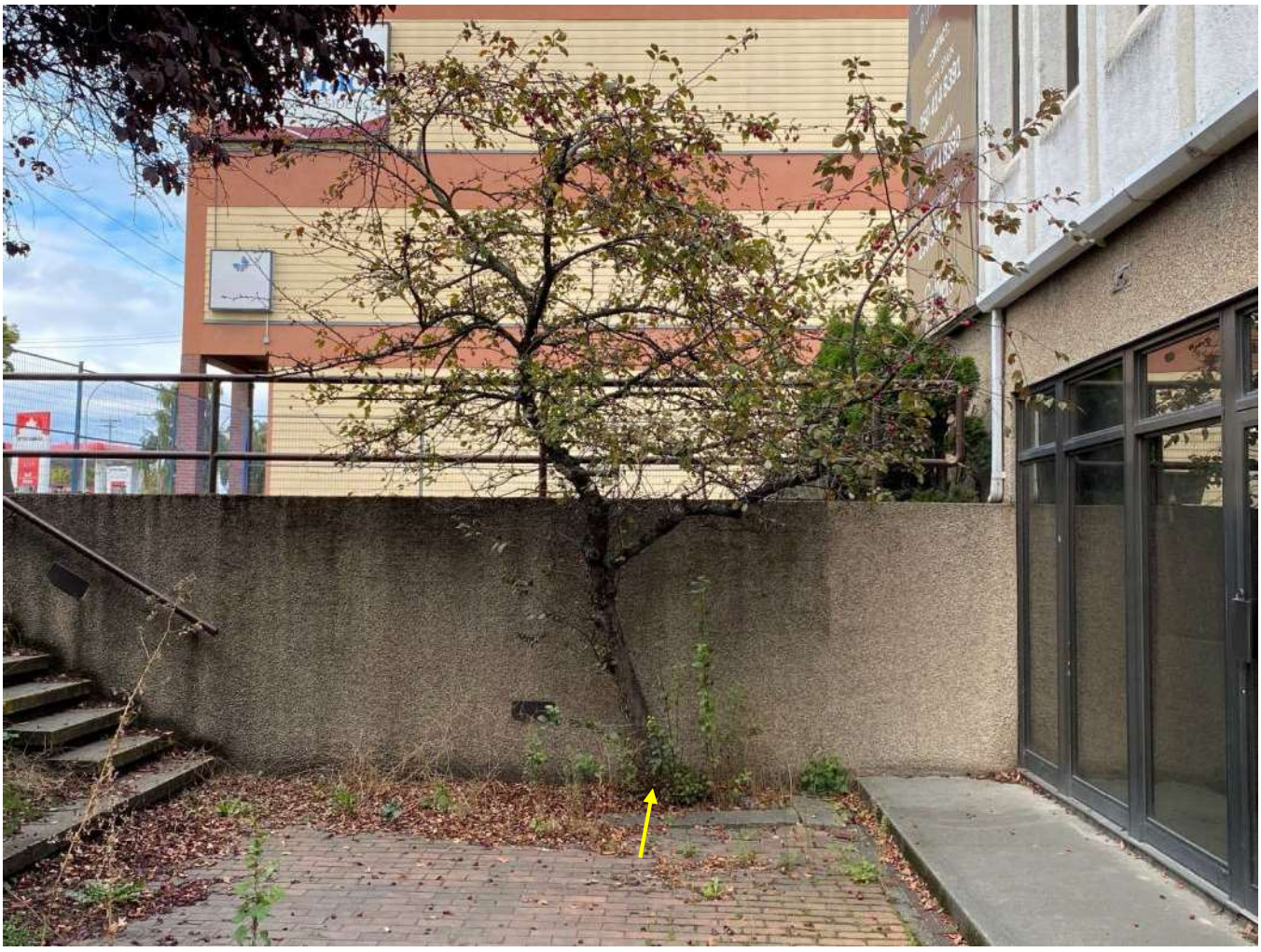
Photograph 2 – City trees NT4, NT5 & NT6 located on the Kings Road frontage.



Photograph 3 – Yellow arrows indicate location of onsite plum trees 1898 (front), and 1899 (back).

Photograph 4 – Closeup of root collar and existing growing conditions of onsite plum (tag# 1898).

Photograph 5 – Yellow arrow indicates existing growing conditions and structure of onsite plum (tag# 1899).

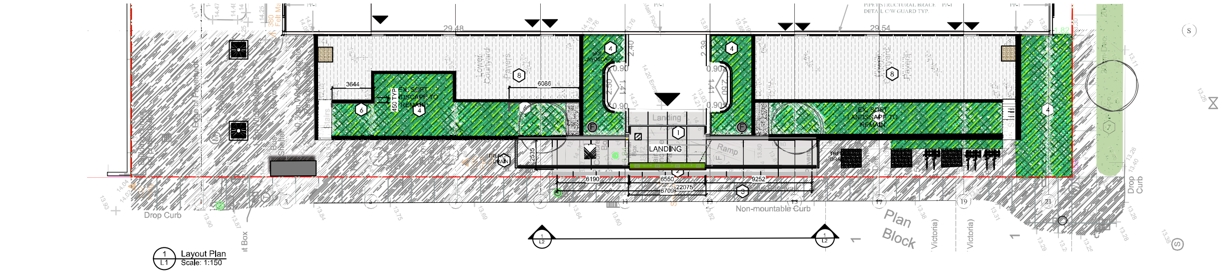


Photograph 6 – Yellow arrow indicates location of non-bylaw protected size crabapple (tag# 1900).

