

DUNSTER & ASSOCIATES  
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Tree Management Plan for the Development Proposed at  
448 Wilson Street and 422 Edward Street, Victoria, B.C.

October 9, 2023

# Tree Management Plan for the Development Proposed at 448 Wilson Street and 422 Edward Street, Victoria, B.C.

## Background

Two properties at 448 Wilson Street and 442 Edward Street are proposed for consolidation and redevelopment into higher density use. The location of the trees on the properties is shown in Figure 1.

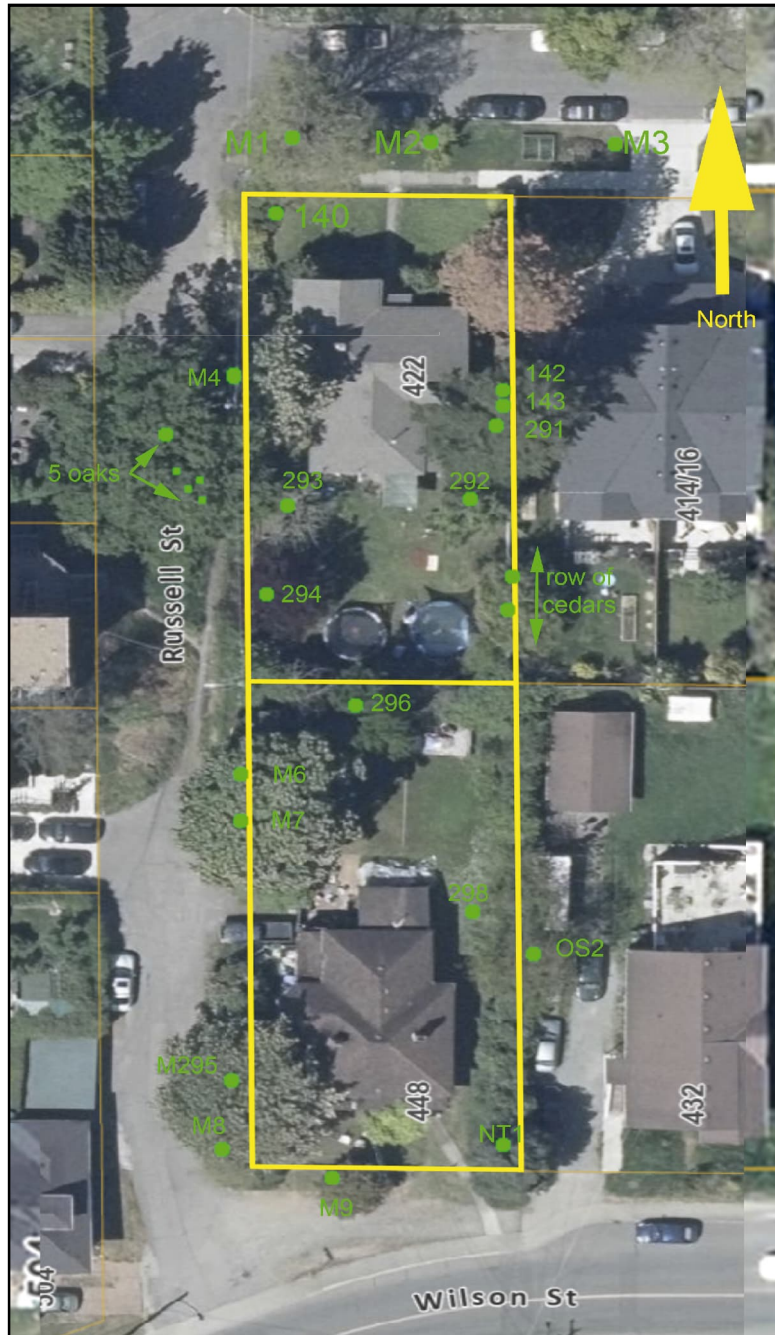


Figure 1. Location of the two properties at Wilson and Edward.

