

**ARBORIST REPORT FOR
401 SMYTH ROAD,
CITY OF OTTAWA, ONTARIO**

Prepared for:

**CHILDREN'S HOSPITAL OF EASTERN ONTARIO-OTTAWA
CHILDREN'S TREATMENT CENTRE (CHEO)
1DOOR4CARE INTEGRATED TREATMENT CENTRE**

Prepared by:

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Date: August 2022
File: C21114

COLVILLE 
CONSULTING INC.

This report has been prepared as part of a proposed development on the located at 401 Smyth Road, in the City of Ottawa, henceforth referred to as the Subject Lands. Colville Consulting Inc was contacted by B+H Architects and asked to join a multi-disciplinary team to complete an Arborist Report as outlined in Infrastructure Ontario's document "Request for Proposals for Planning, Design and Conformance Consulting Services for Children's Hospital of Eastern Ontario-Ottawa Children's Treatment Centre (CHEO) 1Door4Care Integrated Treatment Centre RFP No. 21-083". Works undertaken as part of this report include a detailed inventory of trees on the Subject Lands, mitigation strategies to reduce impact on trees recommended to be retained. An inventory of trees within and adjacent the development footprint of the proposed parking garage and treatment facility was completed on June 9th and 10th, 2022, with data present in this report reflecting the site conditions at that time.

The general intent of the Report is to identify trees within and adjacent the proposed development and provide preliminary input on which trees are anticipated to be removed based on the PDC design approach, and which trees may be able to be retained. Information on trees to be removed includes the rationale for removal in addition to information to be used during compensation discussions as part of the development review process with the city. It is our understanding that compensation type and extent will be determined by the total number and size of trees to be removed on site, as well as the ability to incorporate replacement trees into the landscape plan. Information on mitigation strategies has been included in for trees to be retained

Prior to development it is anticipated that, in addition to the information provided in this report, a Tree Conservation Report (TCR) will be required as per the City of Ottawa Tree By-law (No. 2020-340). Schedule E of the By-law outlines the guidelines required for the completion of a TCR and states:

"The Tree Conservation Report (TCR) provides essential information that must be integrated with all plans for a site, including the grading, servicing and landscape plans, to ensure that trees are retained in development scenarios, where feasible, and that new trees will be accommodated and planted to contribute to the City's forest cover target and to address a site's tree loss.

The purpose of the Tree Conservation Report is to demonstrate how tree cover will be retained on the site, including mature trees, stands of trees, and hedgerows, using a design with nature approach to planning and engineering. A design with nature approach incorporates the natural features of a site into the design and engineering of a proposed development. This includes, but is not limited to, measures such as retention of vegetation, consideration of wildlife habitats, and respect for natural drainage patterns..."

PROPOSED DEVELOPMENT

The Children's Hospital of Eastern Ontario (CHEO) is currently operating on the majority of the property located at 401 Smyth Road, in the City of Ottawa. The development proposed is located on the southern portion of the Subject Property to the north of Ring Road. Development proposed as part of this project is understood to include two main components, the construction of a "1door4Care" multi-purpose building as an extension of the existing main campus and a new parking structure to replace an existing outdoor parking lot.

The proposed multi-level parking structure is being built to replace the parking spots lost as part of the construction of the treatment facility.

Modification to these plans and/or site characteristics will require further investigation to identify changes to the recommendations provided within this report.

ASSUMPTIONS AND LIMITING CONDITIONS

The observations and recommendations within this document are true for the period that staff were on site and therefore do not include any other activities and/or change in overall condition or health to any trees occurring on site before or after our site visit. The existence of any and all trees on site represent a certain inherent degree of risk and our evaluation and recommendation does not preclude all potential risk of failure. Inspection of trees was conducted using visual examination and limited to information gathered through visual observation.

In spite of our recommendations and conclusions in our report, it's important to understand that all trees are living organisms, meaning that their health and status has the potential to be in constant flux over time, and that trees are not immune to changes in site conditions or seasonal variations in weather conditions.

Possession of this report does not imply right of publication or use for any purpose other than to whom it is addressed to, without the prior expressed written or verbal consent of Colville Consulting Inc. This report shall be considered whole and should be considered incomplete if there are any pages missing.

SUBJECT LANDS

The Subject Lands are located on existing surface parking lot structures, driveways, and landscaped areas on the southern portion of the Subject Property. The overall CHEO Subject Property occupies an approximate area of 13.9 hectares, while the Subject Lands assessed as part of this report are approximately 3.1 hectares in size. CHEO shares a campus with the Ottawa General Hospital and the University of Ottawa's Roger Guindon Hall, both located at 451 Smyth Road to the east.

The Subject Lands are primarily surrounded by residential development, as well as additional institutional and recreational uses. A hydro corridor runs north of the Subject Property and is separated by a moderately sized woodland feature.

The Location of the Subject Property and Subject Lands are shown in Figure 1 provided below.

METHODS

This Report has been completed in general compliance with the City of Ottawa's Tree Protection By-Law (No. 2020-340), with the goal of retaining and protecting as many trees as reasonably possible on the site and providing mitigation strategies for trees to be retained. This report is intended to be read in conjunction with other design reports prepared for the project as part of the Integrated Design Brief prepared by B+H Architects.

The work plan for this report included the following components:

- ◆ Field reconnaissance to collect tree inventory information for trees situated on the Subject Lands
- ◆ Preparation of summary mapping;