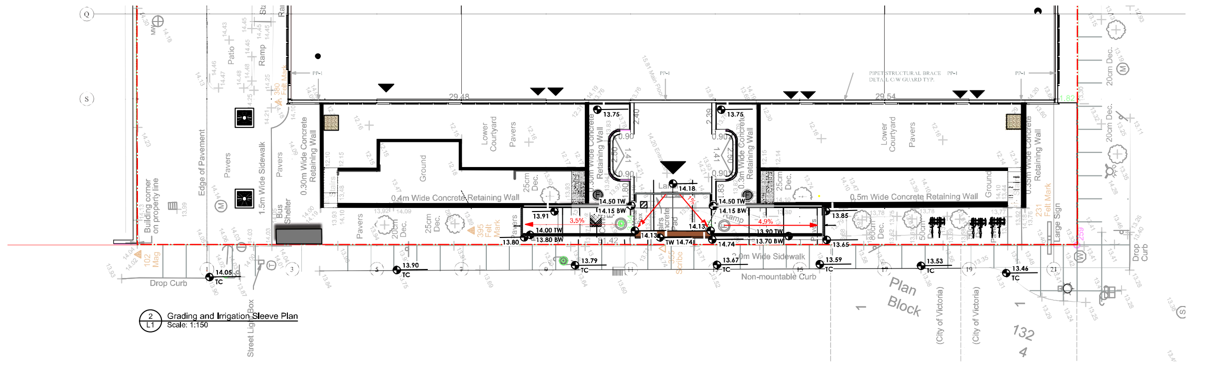
Photograph 7 – Yellow arrow indicates location of onsite Japanese maple (tag# 1901).

Photograph 8 – Yellow arrow indicates location of onsite Japanese maple (tag# 1902).