# Conditions on Site

Trees on site had been previously tagged. I have used these tags for identification and the survey plans. Trees on municipal land are not tagged but are identified as M1, M2, etc. There is one untagged tree off site on the east side identified as OS1, and one untagged bushy holly tree in the south east corner identified as NT 1 (No tag). Russell Street is a right of way that is unopened but has an informal trail across it. Table 1 provides details of the trees.

Tag / ID #	Species	Trunk Diameter (cm)	Bylaw status M Y N	Protected Root Zone * 1	Canopy spread	Condition	Retention suitability	Remove	Comments
M1	Black Locust	75	M	5	9	G	G	N	
M2	Red Oak	6	M	2	2	P	G	N	Many past wound sites on trunk
M3	Honey Locust	5	M	2	1	G	G	N	
M4	Horse chestnut	47	M	4	8	G	P	Y	Too close to path and buildings
M6	Horse chestnut	~62	M	4	8	G	G	N	Heavy ivy on trunk. Diameter estimated
M7	Horse chestnut	55	M	4	8	G	G	N	
M295	Horse chestnut	76	M	4	8	G	G	Y	Old pruning wounds, reasonable condition. City required pathway to close to retain tree.
M8	Black Locust	8	M	2	3	G	G	Y	City required pathway to close to retain tree.
M9	Red Horse chestnut	20	M	3	4	G	G	N	
Row of cedars	Western red-cedar	16,10,9,10, 13,18,10, 20/20	N	3	1	F	G	Y	All trees located beyond wooden fence. 9 stems, 8 trees. City staff (Simon Vis) advise none are protected and need not be considered in tree count.
OS2	Cherry	35	Y	3		F	P	N	Off site beyond fence, almost dead.
NT1	Holly		Y	2	5	G	G	N	Multiple small stems to form one large bushy tree
140	Dogwood	8	Y	2	3	G	G	N	Assumed to be a native species. Fair. Crown dieback.
142	Douglas-fir	41	Y	3	10	G	G	N	Reasonable condition, minor deadwood.
143	Douglas-fir	49	Y	3	12	G	G	N	Reasonable condition, minor deadwood.
291	Douglas-fir	33	Y	3	8	G	G	N	Topped in the past, reasonable condition, minor deadwood.
292	Pear	39	Y	3	5	F	G	N	Heavily pruned, regrown. Fair. Crown dieback.
293	Cherry	48/31	Y	3	5	P	P	Y	Very poor condition – almost dead. In footprint.
294	Norway Maple	19	N	3	6	G	G	Y	In footprint.
296	Linden	30	Y	3	7	G	G	Y	Some included bark at stem union. In footprint.
298	Pear	14/13/12	Y	3	3	P	P	Y	Poor condition. In footprint.

M = Municipal tree so assumed to be protected. NT=no tag. OS= off site. Rows in colour are trees to be removed.

\* 1. Protected root zone (DBH x 18) has been modified in most cases based on decades of experience working with similar tree species.

NOTE

One protected tree had been removed earlier and to date, the replacement tree required for that has not been planted. That adds one additional tree to the overall tree count.



Figure 2. The proposed development.

There are several trees to the west of the trail connecting Wilson and Edward Street. They are located on the survey but not tagged or inventoried as they fall beyond the proposed area of work.

Figure 2 shows the planned development footprint and the trees to be retained (green) or removed (red), as well as the new connecting footpath between Edward Street and Wilson Street, and the access and parking on the new site. The specific details of how each area is to be managed is laid out in the next section.

## The Proposed Development and Implications

The proposed development will require several specific steps in order to maximise the successful retention of the trees to be retained.

### BEFORE DEMOLITION.

Before the existing buildings can be demolished the following actions must be implemented as specified.

1 The trees not being retained shall be removed first of all. These include trees on municipal land (M4, M6, M7), and the row of cedars behind the wooden fence. The fence can be knocked down by hand and stockpiled for later removal. Stumps can be left in the ground for later removal by machine when overall site grubbing takes place.

