Central Park (Rondeau) Cobourg
Arborist's Report and Related Landscape Analysis

Central Park Development Cobourg, ON
January 7th, 2021
HKLA Job# 2020-112

PREPARED BY:

Henry Kortekaas & Associates Inc.

Tyler Main, BLA, O.A.L.A
I.S.A. Certified Arborist (ON-2598A)

Prepared for : Rick & Shawn Rondeau (Fourteen Estates) & Jeff Solly (Tribute Communities)

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January 7th, 2021

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Celebrating 35 years

Re: HKLA Job # 2020-112 Tree Inventory, Preservation Plan and Related Landscape Analysis for Central Park (Rondeau) Cobourg

Dear Shawn & Rick,

Henry Kortekaas and Associates was retained by Fourteen Estates, to provide the Aboricultural related landscape analysis consulting services and documentation for a residential subdivision. The proposed development is scheduled for pt. lots 11 and 12 Con 1 Central Park Heritage Village (Rondeau) Town of Cobourg.

The purpose of this report is to provide the Tree Inventory, Preservation Plan, Assessment, Arborist Report and Landscape Analysis in compliance with Town of Cobourg By-Law #020-2006 requirements.

In liaison with Rory Quigley, the Town of Cobourg Parks Department Arborist, significant tree specimens were deemed to be all trees with a diameter at breast height (DBH) of over 30 cm. Those belonging to Fraxinus s.p.p. (Ash) and Pinus sylvestris (Scots Pine) were not included. Significant specimens of Ash and Scots Pine are defined as those being over 50 cm DBH. This is of course, because Ash is susceptible to Emerald Ash Borer (E.A.B) and Scots Pine are foreign invasive. All significant specimens within 6 m of the site phase limits were inventoried and recorded. Due to the drastic topographical cut of phase 1 and fill in the phases 2-6, a significant amount of trees will need to be removed. To balance these removals, a significant number of large trees and their sensitive environment will be preserved. Additionally, compensation planting will be part of this undertaking. Tree cutting is currently scheduled to be completed prior to March 1, 2021.

We trust this documentation meets your needs. If you have any questions, please do not hesitate to contact us at the above.

Sincerely,

HENRY KORTEKAAS & ASSOCIATES INC.

Henry J. Kortekaas, B.L.A., M.E.S.
Principal Landscape Architect

HENRY KORTEKAAS & ASSOCIATES INC.

Tyler Main, BLA, O.A.L.A
Sr. Landscape Architect
I.S.A. Certified Arborist (ON-2598A)

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1.0 INTRODUCTION

Henry Kortekaas & Associates has been advised by Mr. Shawn Rondeau of Fourteen Estates that the remainder of the Central Park development, phases 1, and 2-6, are now scheduled for development. This includes the construction of a subdivision with supporting infrastructure along Elgin Street East and Brock Road North in Cobourg, Ontario.

The firm of Henry Kortekaas & Associates was provided with a copy of the EIS, prepared in 2016 by Niblett Environmental Associates Inc. which contains a Ecological Land Classification (ELC) analysis. The ELC analysis was compared to the most recent neighbourhood footprint and the Tree Inventory & Preservation Plan was prepared by Henry Kortekaas & Associates. This successfully provides the terms of reference for the existing tree coverage on the property. The tree assessment carried out by Niblett was correlated with the current tree assessment.

FIGURE 1. GROUPING OF BIRCH TREES IN PHASE 5.

Existing trees that conflict with potential grading, existing and future services or building envelopes were recommended for removal. All trees recommended for retention on and bordering the property will be protected by the Town of Cobourg Standard Tree Protection Fencing, (see Appendix C).

2.0 MUNICIPAL TREE BYLAWS

All trees affected by this project are regulated under By-law 020-2006, 'Tree Preservation By-law' of the Town of Cobourg (see Appendix D for reference), which states:

2.1. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Each participant in the development process to be committed to tree preservation.***