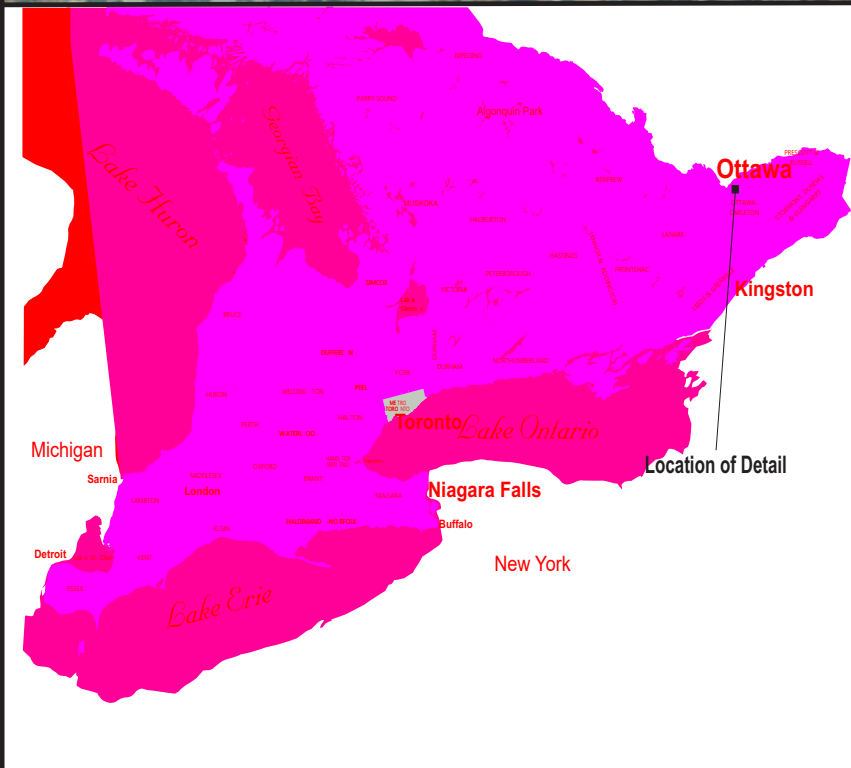
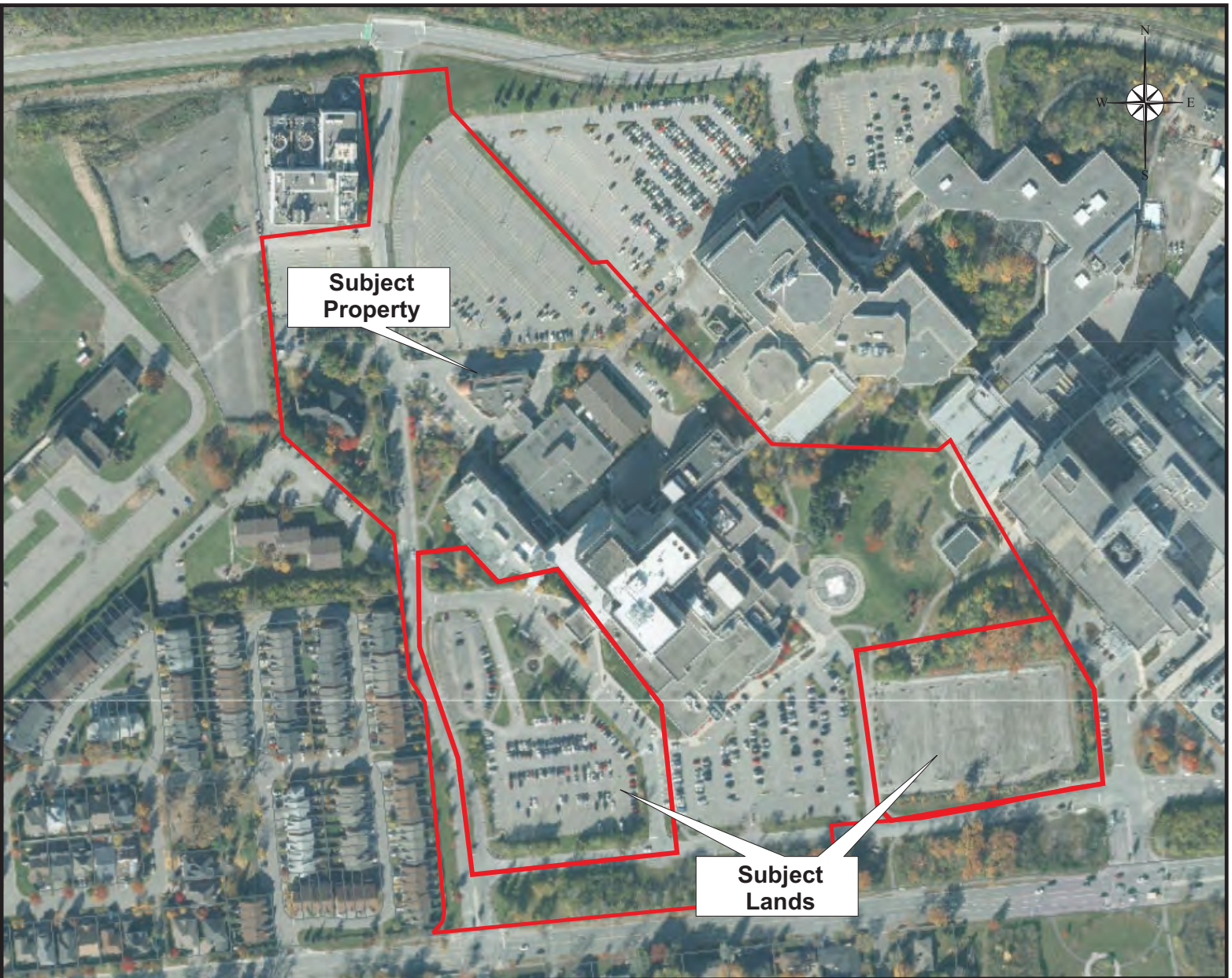


Figure 1
Location Map

Arborist Report
for CHEO, City of Ottawa

Prepared for: **CHEO**

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- ◆ Evaluation of potential tree saving opportunities based on the proposed site plan; and,
- ◆ Recommend appropriate mitigation measures to help preserve remaining trees on the site.

The tree inventory on the Subject lands was conducted on June 9th and 10th, 2022 and included the following parameters:

Species – common and botanical names provided in the inventory table.

DBH – diameter at breast height (cm), measured at 1.3 m above the ground.

Canopy Size – Approximate diameter of tree canopy

Condition – condition of tree considering trunk integrity, crown structure and crown

Vigor- Condition ratings include Dead (D), poor (P), fair (F), and good (G).

Location – UTM coordinates of the tagged tree.

The inventory of trees on this property was limited to trees 10cm in DBH and larger for trees located within and adjacent to areas anticipated to be impacted through the proposed treatment center and parking garage development. For the purpose of this assessment, the limit of disturbance is understood to be the entirety of the Subject Lands.

TREE INVENTORY RESULTS

Tree Inventory data for all trees surveyed is provided in Appendix A. A total of eighty-five (85) trees were inventoried and tagged with unique tree ID numbers on and adjacent the Subject Lands during the site assessment. A total of eighty-five (85) trees were inventoried on the Subject Lands. Thirty (30) trees inventoried were directly impacted or adjacent to the proposed parking garage, and the remaining fifty-five (55) trees were located within or adjacent the proposed treatment facility footprint. Twenty-one (21) of the trees inventoried are recommended to be retained, while sixty-four (64) are recommended for removal.