2 Once the trees not being retained have been removed, tree protection fencing shall be installed around all trees to be retained. The following sketches show the location of all fencing required as provide specific directions.

### TREES M1, M2, M3, + 140

The three street trees and one small tree on site shall be fenced as shown in Figure 3.

M1 = curb to sidewalk, 3 m east and west from trunk.

M2 = 1 metre radial all directions.

M3 = 1 metre radial all directions.

140 = 1 metre radial all directions.

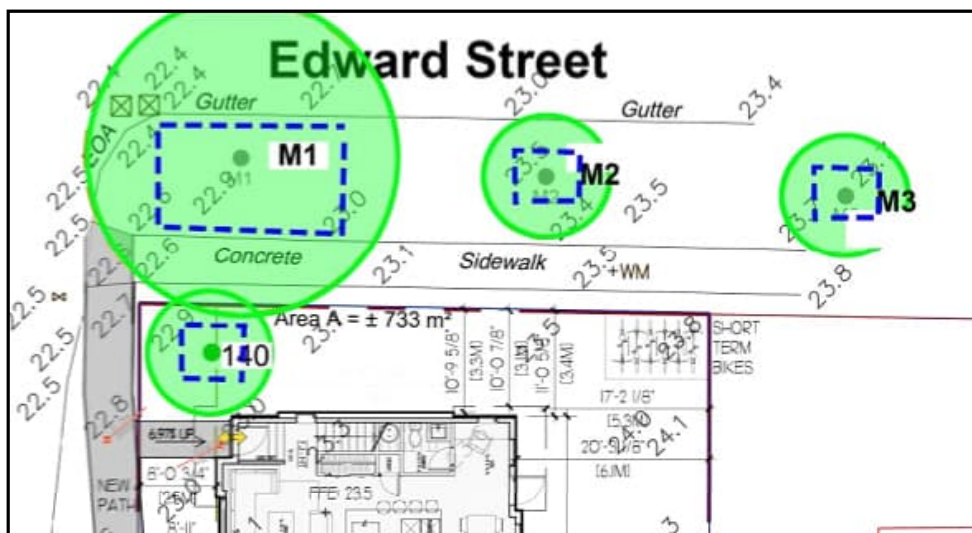


Figure 3. Fence Locations North end of site.

## NORTH EAST BOUNDARY - TREES 142, 143, 291, 292.

Trees 142 to 292 along the north east boundary require special attention. The existing house wall is located about 3 metres from the base of the Douglas-fir trees. The tree protection fence shall start 3 metres to the north from the base of tree 142, and then placed not more than 0.5 metres away from the existing house wall. It shall extend southwards to a distance of not less than 3 metres from the south of the base of tree 291. From there it shall jog west to form a line that is 2.0 metres (north south) from the base of the pear tree 292, and to a point 2 metres south of the base of that tree. It shall then head east back to the property line. General concept shown in Figure 4.



Figure 4. Fencing around trees 142, 143, 291, 292.

The house demolition can start at the west or south wall and must move all materials into the existing footprint with zero disturbance beyond the east house wall. All foundation materials underground are to be pulled into the footprint. The fence is 0.50 metres away so all of that should be feasible with a skilled operator.

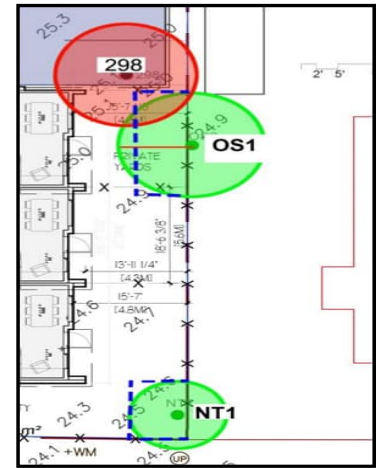
After demolition of the existing house (north end) has been completed, the contractor shall layout the footprint of the new building on site. Working with the project arborist, the height of the new building shall be considered with respect to the large limbs on the three Douglas-fir trees and the pear tree. If necessary, some limbs may be pruned off to obtain a minimum roof clearance of 4 metres. This work shall be documented and may require a tree pruning permit to undertake.