The developer (Rondeau), retained Niblett Environmental Associates Inc. in 2016 to prepare a National Heritage Study of the site. Niblett established the boundaries and buffers of the significant natural heritage features both on the subjected site and adjacent to it. The study recommended that the "central vegetative island", the large White Pine woodlot and the natural corridors connecting it to others on site, and off site heritage woodlands, are all to be preserved". The preservation of these woodlots and isolated corridors encompass not only significant plant communities but significant, heritage trees from an environmental and arboriculture point of view. The study process that was started in 2016 shows the commitment of the developer and his design team to preserve significant trees on site. This commitment to the preservation of significant trees and related sensitive environments is further reflected in the initial grading and drainage design of phase 1 and phases 2-6. Most of the vegetation to be removed is

located in the existing hedgerows on site. These existing hedgerows are primarily made up of Common buckthorn (Rhamnus cathartica), Scots pine (Pinus sylvestris) and other foreign, invasive plants. There are also native green and white Ash (Fraxinus americana & Fraxinus pennslyvanica) in the hedgerows which are heavily infected with Emerald Ash Borer (E.A.B). Most of the mature Ash trees are dead or dying and the young Ash will be susceptible to E.A.B when they exceed a 150mm to 200mm caliper. The remaining hedgerow tree groupings are not considered significant to retain. The loss of these trees will be compensated through the compensation planting program on a one-to-one ratio. See the detailed Aboricultural listing and the natural heritage mapping/ species list.

There area a total of 54 significant caliper trees to be removed on the edge of preservation areas. As a result, the total DBH caliper to be removed is approximately 2892 cm.

2.2. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Tree preservation cannot wait until construction.***

The natural heritage study performed in 2016 identified the ecological communities that should be preserved. Trees are best preserved in an environment conducive to a particular plant species. These environments were scheduled for preservation in Niblett's 2016 ELC. Ecological preservation goals are now reflected in the 2020 draft plan of subdivision as open space areas to be preserved. This ultimately reflects the developer's commitment to tree preservation.

2.3. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***All trees cannot and should not be preserved.***

Tree stands, species and individual trees will vary in their suitability for preservation both on the basis of their character size, and particular construction impacts. There are many trees that are structurally unsound in poor health or unable to survive impact and are therefore are a future liability. The Town of Cobourg may permit them to be removed.

2.4. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Tree preservation programs must respect patterns of tree growth and development.***

The Arborist and the Ecologist with their knowledge of tree growth and development have advocated for tree preservation where possible. The major areas of woodlot and sensitive environment preservation on site attest to their knowledge and skill in supporting a viable subdivision plan while preserving sensitive environments on site.

2.5. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Construction impacts to trees are cumulative.***

Adequate protection measures over the life of the project will be implemented to ensure cumulative impacts do not negatively impact certain tree protection measures that will be in place.

2.6. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Preservation focuses on preventing injury to trees.***

Avoiding damage to trees and their environment will be the focus of this tree preservation report and the design teams' objective.

2.7. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Tree preservation requires accurate site information.***

An extensive topographical and property line survey as well as indepth geo-technical surveys were carried out to ascertain the trees' 3-dimensional location and surrounding environment. This includes the type of soil and subsoil environment located on site.

2.8. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Aborists must communicate with design and engineering professional.***

The Arborist has communicated with the other design oriented professionals on the development team through survey drawings, tree inventory drawings, sections and other written and graphic information related to the site.

2.9. Schedule "B"- Tree Preservation guidelines of the Town of Cobourg requires: ***Tree preservation requires space.***

The Arborist recognizes that trees require 3-dimensional space above and below grade. Their Aboricultural assessment takes their 3-dimensional spatial requirements into account and effectively communicates them to others in the design. The Arborist in effect must be an advocate for trees and the trees natural environment.

3.0 DETAILED STUDY PURPOSE

This project was undertaken to comply with the Town of Cobourg policies regarding tree identification and protection of trees (see Appendix D for reference). The study objectives are:

1. To inventory the species and location of all significant trees 30 cm or greater in diameter, (DBH), on the subject site. Fraxinus spp. (Ash) or Pinus sylvestris (Scots Pine) significant trees have to be 50 cm or greater and within 6 m of the property. Each inventoried tree or grouping on site is given a tree tag number.
2. To record the size and condition of each tree that is on the edge of the preservation zone as per the International Society of Aboriculture (I.S.A.) Standards.
3. To recommend which existing trees or tree groupings can be preserved within the proposed development.
4. To provide guidelines for the preservation and long-term health and maintenance of these trees.

4.0 STUDY PROCESS

The Niblett Natural Heritage Study has defined the areas of significant trees to be preserved. The arborist report defines specific trees to be preserved on the edge of preserved areas and also, along the site's property lines.