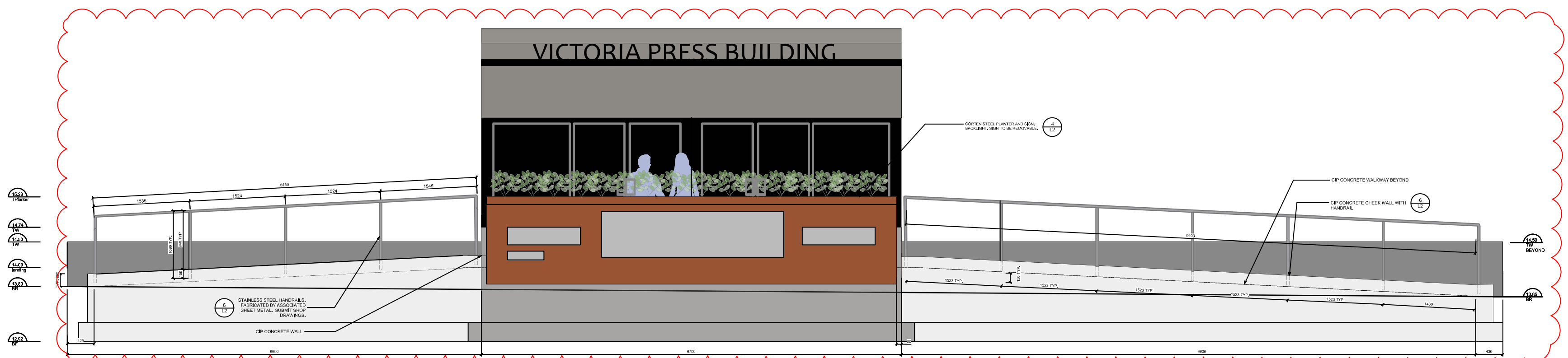
APPENDIX C – LANDSCAPE PLANS



1 L1 Layout Plan
Scale: 1:150



2 L1 Grading and Irrigation Sleeve Plan
Scale: 1:150



4 L1 Elevation - Front Landing/ Ramp/ Handrails
Scale: 1:25

	LEGEND
	Property Line
	Building Entrance/ Egress
2/L5, 3/L5	1 — CIP Concrete Landing and Walkway
1/L2, 4/L5	2 — Corten Steel Planter on Concrete Upstand with Ghost Lighting
	3 — Existing City Sidewalk/ Surface Treatment to Remain/ Reinstated/ sawcut to accomodate proposed pavements
SEE CIVIL	Existing Concrete Manhole. Revise finished grade of structure to accomodate new walkway up to front door.
SEE MECH.	2-Trench Drains
	4 — Existing vegetation to remain. Clear and grub weeds and poor plant materials as per direction of landscape architect or owner. Trim and prune existing plant materials into natural forms- follow accepted horticultural practice
	5 — Existing stairs to be removed (saw cut), remove granulars, replace with 450mm topsoil. Install new plant materials.
	Existing metal box. Extend access to new grades, provide approved access as required.
	6 — Exterior grade aluminum edger to retain soil (6mm thick)- 300mm height, 150mm return bottom angle/ backfill with topsoil. 175mm exposed. Field measurements. Shop drawings for approval.
	Existing Tree to remain. Certified Arborist to Prune
	Remove existing tree and roots, replenish soil to 450mm depth, plant new shrub. Limb at base to form tree-like appearance
	Proposed Vegetation in Corten Planter. Planter to be permanently irrigated. Run line from existing irrigation.
	7 — Existing City Lawn to Remain/ Reinstated as required
	8 — Existing Courtyard Pavements- Powerwash, Remove Weeds
	9 — Existing Pavements to be removed, area cleared and grubbed of roots, new pavements to meet and match existing. Ensure positive drainage. Compacted base, 150mm compacted road base.
	3- Bike Racks, Mbr350, 5 ring, steel. Bicycle Rack by Maglin. Mount into concrete sidewalk according to manufacturer's recommendations
	Schedule 40 Conduit- Supply Drip Irrigation to Proposed Planter-T-into existing Irrigation Lines

NORTH

MERCHANT HOUSE CAPITAL

de Hoog & Kierulf architects

NOT FOR CONSTRUCTION

DRAWING NOTES

1. DO NOT SCALE DRAWING: VERIFY ALL PROPERTY LINES AND EXISTING STRUCTURES/VEGETATION TO REMAIN, PRIOR TO COMMENCING WORK.
2. ALL PLAN DIMENSIONS IN METRES AND ALL DETAIL DIMENSIONS IN MILLIMETRES.
3. PLANT QUANTITIES ON PLANS SHALL TAKE PRECEDENCE OVER PLANT LIST QUANTITIES.
4. CONTRACTOR TO CONFIRM LOCATION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. PROVIDE LAYOUT OF ALL WORK FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
6. CONTRACTOR TO PROVIDE IRRIGATION SYSTEM FOR ALL PLANTERS TO CURRENT IIABC STANDARDS AND CONTRACT SPECIFICATIONS.
7. LANDSCAPE INSTALLATION TO CARRY A 1 YEAR WARRANTY FROM DATE OF ACCEPTANCE.
8. PLANT MATERIAL, INSTALLATION AND MAINTENANCE TO CONFORM TO THE CURRENT EDITION OF THE CANADIAN LANDSCAPE STANDARD.
9. GENERAL CONTRACTOR AND/OR SUB-CONTRACTORS ARE RESPONSIBLE FOR ALL COSTS RELATED TO PRODUCTION AND SUBMISSION TO CONSULTANT OF ALL LANDSCAPE AS-BUILT INFORMATION INCLUDING IRRIGATION.
10. TREE PROTECTION FENCING, FOR EXISTING TREES, TO BE INSTALLED PRIOR TO COMMENCEMENT OF ALL SITE WORK
11. ADD 100MM NEW TOPSOIL TO COURTYARD PLANTING AREAS. MULCH COURTYARD PLANTING AREAS. PROVIDE TOPSOIL FOR NEW PLANTING IN COURTYARDS.

Rev	Date	Description
3	02/19/2020	Revised DP
2	12/08/2019	Issued for Tender
1	08/08/2018	Development Permit

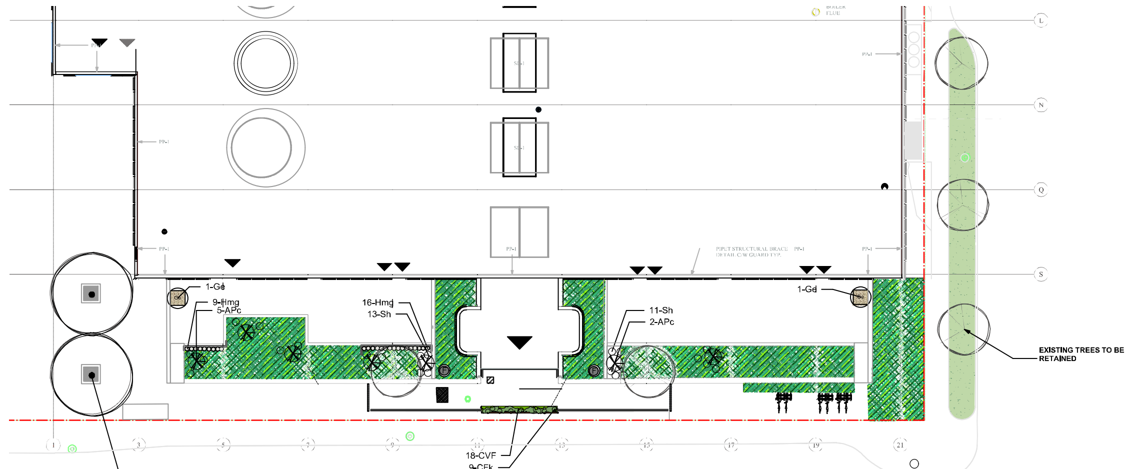
drawn by	GJ	checked by	SM
scale	As Indicated	project number	1804

de Hoog & Kierulf architects
VICTORIA OFFICE
977 Fort Street
Victoria BC V8V 3K3
T 1-250-658-3367
NANAIMO OFFICE
102-5190 Dublin Way
Nanaimo BC V9T 2K8
T 1-250-585-5810