Trees have been recommended for removal for a number of reasons including direct impacts from development, impacts from site grading, and poor overall tree health.

Tree to be retained are primarily located in landscaped areas or within woodlands outside of the proposed footprint of development.

Of the trees to be retained, eight (8) are invasive common buckthorn. A significant amount of smaller common buckthorn was also observed within the hedgerows adjacent to Ring Road. Removal of these invasive specimens is strongly recommended.

Detailed information and recommendations for each tree inventoried is provided within Appendix A. Mapping in Appendix B and C shows all trees inventoried on and adjacent the Subject Lands and Critical Root Zones (CRZ). A selection of site photographs taken during field inventories are provided in Appendix D and E.

TREE CARE RECOMMENDATIONS

The following are minimum standards for tree care recommendations that shall be applied to trees recommended to be retained as identified in Appendix A. Any additional specific standards or

specifications required by the City of Ottawa shall supersede the following recommendations and be adhered to accordingly.

Tree Protection Zone

The Tree Protection Zone (TPZ) is required for trees to be retained and in order to protect roots and soil within the critical root zone (CRZ). The CRZ is the immediate root zone surrounding the trunk of the tree and is integral to tree for tree health and stability. During construction, no machinery, grading, or general work should be conducted within the limits of TPZ. The TPZ should be delineated through the installation of tree hoarding.

The following recommendations should be adhered to prevent unintended works from occurring within the CRZ.

- ◆ Tree protection zone fencing shall be installed following design criteria as outlined by the City of Ottawa Tree Protection Specifications provided in Appendix E.
- ◆ Signage should be adhered to the tree hoarding protection identifying it and explaining the TPZ and that no works are permitted within the limits of the tree hoarding.
- ◆ Construction materials, equipment, soil, construction waste, or debris shall not be stored within the Tree Protection Zone.
- ◆ TPZ fencing must be installed prior the start of construction activities on the site and inspected by City forestry staff.
- ◆ Tree Protection should be maintained throughout the duration of construction. Should any damage occur to tree protection, it should be repaired as soon as possible.
- ◆ Tree hoarding should remain installed until all construction works have been completed.

Trunk Protection

In areas where construction activities cannot avoid encroachment into the TPZ, and the project arborist has been consulted, protection should be applied to trunks and buttress roots.

- ◆ Thick wood planks installed around the trunk overtop of foam padding and secured with straps or wires are recommended.
- ◆ Barriers should be installed at an angle to protect trunk flare and buttress roots.

Root Maintenance

Root health is essential for tree health and stability. Roots can extend approximately 2-3 times the distance of the dripline. This can result in a significant loss of feeder roots during construction and may require further mitigation.

- ◆ If root cuts are required, the cut should be made as far from the trunk as possible and not occur within the dripline.
- ◆ Any roots over 2.5cm in diameter should be pruned rather the torn or crushed. Two methods that may be employed are soil excavation followed by selective root cutting, or mechanical root pruning tools designed to cut roots. Root pruning should only be completed by a trained and experienced arborist.
- ◆ Mulch may be used as a temporary measure to protect roots systems. Mulch applied at a thickness of 15cm to 30cm can help disperse weight and reduce root compaction.

CONCLUSION

The proposed development of the treatment facility and parking structure is anticipated to require the removal of sixty-four (64) trees to facilitate grading and construction. Some trees recommended for retention are located in close proximity to the proposed developments and may need to be removed as part of additional design requirements. Additional assessments are recommended to address these changes as required.

Prior to any works being conducted along property lines, or within the drip lines of trees growing on adjacent properties that have the potential to be impacted, a consent letter from the neighboring property owners is required. Tree Protection measures should be incorporated as recommended in this report for trees that may be impacted.

Based on background research, our site visit, and discussions of our findings, we have come to a few important recommendations and conclusions. These recommendations include the following:

- ◆ It is anticipated that to facilitate the proposed development of the treatment facility and parking structure, 64 trees will need to be removed on the Subject Lands.
- ◆ Recommendations for the retention and removal of individual trees are subject to change pending modifications to the final development plan and/or grading requirements associated with construction.
- ◆ As per the City of Ottawa By-law (No. 2020-340), The removal of trees on the site cannot occur until written approval of a Tree Conservation Report has been granted through a tree permit
- ◆ Further risk assessment of trees located north of the proposed parking structure (Trees #525-530) is recommended to better determine overall tree health and assess if selective tree removal should be completed.
- ◆ Tree hoarding for trees to be retained shall meet the City of Ottawa Tree Protection Specifications, as attached in Appendix E.
- ◆ Eight of the trees inventoried over were invasive common buckthorn. Significant amounts of buckthorn are present within the hedgerows on site and should be removed and areas replanted with native species where possible.
- ◆ Tree care recommendations provided should be considered a minimum standard and applied to all trees to be retained in development areas.
- ◆ Tree protection measures and recommendations will not guarantee tree protection, and the potential for damage may still occur. Ongoing monitoring to ensure tree protection measures are effective is recommended.

Respectfully submitted by:

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RFP Respondent's Meeting. Children's Hospital of eastern Ontario – Ottawa Children's Treatment Centre (CHEO) 1Door4Care Integrated Treatment Centre. Planning, Design, and Conformance Consulting Services. RFP 21-083 – August 10, 2021.