All specimens or significant tree groupings, 30 cm caliper or larger with the potential for preservation, (as dictated by the Survey and Site Plan) have been located. Fraxinus s.p.p. and Pinus sylvestris are significant only at or above 50 cm DBH.

These trees were evaluated on their condition, rated as to the species adaptability to environmental change, their potential value within the completed future development and their potential for preservation considering the requirement for cut, fill, site-servicing, asphalt, foundations and space for excavations, etc.

FIGURE 2. EDGE OF PHASE 3 LIMIT FACING EAST. EXISTING HEDGEROWS SHOWN IN BACKGROUND.

TREE REMOVAL REQUIRED PRIOR TO MARCH 1, 2021

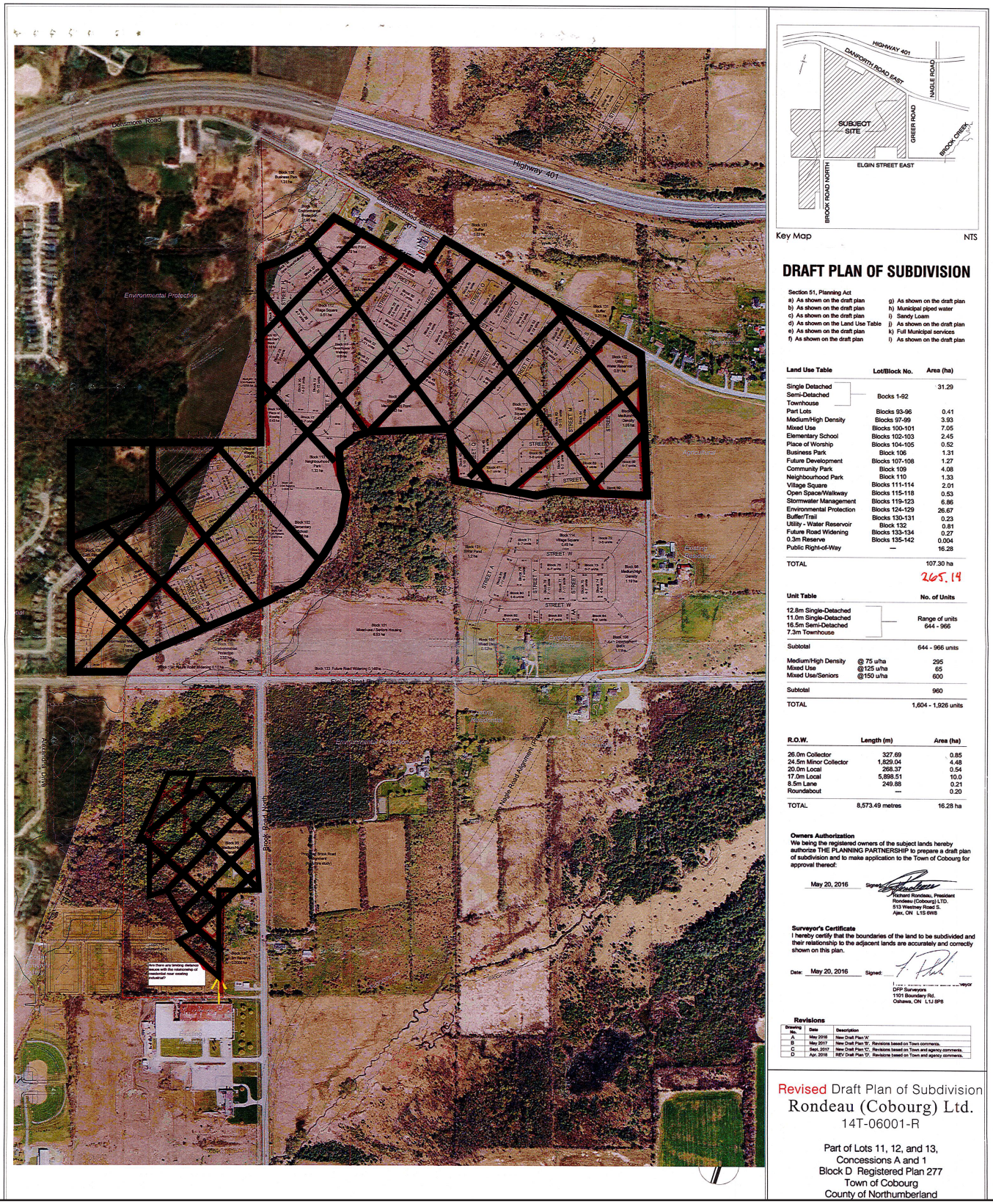


FIGURE 3. DRAFT PLAN OF SUBDIVISION

5.0 SITE LOCATION

The site is located at pt. lots 11, 12 and 13 Registered Plan 277 Block D Con 1 Heritage Village of Rondeau near Elgin Road East and Brock Road North in the Town of Cobourg, Ontario. The Town of Cobourg is located in Northumberland County.