Victoria Press LTD
2621 Douglas St. Victoria BC

Layout/ Materials and Planting Plan/ Sections

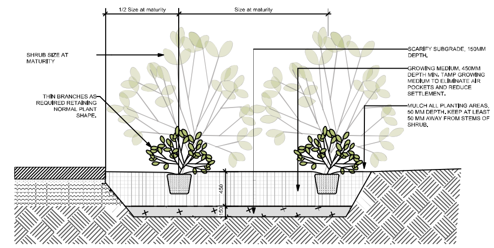
L1



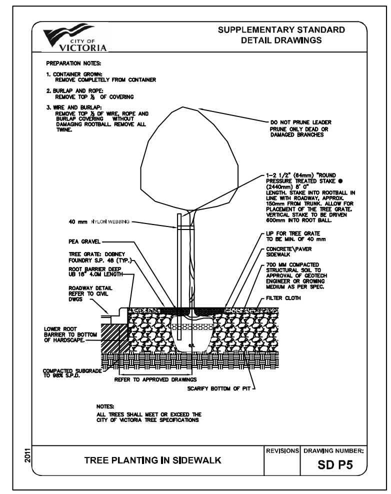
1 Planting Plan
Scale: 1:150

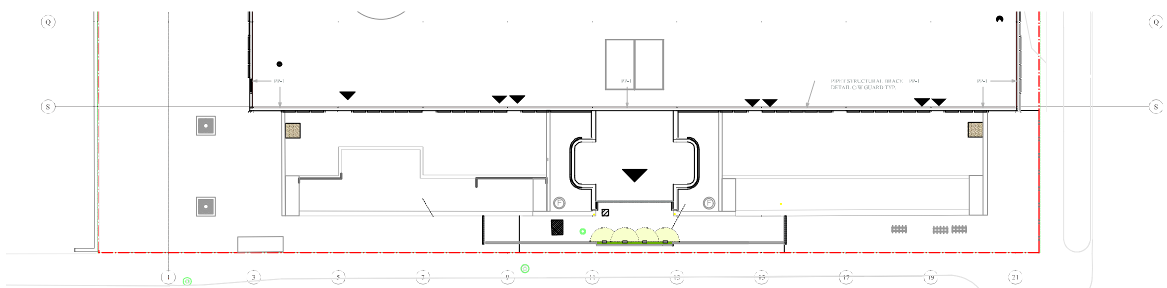
Sym	Qty	Botanical Name	Common Name	Schd. Size / Plant Spacing
		SHRUBS:		
APc	7	Acer palmatum 'Crimson Queen'	Crimson Queen Jap. Maple	0.9 m height, specimen
CVF	18	Calluna vulgaris 'Firefly'	Firefly Scotch Heather	#1 pot
CFk	9	Carex flagellifera 'Kiwi'	Kiwi Hair Sedge	#1 Pot
Ge	2	Garrya elliptica 'James Roof'	Silk-tassel Bush	#5 pot
Hmg	25	Hakonechloa macra 'All Gold'	All Gold Japanese Forest Grass	#1 Pot
Sh	24	Sarcococca hookeriana var humilis	Himilayan Sweet Box	#2 pot
	0			

PLANT LIST



3 Shrub Planting
Scale: 1:25





2 / L2 Grading and Irrigation Sleeve Plan
Scale: 1:150

LEGEND- LIGHTING GROUND FLOOR

4- Ghost Light by Sistemalux. S.C8022N.REM.35. Remote outdoor Driver 4551-0024-080-120-LTE. Drivers up to 7 fixtures per.

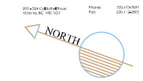
LIGHTING ALTERNATES SUBJECT TO APPROVAL BY CONTRACT ADMINISTRATOR.