The tree protection fence shall be retained in place as specified until the patio areas are ready to be developed. At that time the fence shall be moved back to the edge of the patio plus 0.5 metres to allow working room for the patio installation.

**TREES OS1 AND NT1 - Figure 5.**

For tree OS 1, start fence on boundary 3 metres to the north, extend it 2.5 metres west, 6 metres south and return to boundary.

For Tree NT 1, start fence on boundary 2.5 metres north of tree, extend it 2.5 metres west, then south to property line and back to boundary line.



**SOUTHWEST CORNER - M9**

The protection fence around M9 shall be placed at a radial distance of 3 metres, which may be reduced by 0.3 metres away from the edges of the new path and sidewalk.

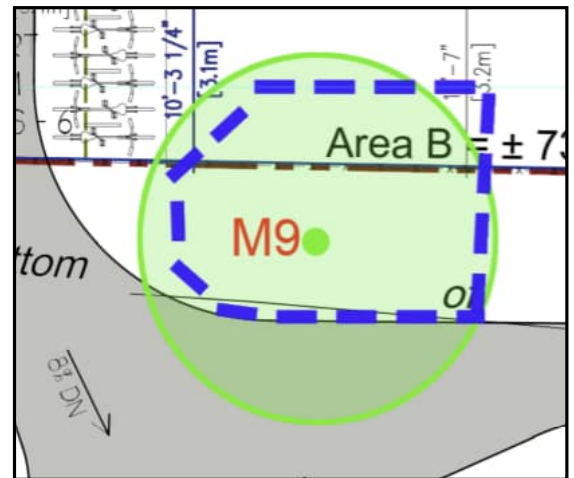


Figure 6. Tree M9.

**TREES M6 and M7 - Figure 7.**

The fence shall start 4 metre to the north of M6 and extend to the edge of the planned pathway, continuing south to the edge of the new road access, and then back north to the starting point

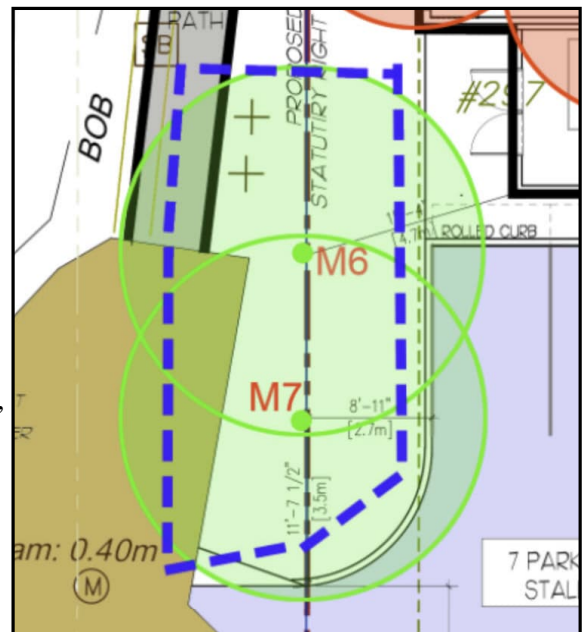


Figure 7. Trees M6 and M7.

## West of the new path - Figure 8.

By the untagged trees west of the new path, place a fence 0.5 m beyond the west edge of the new path, starting 2 metres south of the south tree and extend it northwards as shown, to be at least 3 metres beyond the small trees and then uphill for 2 metres