6.0 INVENTORY

An inventory of the site vegetation was carried out from December 15th to December 23th, 2020. From this inventory, specimen trees and tree groupings were tagged with numbers and identified as to thier genus species. This data appears on the drawings HKLA#2020-112 L-TP1 - L-TP7 (See Appendix C). There were no tree species on, or adjacent to, the site rated as unique or endangered.

7.0 PRESERVATION CRITERIA

In order to develop the property in accordance with the proposed Draft Plan, it will be necessary to remove some existing trees. Some of these existing trees will conflict with potential grading, services or building envelopes. The following 6 criteria are used as the basis for the Preservation Analysis.

7.1 Size

Mature specimens add to the aesthetics of the site and maintain the mature vegetation character of the neighbourhood. Mature trees screen unwanted views, provide shade, block winds and improve the visual landscape of the area. Large trees, however, are less tolerant of changes in their immediate environments. Alteration of soil conditions will reduce the levels of air, water, and nutrients reaching the wide spread roots of mature specimens. Foundations and excavations for foundations will change water flow and cut root systems. The potential life span of a species in a ‘fill or cut’ situation or proposed new foundations must also be considered. There is less value in preserving a tree that is already at, or past its normal life expectancy and conflicts with the approved plan.

The central island of retained large White Pine (Pinus strobus) are truly heritage trees and will be preserved.

7.2 Condition

The health of a tree specimen is factored into that specimen’s potential for preservation. A mature, desirable specimen will have a low preservation potential if it is in poor health. A tree's condition is determined visually by an experienced, and trusted arborist assessing branch structure and growth, trunk irregularities - such as cankers, broken limbs, wounds, heart rot, trunk splits, fungal growth, twig and foliage growth, terminal bud formation, root restrictions, and limb entanglement with utilities, etc.

7.3 Landscape Function/Location

The relative “landscape” importance of a specimen on this or any site is also dependent on its function. Trees that perform a desirable function - wind break, shade, visual screen, or spatial divides between sites are rated as having medium to high value. Site boundary trees are particularly important to the surrounding landscape and have the highest potential for preservation.

7.4 Relative Natural Species Heritage Value

The value of site vegetation was based on the rating system developed by The I.S.A. and includes: species hardiness; species tolerance to pollution, disease and environmental change; maintenance requirements; aesthetic form, life expectancy, etc.

All tree species that are considered to have value as future urban trees are rated as high in the Species Potential (SPP) category. All species which are considered to have little value as future urban trees, and all those which are generally regarded as ‘weed’ or nuisance trees or foreign invasive trees have been rated as low in the SPP category. The Common buckthorn, Scots Pine and Ash trees on site would have a low SPP category.

7.5. Landscape Function/Location

The relative “landscape” importance of a specimen on this or any site is also dependent on its function. Trees that perform a desirable function - wind break, shade, visual screen, or spatial divides between sites are rated as having medium to high value. Site boundary trees are particularly important to the surrounding landscape and have the highest potential for preservation

7.6. Relative Species Value

The value of site vegetation was based on the rating system developed by The I.S.A. and includes: species hardiness; species tolerance to pollution, disease and environmental change; maintenance requirements; aesthetic form, and; life expectancy.

All species that are considered to have value as future urban trees are rated as high in the Species Potential (SPP) category. All species which are considered to have little value as future urban trees, and all those which are generally regarded as ‘weed’ or nuisance trees or foreign invasive trees have been rated as low in the SPP category

7.6.1 Plant (Tree) Condition

The condition of a plant is determined by evaluating its present structural integrity and state of health. Even though the plant may appear to be healthy and have a strong structure, the species may be known to be short lived, have brittle branches, and/or branch attachments, or be subject to serious insect or disease problems that persist in the area. Symptoms of a plant in poor health condition are; leaf discoloration, abnormal leaf size, shortened internodes, decay die back, insect damage, frost damage, disfigured stems or roots, broken roots, and fungal conks. A symptom may have one cause, or have a combination of causes. Injuries can occur to the roots, trunk, or crown of a plant, and can be caused by construction, vehicular accidents, vandalism, chemical, fire, or maintenance equipment. Storms can break branches or injure and unbalance the crown. The extent of the injury to the above-crown portions of a plant is not as difficult to assess and quantify as those that occur below the crown.