DRAWING NOTES

1. DO NOT SCALE DRAWING: VERIFY ALL PROPERTY LINES AND EXISTING STRUCTURES/VEGETATION TO REMAIN, PRIOR TO COMMENCING WORK.
2. ALL PLAN DIMENSIONS IN METRES AND ALL DETAIL DIMENSIONS IN MILLIMETRES.
3. PLANT QUANTITIES ON PLANS SHALL TAKE PRECEDENCE OVER PLANT LIST QUANTITIES.
4. CONTRACTOR TO CONFIRM LOCATION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. PROVIDE LAYOUT OF ALL WORK FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
6. CONTRACTOR TO PROVIDE IRRIGATION SYSTEM FOR ALL PLANTERS TO CURRENT IIABC STANDARDS AND CONTRACT SPECIFICATIONS.
7. LANDSCAPE INSTALLATION TO CARRY A 1 YEAR WARRANTY FROM DATE OF ACCEPTANCE.
8. PLANT MATERIAL, INSTALLATION AND MAINTENANCE TO CONFORM TO THE CURRENT EDITION OF THE CANADIAN LANDSCAPE STANDARD.
9. GENERAL CONTRACTOR AND/OR SUB-CONTRACTORS ARE RESPONSIBLE FOR ALL COSTS RELATED TO PRODUCTION AND SUBMISSION TO CONSULTANT OF ALL LANDSCAPE AS-BUILT INFORMATION INCLUDING IRRIGATION.
10. TREE PROTECTION FENCING, FOR EXISTING TREES, TO BE INSTALLED PRIOR TO COMMENCEMENT OF ALL SITE WORK
11. ADD 100MM NEW TOPSOIL TO COURTYARD PLANTING AREAS. MULCH COURTYARD PLANTING AREAS. PROVIDE TOPSOIL FOR NEW PLANTING IN COURTYARDS.

de Hoog & Kierulf architects

MERCHANT HOUSE CAPITAL



NOT FOR CONSTRUCTION

Rev	Date	Description
3	02/19/2020	Revised DP
2	12/08/2019	Issued for Tender
1	08/08/2018	Development Permit

drawn by	GJ	checked by	SM
scale	As Indicated	project number	1804

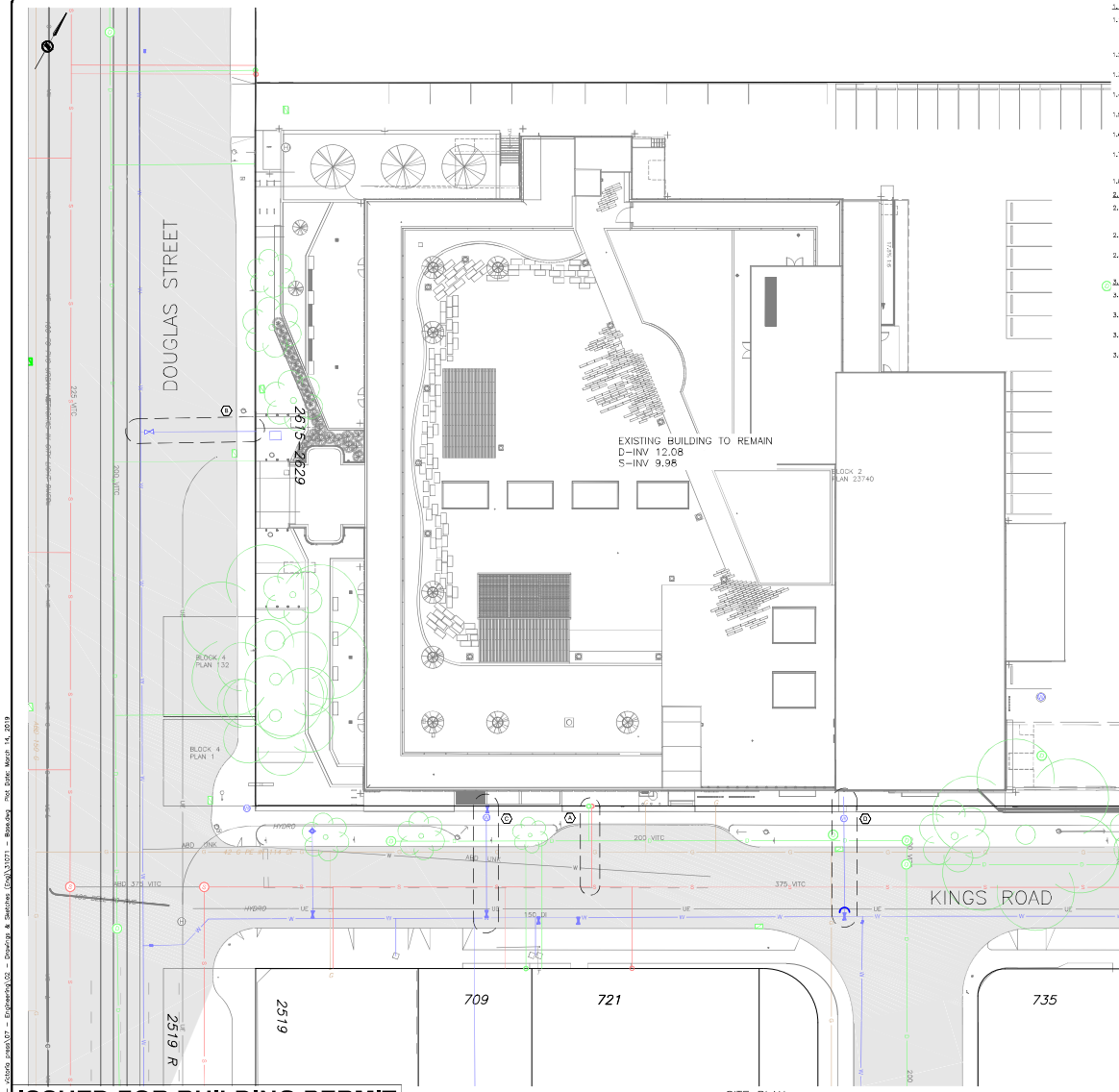
de Hoog & Kierulf architects
VICTORIA OFFICE
977 Fort Street
Victoria BC V8V 3K3
T 1-250-658-3367
NANAIMO OFFICE
102-5190 Dublin Way
Nanaimo BC V9T 2K8
T 1-250-585-5810