APPENDICES

Appendix A – Tree Inventory Data

Appendix B – Figure #2 – Tree Inventory and CRZ for Proposed Parking Garage

Appendix C – Figure #3 – Tree Inventory and CRZ for Proposed Treatment Facility

Appendix D– Site Photographs – Proposed Parking Garage

Appendix E– Site Photographs – Proposed Treatment Facility

Appendix F– City of Ottawa Tree Protection Specifications

Appendix A
Tree Inventory Data

Tag #	Species	Scientific Name	Location	DBH (cm)	Critical Root Zone (CRZ) (cm)	Dripline	Health	Recommendation	Field Notes/Condition Comments	Zone	Northing	Easting
501	White Oak	<i>Quercus alba</i>	Parking Structure	34	340	2	Fair	Remove, grading	Leaf gulls, tightly pruned, soil compaction evident	18T	5027599.979	449147.439
502	White Oak	<i>Quercus alba</i>	Parking Structure	30	300	3	Fair	Remove, grading	Leaf gulls, tightly pruned, soil compaction evident	18T	5027608.917	449145.094
503	Red Maple	<i>Acer rubrum</i>	Parking Structure	10	100	2	Good	Retain	At corner of parking lot, landscaped	18T	5027571.329	449149.238
504	Red Maple	<i>Acer rubrum</i>	Parking Structure	14	140	2	Fair/Poor	Retain	60% dieback, girdling on trunk	18T	5027574.334	449163.747
505	Red Maple	<i>Acer rubrum</i>	Parking Structure	10	100	3	Good	Remove, construction	Minor girdle on trunk, good canopy coverage.	18T	5027575.987	449178.208
506	Red Oak	<i>Quercus rubra</i>	Parking Structure	84	840	7	Good/Fair	Remove, construction	Some crown dieback, union at 175cm - stems 40cm each	18T	5027577.428	449191.885
507	White Oak	<i>Quercus alba</i>	Parking Structure	30	300	4	Good	Remove, construction	80% crown	18T	5027579.049	449202.58
508	Red Maple	<i>Acer rubrum</i>	Parking Structure	12	120	3	Good	Remove, construction	Girdle at 1m, staking removed.	18T	5027577.852	449212.76
509	White Oak	<i>Quercus alba</i>	Parking Structure	20	200	4	Good	Remove, construction	1' from fence, slight lean towards Ring Road.	18T	5027581.132	449223.549
510	Red Maple	<i>Acer rubrum</i>	Parking Structure	10	100	3	Good	Remove, construction	light girdle at 1.2m, good canopy	18T	5027579.348	449227.551
511	Mountain Ash	<i>Sorbus americana</i>	Parking Structure	10	100	3	Good	Remove, construction	largest specimen in area, others smaller than 10cm DBH	18T	5027584.219	449242.966
512	White Oak	<i>Quercus alba</i>	Parking Structure	10	100	2	Good	Remove, construction	Tight branching, good crown	18T	5027586.628	449262.836
513	Eastern white cedar	<i>Thuja occidentalis</i>	Parking Structure	10	100	2	Good	Remove, grading	Good canopy, still has staking attached.	18T	5027595.147	449267.504
514	Eastern white cedar	<i>Thuja occidentalis</i>	Parking Structure	10	100	2	Good	Remove, grading	Still has staking attached.	18T	5027601.127	449267.968
515	American Elm	<i>Ulnus americana</i>	Parking Structure	26	260	5	Good	Remove, grading	slight lean, 95% crown.	18T	5027613.413	449267.997
516	American Elm	<i>Ulnus americana</i>	Parking Structure	16,12,10,10	160	5	Good	Remove, grading	Multi stem, Good canopy	18T	5027614.15	449270.01
517	White Oak	<i>Quercus alba</i>	Parking Structure	38	380	6	Good	Remove, grading	1' from fence line, good taper.	18T	5027646.276	449262.683
518	White Oak	<i>Quercus alba</i>	Parking Structure	18	180	4	Good	Retain	Surrounded by buckthorn, good canopy, good taper	18T	5027652.101	449264.057
519	Norway Maple	<i>Acer platanoides</i>	Parking Structure	30	300	5	Good	Retain	Ripped lower limb	18T	5027666.601	449145.907
520	Norway Maple	<i>Acer platanoides</i>	Parking Structure	24	240	3	Fair	Retain	Union at 155cm, some dieback	18T	5027672.802	449139.649
521	Silver Maple	<i>Acer saccharinum</i>	Parking Structure	18	180	3	Good	Retain	Healed over frost crack	18T	5027667.516	449133.021
522	White Oak	<i>Quercus alba</i>	Parking Structure	54	540	7	Good	Retain	Some leaf wilt, good canopy.	18T	5027657.215	449145.774
523	Red Oak	<i>Quercus rubra</i>	Parking Structure	40	400	8	Good/Fair	Remove, grading	Buried root flare, 80% canopy, touching fence.	18T	5027646.617	449260.706
524	White Oak	<i>Quercus alba</i>	Parking Structure	28	280	4	Good	Remove, grading	90% canopy.	18T	5027590.175	449250.686
525	Red Oak	<i>Quercus rubra</i>	Parking Structure	42	420	6	Good	Retain	Good canopy condition, good taper.	18T	5027661.4	449204.913
526	Red Oak	<i>Quercus rubra</i>	Parking Structure	48	480	5	Good/Fair	Retain	weak union at 3m. Wound on trunk.	18T	5027664.191	449213.948
527	Red Oak	<i>Quercus rubra</i>	Parking Structure	44	440	5	Good/Fair	Retain	slight sweep in trunk, possible fungal infection at root collar.	18T	5027663.641	449214.176
528	Red Oak	<i>Quercus rubra</i>	Parking Structure	68	680	6	Good/Fair	Retain	Union at 4m. Possible slime flux present, further assessment recommended	18T	5027662.463	449223.033
529	Red Oak	<i>Quercus rubra</i>	Parking Structure	40	400	5	Fair	Retain	epicormic growth at along trunk.	18T	5027665.539	449230.545
530	Red Oak	<i>Quercus rubra</i>	Parking Structure	64	640	6	Fair	Retain	70% canopy, Possible slime flux present, further assessment recommended	18T	5027667.52	449239.35
531	American Basswood	<i>Tilia Americana</i>	Treatment Facility	10	100	2	Good/Fair	Remove, construction	Multi stem, Good canopy	18T	5027582.534	448997.827
532	American Elm	<i>Ulnus americana</i>	Treatment Facility	30	300	4	Good/Fair	Remove, construction	Union at 2m, 80% canopy, some dieback	18T	5027568.935	448999.757
533	Cherry Plum	<i>Prunus cerasifera</i>	Treatment Facility	14,14,12,12	140	5	Good	Remove, construction	Coppice, at corner of driveway	18T	5027553.417	448996.889
534	American Elm	<i>Ulnus americana</i>	Treatment Facility	24	240	4	Fair/Poor	Remove, construction	60% canopy dieback	18T	5027552.341	448994.681
535	Red Pine	<i>Pinus resinosa</i>	Treatment Facility	40	400	4	Poor	Remove, construction	Lots of dieback, epicormic growth	18T	5027553.266	448988.935
536	Red Pine	<i>Pinus resinosa</i>	Treatment Facility	34	340	3	Good	Remove, construction	Good canopy, good taper	18T	5027549.829	448986.092
537	American Elm	<i>Ulnus americana</i>	Treatment Facility	36	360	6	Good	Remove, construction	Compacted soils, union at 2m	18T	5027547.428	448932.098
538	Sugar Maple	<i>Acer saccharum</i>	Treatment Facility	40	400	6	Fair/Poor	Remove, construction	Significant canopy dieback, missing codominant stem	18T	5027546.437	448926.75
539	American Elm	<i>Ulnus americana</i>	Treatment Facility	12	120	4	Good/Fair	Remove, construction	Sweep, good taper.	18T	5027546.743	448923.166
540	Cherry Plum	<i>Prunus cerasifera</i>	Treatment Facility	20,18	200	5	Good	Remove, grading	Multi-stem, sprawling	18T	5027547.089	448919.136
541	Scots Pine	<i>Pinus sylvestris</i>	Treatment Facility	58	580	6	Good	Remove, grading	slight lean, Good canopy.	18T	5027600.796	448896.759
542	White Spruce	<i>Picea glauca</i>	Treatment Facility	38	380	4	Fair	Remove, grading	Some canopy dieback, minor root damage	18T	5027705.256	448878.467
543	Cherry Plum	<i>Prunus cerasifera</i>	Treatment Facility	18	180	3	Good	Remove, grading	Good taper, healthy canopy.	18T	5027718.065	448875.276
544	Cherry Plum	<i>Prunus cerasifera</i>	Treatment Facility	24,18,14	240	3	Good	Remove, grading	Multi Stem	18T	5027723.484	448871.836
545	White Spruce	<i>Picea glauca</i>	Treatment Facility	36	360	5	Good/Fair	Retain	Some canopy dieback	18T	5027722.561	448881.28
546	Sugar Maple	<i>Acer saccharum</i>	Treatment Facility	42	420	5	Good/Fair	Remove, construction	Union at 1.5m, codominant	18T	5027727.872	448885.798
547	White Spruce	<i>Picea glauca</i>	Treatment Facility	38	380	5	Good	Remove, construction	No sign of disease	18T	5027721.638	448884.34
548	Norway Maple	<i>Acer platanoides</i>	Treatment Facility	26	260	4	Good	Remove, construction	Good canopy, good taper.	18T	5027718.034	448891.438
549	Sugar Maple	<i>Acer saccharum</i>	Treatment Facility	34	340	4	Fair	Remove, construction	dieback in crown, broken branches removed.	18T	5027713.093	448883.915
551	White Spruce	<i>Picea glauca</i>	Treatment Facility	34	340	3	Fair	Remove, construction	Dieback in crown, good taper.	18T	5027707.685	448888.485
552	Norway Maple	<i>Acer platanoides</i>	Treatment Facility	46	460	3	Good	Remove, construction	Good canopy	18T	5027709.598	448895.524
553	Norway Maple	<i>Acer platanoides</i>	Treatment Facility	24	240	4	Good	Retain	On slope, adjacent existing CHEO	18T	5027705.624	448928.514
554	Norway Maple	<i>Acer platanoides</i>	Treatment Facility	18	180	3	Good	Retain	On slope, adjacent existing CHEO	18T	5027703.707	448939.097
555	Japanese Lilac	<i>Syringa reticulata</i>	Treatment Facility	16	160	3	Good	Retain	Multi Stem, >90% canopy	18T	5027685.393	448950.763
556	Japanese Lilac	<i>Syringa reticulata</i>	Treatment Facility	14	140	2	Fair/Poor	Retain	Significant frost damage, reduced canopy.	18T	5027670.477	448963.145
557	Silver Maple	<i>Acer saccharinum</i>	Treatment Facility	20,26	260	4	Good	Retain	Union at base.	18T	5027664.203	448963.945
558	Sugar Maple	<i>Acer saccharum</i>	Treatment Facility	48	480	5	Fair	Remove, construction	Two leaders, weak union at 2m.	18T	5027641.758	448955.309
559	White Spruce	<i>Picea glauca</i>	Treatment Facility	30	300	2	Fair/Poor	Remove, construction	leaning, codominant at top.	18T	5027640.563	448951.225
560	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	12	120	3	Good	Remove, grading	Multi-stem, Invasive	18T	5027551.525	448979.878
561	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	12	120	3	Good	Remove, grading	Multi-stem, Invasive	18T	5027554.551	448978.408
562	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	12	120	3	Good	Remove, grading	Multi-stem, Invasive	18T	5027552.957	448977.06
563	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	12	120	3	Good	Remove, grading	Multi-stem, Invasive	18T	5027548.435	448940.281
564	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	10	100	2	Good	Remove, grading	Multi-stem, Invasive	18T	5027550.417	448924.113
565	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	10	100	4	Good	Remove, construction	Multi-stem, Invasive	18T	5027705.301	448896.187