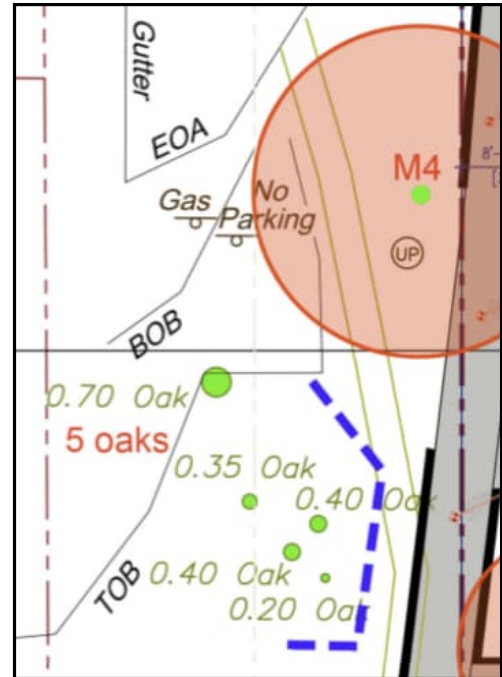


Figure 8. Oak trees west of existing pathway.

## Site Servicing

The site servicing plans for storm and sewer are shown in Figure 9. The areas in blue boxes are planned trenches and all work in those areas will require on site arborist supervision to ensure that there is no damage to the trees being retained. There will be a requirement to place a plywood track over the ground on the side of these trenches closest to the trees within any tree protection zones. This track will be a double layer of 5/8 plywood that shall be placed before any machinery moves into the areas by trees. The project arborist shall discuss placement of the plywood with the contractor beforehand, and shall be on site during all excavation work within the tree protection zones. Any fencing required to be temporarily moved shall be replaced in the locations specified above immediately after all trenching and backfill work has been completed. The project arborist shall issue a field update report at the completion of that work .



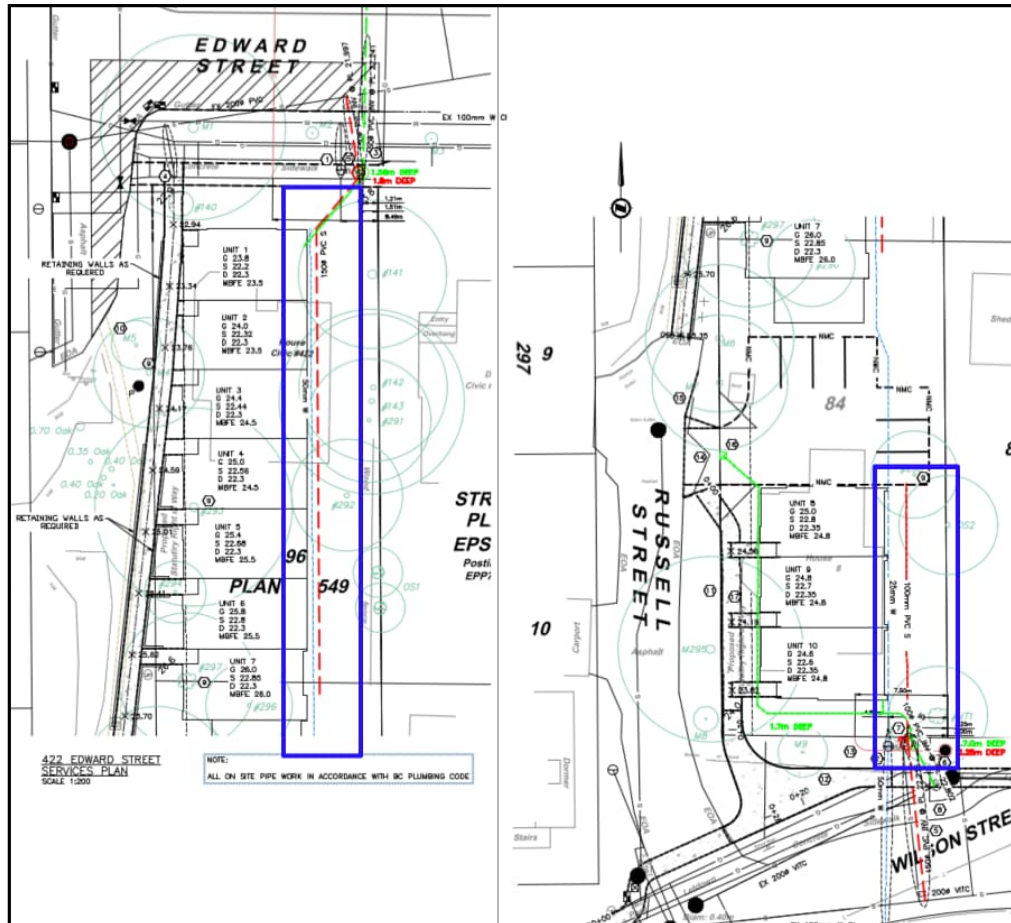


Figure 9. Site servicing.