Victoria Press LTD
2621 Douglas St. Victoria BC

Layout/ Materials and Planting Plan/ Sections

L1

APPENDIX D – SITE SERVICING PLAN



SITE PLAN
H 1:250

1:50 0 1 3m

1:250 0 5 15m

1. GENERAL NOTES

1.1. ALL CONSTRUCTION AND MATERIALS WITHIN MUNICIPAL RIGHT-OF-WAYS TO BE IN ACCORDANCE WITH THE MUNICIPAL ENGINEERING SPECIFICATIONS AND STANDARD DRAWINGS AND THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) PLATINUM EDITION – VOLUME II. WHEN A CONFLICT BETWEEN THE SPECIFICATIONS ARISES, THE MOST STRINGENT SHALL APPLY.

1.2. ALL WORKS ON PRIVATE PROPERTY (ONSITE) TO BE AS PER THE LATEST BC BUILDING CODE AND ARE TO BE INSPECTED BY THE MUNICIPAL PLUMBING OR BUILDING INSPECTOR. A PLUMBING PERMIT IS REQUIRED.

1.3. CONTRACTOR TO OBTAIN A PERMIT TO CONSTRUCT WORKS ON A MUNICIPAL RIGHT OF WAY FROM THE MUNICIPALITY 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.

1.4. CONTRACTOR SHALL SUBMIT EMERGENCY CONTACT NUMBERS TO THE MUNICIPALITY A MINIMUM OF 48 HRS PRIOR TO THE START OF CONSTRUCTION.

1.5. CONTRACTOR TO MAINTAIN AN UP-TO-DATE SET OF AS-CONSTRUCTED DRAWINGS. DRAWINGS TO BE DELIVERED TO THE ENGINEER PRIOR TO SUBSTANTIAL PERFORMANCE.

1.6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION LAYOUT, MEANS, METHODS, TECHNIQUES, PROCEDURES, AND FOR COORDINATING THE VARIOUS PARTS OF THE WORK.

1.7. CONTRACTOR TO ENSURE EXISTING MONUMENTS AND IRON PINS ARE NOT DISTURBED DURING CONSTRUCTION. ANY MONUMENTS OR IRON PINS IN DANGER OF DISTURBANCE SHALL BE REFERENCED AND, IF DISTURBED, REPLACED BY A BCLS AT THE DEVELOPERS EXPENSE.

1.8. CONTRACTOR TO PROVIDE A MINIMUM OF 24 HRS NOTICE PRIOR TO INSPECTION OR WITNESS TESTS.

2. TRAFFIC MANAGEMENT

2.1. THE CONTRACTOR SHALL SUBMIT A TRAFFIC MANAGEMENT PLAN A MINIMUM OF 48 HOURS BEFORE COMMENCING CONSTRUCTION. THE TRAFFIC MANAGEMENT PLAN TO BE IN ACCORDANCE WITH MMCD SECTION 01 55 00 AND PART D OF THE UNIFORM TRAFFIC CONTROL DEVICES (UTCD).

2.2. THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES UNLESS OTHERWISE PERMITTED BY THE MUNICIPALITY.

2.3. ACCESS TO PRIVATE PROPERTY SHALL BE MAINTAINED. THE CONTRACTOR SHALL ACCOMMODATE FOOT ACCESS AT ALL TIMES. CONTRACTOR TO PROVIDE 24 HOURS NOTICE TO RESIDENCES IF VEHICULAR ACCESS CAN NOT BE MAINTAINED. VEHICLE ACCESS MUST BE RESTORED PRIOR TO THE END OF THE WORKING DAY.

3. PUBLIC IDENTIFICATION

3.1. THE PUBLIC NOTICE SHALL BE DISTRIBUTED A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCING OF CONSTRUCTION.

3.2. THE PUBLIC NOTICE IS TO BE PREPARED BY THE CONTRACTOR AND PRESENTED TO THE ENGINEER FOR REVIEW PRIOR TO THE DISTRIBUTION TO RESIDENCES.

3.3. THE PUBLIC NOTICE SHALL IDENTIFY THE PROJECT, EXPECTED CONSTRUCTION PERIOD AND PROVIDE CONTACT INFORMATION FOR THE CONTRACTOR, ENGINEER AND THE MUNICIPALITY.