Tag #	Species	Scientific Name	Location	DBH (cm)	Critical Root Zone (CRZ) (cm)	Dripline	Health	Recommendation	Field Notes/Condition Comments	Zone	Northing	Easting
566	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	10,10,12	120	4	Good	Remove, construction	Multi-stem, Invasive	18T	5027708.978	448874.975
567	Common Buckthorn	<i>Rhamnus cathartica</i>	Treatment Facility	10	100	4	Good	Remove, construction	Multi-stem, Invasive	18T	5027710.347	448875.821
568	Japanese Lilac	<i>Syringa reticulata</i>	Treatment Facility	12	120	2	Good	Retain	Mulched, Good condition	18T	5027680.891	448949.42
569	Japanese Lilac	<i>Syringa reticulata</i>	Treatment Facility	10	100	2	Good	Retain	Mulched, good canopy	18T	5027668.643	448959.351
570	White Spruce	<i>Picea glauca</i>	Treatment Facility	28	280	3	Fair	Remove, construction	Codominant at top, branch die back throughout	18T	5027673.394	448922.219
571	White Spruce	<i>Picea glauca</i>	Treatment Facility	34	340	4	Fair	Remove, construction	Some Branch dieback, good taper.	18T	5027671.574	448926.092
572	White Spruce	<i>Picea glauca</i>	Treatment Facility	28	280	3	Fair	Remove, construction	Moderate branch dieback	18T	5027668.782	448926.338
573	Cherry Plum	<i>Prunus cerasifera</i>	Treatment Facility	16,18,18,28	280	7	Good	Remove, construction	Some rot on limb, multi stem	18T	5027667.806	448930.456
574	Cherry Plum	<i>Prunus cerasifera</i>	Treatment Facility	14,12,12	140	6	Good	Remove, construction	Multi-stem, good canopy.	18T	5027648.398	448931.449
575	White Spruce	<i>Picea glauca</i>	Treatment Facility	44	440	4	Fair	Remove, construction	Branch dieback, topped.	18T	5027636.289	448931.598
576	White Spruce	<i>Picea glauca</i>	Treatment Facility	32	320	3	Fair	Remove, construction	Branch dieback, topped.	18T	5027633.511	448934.92
577	White Spruce	<i>Picea glauca</i>	Treatment Facility	26	260	3	Fair/Poor	Remove, construction	Sweep mid trunk, branch dieback, trunk wound	18T	5027640.964	448943.739
578	White Spruce	<i>Picea glauca</i>	Treatment Facility	38	380	6	Good/Fair	Remove, construction	Branch dieback in crown, good taper	18T	5027643.792	448947.661
579	White Spruce	<i>Picea glauca</i>	Treatment Facility	38	380	4	Good/Fair	Remove, construction	Dieback at top of crown	18T	5027639.511	448946.526
580	White Spruce	<i>Picea glauca</i>	Treatment Facility	38	380	4	Good/Fair	Remove, construction	Good taper, some branch dieback	18T	5027634.292	448960.371
581	Cherry Plum	<i>Prunus cerasifera</i>	Treatment Facility	20,20,24	240	7	Good	Remove, construction	Multi-stem, suckering at previous limb removal	18T	5027636.731	448956.908
582	White Spruce	<i>Picea glauca</i>	Treatment Facility	38	380	3	Fair	Remove, construction	Slight lean, branch dieback	18T	5027632.447	448952.083
583	White Spruce	<i>Picea glauca</i>	Treatment Facility	34	340	4	Fair	Remove, construction	Branch dieback, reduced canopy.	18T	5027635.022	448949.795
584	Norway Maple	<i>Acer platanoides</i>	Treatment Facility	16	160	3	Fair	Remove, construction	Dead branch, reduced canopy	18T	5027620.365	448982.226
585	Norway Maple	<i>Acer platanoides</i>	Treatment Facility	18	180	2	Fair	Remove, construction	Frost crack on trunk, weak union at 170cm.	18T	5027610.32	448990.412
586	Norway Maple	<i>Acer platanoides</i>	Treatment Facility	16	160	2	Fair	Remove, construction	Branch dieback, reduced canopy.	18T	5027605.299	448995.243