## Tree Impact Summary Table.

	A	B	C	D
Tree Status	Total # of Protected Trees	# of Trees to be Removed	# of NEW or REPLACEMENT trees to be planted	# of EXISTING Non-protected Trees Counted as Replacements
Onsite trees	10	4	7	0
Offsite trees	6 (includes 5 oaks by pathway)	0	0	0
Municipal trees	9	3	3	0
Total	19	15	15	0

Four onsite trees will be removed (293, 294, 296, 298). Three of those (293 + 296 + 298) are protected. On that basis six trees are required to replace the three protected trees. Note the one tree removed earlier that requires a replacement, so a total of seven newer trees required. There are three municipal trees being removed.

The lot requirement required in Schedule F of the bylaw is 7 trees (1466 square metres in both lots). To meet that requirement there will be 7 new trees planted on site (Schedule E Part 1) and three new trees planted offsite (Schedule E part 1) to replace the three municipal trees lost due to the new path required.

## Summary

This management plan shows the trees that can be retained and the trees that will be removed with the proposed development. There are ten trees on municipal land, of which three would be removed. There are thirteen trees plus a row of 12 small cedars on site (currently inaccessible behind a fence). Four onsite trees and the small cedars would be removed, plus three municipal trees. Six replacement trees are required, plus one from an earlier tree removal - total seven new trees required.

Several of the trees on site grow quite close to the existing houses and their roots will have been constrained by foundation walls. The tree protection fences and overall management of trees to be retained is based on actual site conditions, rather than theoretical setback distances. A comprehensive set of actions has been laid out for each area and shall be followed as written.

I have not attempted to provide a sense of disturbance tolerance simply because this has little to no practical merit these days in light of climate change and prolonged summer droughts. The primary disturbance on all sites is now lack of rain and soil moisture throughout the summer months. The magnitude of that stress easily eclipses any disturbance due to development, and in fact, many undisturbed trees are now dying because of drought, not development. The proposed development has been designed to minimise disturbances to the extent possible while still allowing room for development. As with all such plans there are compromises, but the plans shown do have a reasonable chance of success if the specifications provided are followed.

	Count	Multiplier	Total
<b>ONSITE Minimum replacement tree requirement</b>			
A. Protected trees removed	3	X 1	A. <span style="color: red;">3</span>
B. Replacement trees proposed per Schedule "E", Part 1	16	X 1	B. <span style="color: red;">16</span>
C. Replacement trees proposed from Schedule "E", Part 2	0	X 0.5	C. <span style="color: red;">0</span>
D. Replacement trees proposed per Schedule "E", Part 3	0	X 1	D. <span style="color: red;">0</span>
E. Total replacement trees proposed (B+C+D) <i>Round down to nearest whole number</i>			E. <span style="color: red;">16</span>
F. Onsite replacement tree deficit (A-E) <i>Record 0 if negative number</i>			F. <span style="color: red;">0</span>
<b>ONSITE Minimum trees per lot requirement (onsite trees)</b>			
G. Tree minimum on lot*			G. <span style="color: red;">7</span>
H. Protected trees retained (other than specimen trees)		X 1	H. <span style="color: red;">6</span>
I. Specimen trees retained		X 3	I. <span style="color: red;">0</span>
J. Trees per lot deficit (G-(B+C+H+I)) <i>Record 0 if negative number</i>			J. <span style="color: red;">0</span>

On Behalf of Dunster & Associates Environmental Consultants Ltd.



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