3.4. THE PUBLIC NOTICE SHALL BE HAND DELIVERED TO ALL RESIDENTS AND BUSINESSES WITHIN ONE BLOCK OF THE PROJECT LIMITS.

4. ENVIRONMENTAL PROTECTION

4.1. TO PROTECT THE SOIL, WATER, AND VEGETATIVE RESOURCES OF THE DEVELOPMENT ONLY THOSE AREAS NECESSARY FOR CONSTRUCTION OF THE WORKS AND SERVICES CONTAINED IN THE ENGINEERING DRAWINGS ARE TO BE DISTURBED.

PRIOR TO AND DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR CONTROLLING EROSION AND SEDIMENT TRANSFER BY UTILIZING SUCH MEASURES AS CONSTRUCTION OF INTERCEPTOR DITCHES, SILT FENCES, HAY BALE STRUCTURES, SEDIMENT CONTROL PONDS, SEDIMENT TRAPS, STAGED GRAVEL FILTERS, OR OTHER METHODS HE MAY DEEM NECESSARY TO PREVENT DISCHARGE OF SEDIMENT INTO WATERCOURSES.

PRIOR TO SUBSTANTIAL COMPLETION THE CONTRACTOR SHALL PREPARE AND REVIEW WITH THE OWNER A PLAN WHEREBY THE OWNER WILL UPON FINAL COMPLETION ASSUME RESPONSIBILITY FOR ONGOING EROSION AND SEDIMENT CONTROL MEASURES ON THIS SITE.

THE CONSULTANT ASSUMES NO RESPONSIBILITY FOR DAMAGES RESULTING FROM IMPROPER EROSION AND SEDIMENT CONTROL MEASURES UNDERTAKEN BY THE CONTRACTOR.

4.2. ENVIRONMENTAL PROTECTION MEASURES TO BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION.

4.3. CONTRACTOR TO OBTAIN PERMIT PRIOR TO REMOVAL OF ANY TREES ON PRIVATE OR PUBLIC PROPERTY.

5. HYDRO/TELEPHONE/CABLE/STREETLIGHTING

5.1. HYDRO/TEL./CABLE SERVICING TO BE OVERHEAD. TO BE APPLIED FOR BY BUILDER AT TIME OF HOUSE CONSTRUCTION.

6. QUALITY ASSURANCE TESTING

6.1. CONTRACTOR SHALL RETAIN AND PAY THE SERVICES OF A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEER FOR QUALITY ASSURANCE TESTING DURING CONSTRUCTION IN MUNICIPAL RIGHT-OF-WAY AND SHALL AT A MINIMUM PROVIDE:

a) SIEVE ANALYSIS OF SANDS AND AGGREGATES TO BE USED IN THE WORK
b) STANDARD PROCTOR DENSITY CURVES FOR BACKFILL MATERIALS
c) STANDARD PROCTOR DENSITY CURVES FOR APPROVED BORROW MATERIALS
d) COMPACTION TESTS:
   1) TRENCH BEDDING (MAINLINE) –ONE FOR EVERY 75 M OF TRENCH
   2) TRENCH BACKFILL (MAINLINE) –ONE FOR EVERY 75 M OF TRENCH
   3) TRENCH BEDDING (SERVICE) –ONE PER DAY
   4) TRENCH BACKFILL (SERVICE) – ONE PER DAY
e) GRANULAR BASE (SIDEWALKS/CURBS/GUTTER) –ONE FOR EVERY 50m
f) CONCRETE MIX DESIGN
g) CONCRETE STRENGTH TESTS
   1) ONE FOR 150m OF SIDEWALK AND/OR CURB AND GUTTER. MINIMUM OF ONE PER DAY DURING CONCRETE PLACING.
h) ASPHALT MIX DESIGN
i) ASPHALT TESTING
   1) AGGREGATE GRADATION TESTS –ONE PER EACH 300 TONNES OF PRODUCTION (MINIMUM ONE PER DAY DURING ASPHALT PLACEMENT).
   2) MARSHALL TEST –THREE BRIQUETTES FOR EVERY 300 TONNES OF PRODUCTION (MINIMUM ONCE PER DAY DURING ASPHALT PLACEMENT)
   3) COMPACTION – ONE CORE FOR EACH 500 SQ. M.

7. TRENCHING, EXCAVATING, AND BACKFILLING

7.1. EXISTING UTILITIES SHOWN ARE AS PER MUNICIPAL RECORDS. THE CONTRACTOR SHALL EXPOSE ALL CROSSINGS PRIOR TO COMMENCING CONSTRUCTION. SHOULD ANY CONFLICT OR DISCREPANCIES ARISE, THE CONTRACT SHALL NOTIFY THE ENGINEER IMMEDIATELY.