Appendix B

Figure #2 - Tree Inventory and CRZ
for Proposed Parking Garage



Legend

- Tree Inventory (DBH)
- Critical Root Zone
- Recommended to be Removed
- Recommended to be Retained

Figure #2
Tree Inventory - Parking Garage

Arborist Report for
 401 Smyth Road, City of Ottawa

Prepared for: **CHEO**

Prepared by: **COLVILLE CONSULTING INC.**

DATE: August 2022

FILE: C21114

Appendix C

Figure #3 - Tree Inventory and CRZ
for Proposed Treatment Facility



Legend

- Tree Inventory (DBH)
- Critical Root Zone
- Recommended to be Removed
- Recommended to be Retained

Figure #3
Tree Inventory - Treatment Facility

Proposed Parking Garage
 401 Smyth Road, Ottawa

Prepared for: **CHEO**

Prepared by: **COLVILLE CONSULTING INC.**

DATE: August 2022

FILE: C21114

Appendix D
Site Photographs -
Proposed Parking Garage



Photo 1: View east from sidewalk at landscaping along Ring Road.



Photo 2: View of vegetation along north fence line of existing parking area and small oak woodlot feature north of existing parking lot



Photo 3: Ripped limb damage on tree #519



Photo 4: Trunk girdling on tree #504



Photo 5: Cedar tree #514 with staking still attached



Photo 6: White Oak #512 in landscaped area adjacent Ring Road.



Photo 7 : White Oak #518 at northeast corner of parking lot, surrounded by buckthorn



Photo 8: Tree #509 adjacent Ring Road.



Photo 9: Frost crack on tree #520.



Photo 10: Possible slime flux or other disease on Tree #529 root collar. Tree located in woodland north of existing parking area.

Appendix E
Site Photographs -
Proposed Treatment Facility

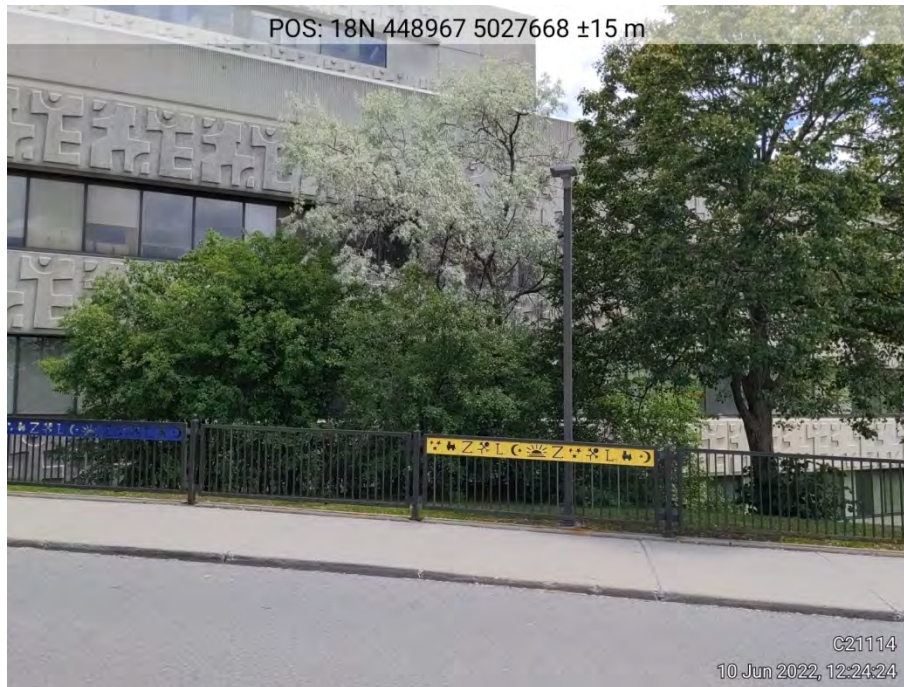


Photo 1: Trees along front of existing CHEO building, viewing northeast.