7.2. CONTRACTOR TO OBTAIN PERMIT PRIOR TO DEPOSIT OR REMOVAL OF MATERIALS ON THIS SITE.

7.3. ALL SERVICES SHALL BE INSPECTED BY THE ENGINEER AND/OR MUNICIPAL INSPECTOR PRIOR TO BACKFILLING.

7.4. CONTRACTOR TO ENSURE EXISTING SERVICES REMAIN IN SERVICE DURING CONSTRUCTION.

8. WATER

8.1. CONSTRUCTION SHALL NOT PROCEED WITHOUT FIRST RECEIVING "APPROVED FOR CONSTRUCTION" DRAWINGS.

8.2. ALL WATERWORKS CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE LATEST MUNICIPAL WATER SPECIFICATIONS.

8.3. WATER SERVICES TO BE 19 MM UNLESS NOTED OTHERWISE.

8.4. MARK WATERMAINS BELOW GRADE USING METALLIC DETECTABLE REINFORCED UNDERGROUND UTILITY MARKING TAPE. THE TAPE SHALL BE MINIMUM 150 MM WIDE METALLIC BLUE IN COLOUR AND SHALL BE MARKED "CAUTION: WATER LINE BURIED BELOW". INSTALL TAPE ON TOPS OF THE PIPE CUSHION 300 MM ABOVE THE TOP OF THE PIPE. PROVIDE "THOMTEC" MARKING TAPE OR APPROVED EQUAL.

8.5. MAINTAIN A MINIMUM OF 1.5 M HORIZONTAL CENTRE TO CENTRE AND 150 MM VERTICAL CLEAR VERTICAL SEPARATION BETWEEN WATERMAINS AND ELECTRICAL CONDUITS, GAS MAINS AND TELEPHONE CONDUITS.

8.6. MAINTAIN 3.0 M CLEAR SEPARATION BETWEEN WATER AND SEWER/DRAIN MAINS.

9. SEWER AND DRAIN

9.1. ALL PIPE BEDDING AS PER MMCD STANDARD DETAIL DRAWING G4.

9.2. ALL DRAIN AND SEWER MAINS SHALL BE PVC SDR 35 UNLESS NOTED OTHERWISE.

9.3. ALL DRAIN AND SEWER SERVICES SHALL BE PVC SDR 28 UNLESS NOTED OTHERWISE.

9.4. CONTRACTOR TO ENSURE ALL SEWERS AND DRAINS HAVE A MINIMUM 0.75 M OF COVER UNLESS NOTED OTHERWISE. 1.0 M OF COVER IS REQUIRED UNDER AREAS WITH VEHICULAR TRAFFIC.

9.5. ALL MANHOLES TO BE 1050 MM DIAMETER UNLESS NOTED OTHERWISE.

10. GAS

10.1. GAS SERVICING IS SHOWN SCHEMATICALLY ON THESE PLANS. REFER TO FORTISBC PLANS FOR DETAILED INSTRUCTIONS. MINIMUM COVER 600mm ON ALL GAS MAINS. 1.5m HORIZONTAL SEPARATION FROM WATER MAINS AND SERVICES. 1.2m SEPARATION FROM OTHER SERVICES.

10.2. CALL BC ONE CALL MINIMUM 72 HOURS PRIOR TO EXCAVATION 1-800-474-6886.

DETAILED CONSTRUCTION NOTES:

(A) EXISTING 200mm STORM AND 150mm SANITARY SERVICES TO BE REUSED.
(B) EXISTING 200mm FIRE SERVICE TO BE TO BE REUSED.
(C) EXISTING 100mm DOMESTIC WATER SERVICE TO BE REUSED.
(D) EXISTING FIRE SERVICE TO BE CAPPED AND ABANDONED BY CITY OF VICTORIA.

KEY PLAN
NTS

ISSUED FOR BUILDING PERMIT

ISSUED						REVISION					
NO.	DESCRIPTION	YYYYMMDD	DE	DA	CK	NO.	DESCRIPTION	YYYYMMDD	DE	DA	CK
1	ISSUED FOR BUILDING PERMIT	20190314	RT	RT	RT						

LEGEND

LAMP STANDARD	LS	CLEANOUT		DITCH	
POLE(Hydro, Tel.)	PP	CATCHBASIN		METER	W
U/G WIRING	UE	MANHOLE		FLUSH VALVE	
GAS	G	SERVICE RISER		VALVE	
WATER	W	MOUNTABLE CURB	MC	REDUCER	
SEWER	S	NON-MOUNT. CURB	NMC	HYDRANT	
DRAIN	D	EDGE ASPHALT		AIR VALVE	

JEA J E ANDERSON & ASSOCIATES
SURVEYORS - ENGINEERS
VICTORIA NANAIMO PARKSVILLE CAMPBELL RIVER
PHONE: 250-727-2214 info@jeanderson.com

JURISDICTION: CITY OF VICTORIA

ENGINEERS SEAL

MERCHANT HOUSE

VICTORIA PRESS ROOM
SITE SERVICING PLAN

31071 01 C1

MUN. FILE

SHEET 1 OF 1