Photo 2: Example of vegetation conditions within hedgerow along Ring Road.



Photo 3: Cluster of trees in landscaped area southwest of CHEO main entrance.



Photo 4: Landscaped area adjacent existing CHEO main entrance.

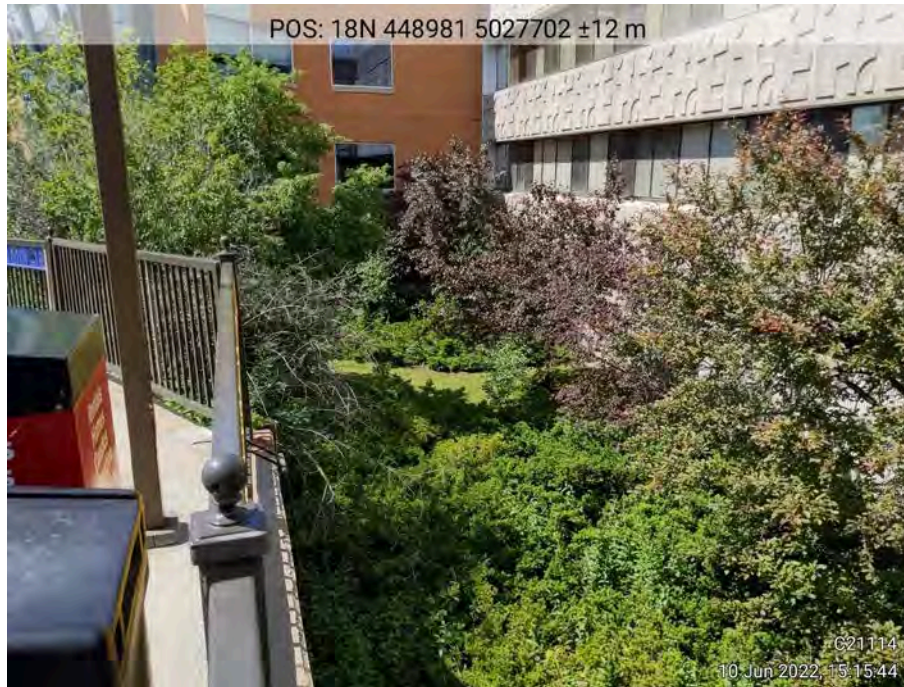


Photo 5: Tree's immediately adjacent existing CHEO building, viewing north.



Photo 6: Hedgerow at southwest corner of Subject Lands as viewed from parking lot.



Photo 7: Norway Maple #584 adjacent parking, reduced canopy.



Photo 8: Tree #532, American Elm, codominant with weak union at 2 metres



Photo 9: Tree #534 in poor/fair condition with significant canopy dieback.



Photo 10: Tree #533 at the southeast corner of the Subject Lands



Photo 11: Tree #556 adjacent CHEO main entrance, fair condition with reduced canopy.



Photo 12: Tree #549 adjacent foot path, branches previously removed.



Photo 13: Tree #546, weak union at 1.5 metres.



Photo 14: Tree #543 adjacent foot path.



Photo 15: Tree #537 adjacent Ring Road, roots exposed at surface, compacted soil present on site

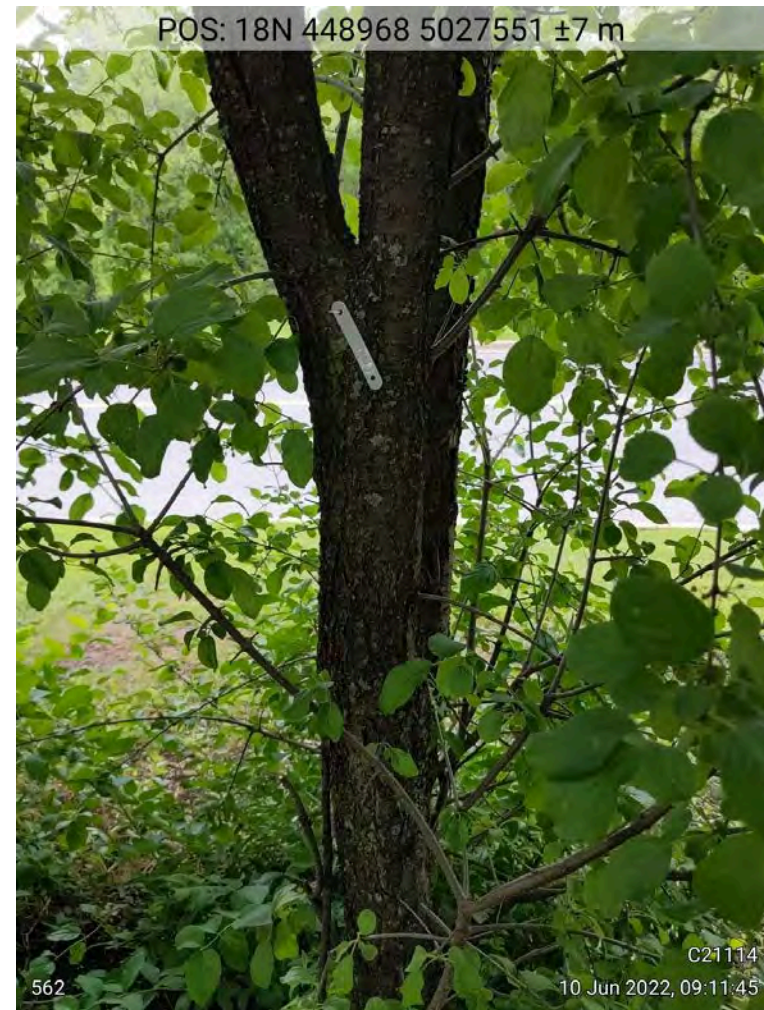
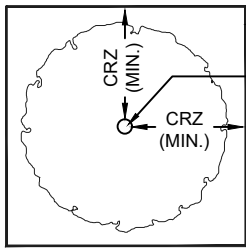


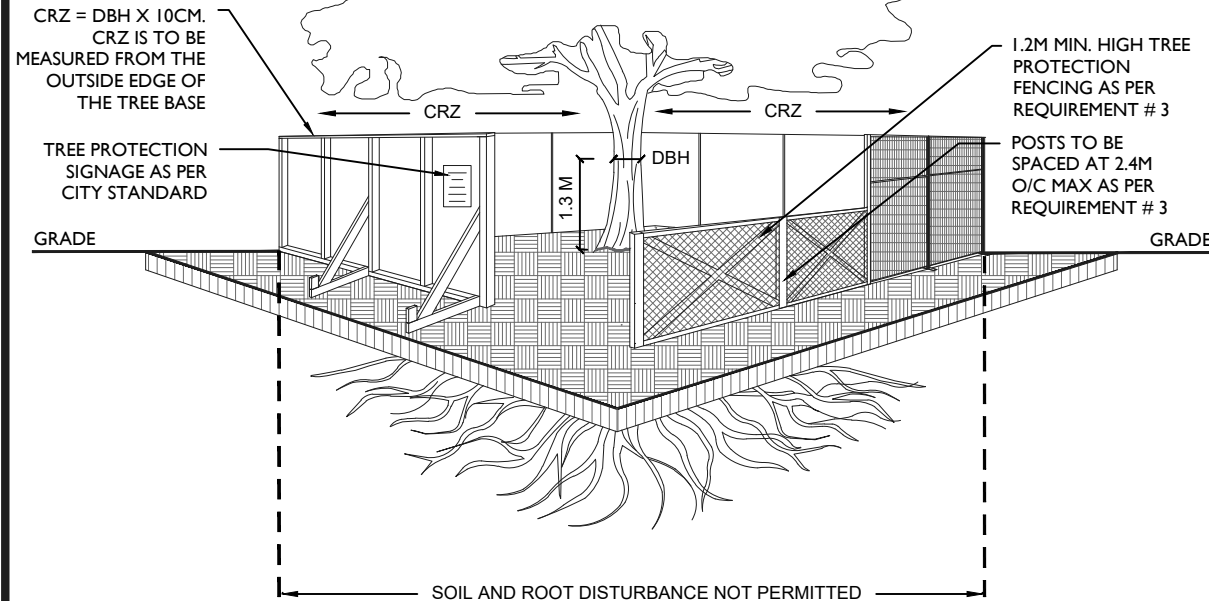
Photo 16: Tree #562, example of larger DBH Common Buckthorn present in hedgerows around parking area.

Appendix F
City of Ottawa Tree
Protection Specifications



TREE PROTECTION FENCING
TREE TRUNK

PLAN VIEW



CRZ = DBH X 10CM.
CRZ IS TO BE MEASURED FROM THE OUTSIDE EDGE OF THE TREE BASE

TREE PROTECTION SIGNAGE AS PER CITY STANDARD

GRADE

1.2M MIN. HIGH TREE PROTECTION FENCING AS PER REQUIREMENT # 3

POSTS TO BE SPACED AT 2.4M O/C MAX AS PER REQUIREMENT # 3

GRADE

SOIL AND ROOT DISTURBANCE NOT PERMITTED

TREE PROTECTION REQUIREMENTS:

1. PRIOR TO ANY WORK ACTIVITY WITHIN THE CRITICAL ROOT ZONE (CRZ = 10 X DIAMETER) OF A TREE, TREE PROTECTION FENCING MUST BE INSTALLED SURROUNDING THE CRITICAL ROOT ZONE, AND REMAIN IN PLACE UNTIL THE WORK IS COMPLETE.
2. UNLESS PLANS ARE APPROVED BY CITY FORESTRY STAFF, FOR WORK WITHIN THE CRZ:
 - DO NOT PLACE ANY MATERIAL OR EQUIPMENT - INCLUDING OUTHOUSES;
 - DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE;
 - DO NOT RAISE OR LOWER THE EXISTING GRADE;
 - TUNNEL OR BORE WHEN DIGGING;
 - DO NOT DAMAGE THE ROOT SYSTEM, TRUNK, OR BRANCHES OR ANY TREE;
 - ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARD ANY TREE CANOPY.
 - DO NOT EXTEND HARD SURFACE OR SIGNIFICANTLY CHANGE LANDSCAPING
3. TREE PROTECTION FENCING MUST BE AT LEAST 1.2M IN HEIGHT, AND CONSTRUCTED OF RIGID OR FRAMED MATERIALS (E.G. MODULOC - STEEL, PLYWOOD HOARDING, OR SNOW FENCE ON A 2"X4" WOOD FRAME) WITH POSTS 2.4M APART, SUCH THAT THE FENCE LOCATION CANNOT BE ALTERED. ALL SUPPORTS AND BRACING MUST BE PLACED OUTSIDE OF THE CRZ, AND INSTALLATION MUST MINIMISE DAMAGE TO EXISTING ROOTS. (SEE DETAIL)
4. THE LOCATION OF THE TREE PROTECTION FENCING MUST BE DETERMINED BY AN ARBORIST AND DETAILED ON ANY ASSOCIATED PLANS FOR THE SITE (E.G. TREE CONSERVATION REPORT, TREE INFORMATION REPORT, ETC). THE PLAN AND CONSTRUCTED FENCING MUST BE APPROVED BY CITY FORESTRY STAFF PRIOR TO THE COMMENCEMENT OF WORK.
5. IF THE FENCED TREE PROTECTION AREA MUST BE REDUCED TO FACILITATE CONSTRUCTION, MITIGATION MEASURES MUST BE PRESCRIBED BY AN ARBORIST AND APPROVED BY CITY FORESTRY STAFF. THESE MAY INCLUDE THE PLACEMENT OF PLYWOOD, WOOD CHIPS, OR STEEL PLATING OVER THE ROOTS FOR PROTECTION OR THE PROPER PRUNING AND CARE OF ROOTS WHERE ENCOUNTERED.

THE CITY'S TREE PROTECTION BY-LAW, 2020-340 PROTECTS BOTH CITY-OWNED TREES, CITY-WIDE, AND PRIVATELY-OWNED TREES WITHIN THE URBAN AREA. PLEASE REFER TO WWW.OTTAWA.CA/TREEBYLAW FOR MORE INFORMATION ON HOW THE TREE BY-LAW APPLIES.

ACCESSIBLE FORMATS AND COMMUNICATION SUPPORTS ARE AVAILABLE, UPON REQUEST



TREE PROTECTION SPECIFICATION

TO BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ON ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF WORK ACTIVITIES ON SITE.

SCALE: NTS

DATE: MARCH 2021

DRAWING NO.: 1 of 1