8.0 SCOPE OF WORK

1. Visually inspect all trees regulated under By-law 020-2006 of the Town of Cobourg.
    a. Assess their condition;
    b. Determine if they are suitable for preservation based upon the proposed development activity.
3. Provide recommendations for tree preservation as per the proposed site plan.
4. Determine if proposed construction will adversely affect the health of such trees.
5. (See Appendix 'D', Tree Preservation Guidelines, By-law 020-2006, Town of Cobourg.)

9.0 TREE IDENTIFICATION & LOCATION CRITERIA

See Tree Inventory and Preservation Plan (L-TP1) for tree location and species identification, condition and recommendations.

The following chart is reflected on the tree preservation drawing. It demonstrates the identification and classification practices, and is separated by 9 criteria:

DBH (mm) Diameter at breast height. Nominally 1.4m and measured in millimetres.

SP (m) Spread. The average diameter of canopy coverage, measured in metres.

HT (m) Height. The nominal height of the tree, measured in metres.

TI Trunk Integrity. An indication of the structural integrity and general health of the tree. Measured as (G)ood, (F)air or (P)oor.

CS Crown Structure. Correlated with tree condition/health. Measured as (G)ood, (F)air or (P)oor.

CV Crown Vigour. General correlation with tree condition/health. Measured as (G)ood, (F)air or (P)oor.

CDB (%) Crown Die Back. Measured as the percent of branch tips in the crown that are dead, as a percentage.

SPP Species Potential. An experiential estimation of the suitability of the tree species compared to the existing/proposed site conditions. Measures as (H)igh (M)edium or (L)ow.

SIP Site Potential. An experiential estimation of the tree's suitability compared to the existing/proposed site conditions. Measured as (H)igh, (M)edium or (L)ow.

Recommendation and Notes: A recommendation based on the noted criteria and design information to the site suitability of the tree.

10.0 PRESERVATION ANALYSIS

In order to develop the property in accordance with the proposed Site Plan, it will be necessary to remove some existing trees. The existing trees will conflict with potential grading, services or building envelopes. As noted, in the following section, the tress to be removed are less than desirable.

10.1 Cut and Fill

The Central Park (Rondeau) overall site requires extensive 'cut and fill' to achieve the slopes and grades required to allow development to proceed in an acceptable manner. Phase 1 must recieve almost 5 meters of cut, while phase 2 will need to recieve 5.5 meters of fill. The cut and fill will not intrude into the environmentally sensitive antural heritage areas. These environmentally significant areas will be preserved.

The 'cut and fill' drawings featured in (Appendix F) done by D.G Biddle & Associates Limited clearly show that a significant portion of the site will be disturbed. By contrast, most of the sensitive unique vegetation is to be preserved, while the foreign invasive species will be removed.

11.0 RECOMMENDATIONS

11.1. All trees to be removed under the direct supervision of an I.S.A. Certified Arborist.

11.2. We recommend that all trees scheduled to be retained are protected by the Townof Cobourg approved tree protection fencing placed at the distances specified. Town of Cobourg By-law 020-2006 and the attached Town of Cobourg Tree Permit Requirements (See Appendix D).

11.3 The ISA Certified Arborist will be retained to perform periodic site inspections during critical stages of grading and construction. The Arborist is to ensure strict adherence to both the approved TPP and TPZ and its recommendations and to provide field review (inspection) of those elements of the project that relate to the preservation of the trees. This will include but is not limited to inspecting the installation of the tree preservation hoarding to ensure correct placement. A site inspection of the installed TPZ hoarding before construction is required to ensure the correct placement of the hoarding.

12.0 SUMMARY

A significant amount of vegetation in the Villages of Central Park has been preserved. Of particular note is the existing island of natural heritage vegetation in the central partition of this development. This area is dominated by mature, large, heritage Pinus strobus (White Pine) trees. It is a significant action that these trees and their surrounding ecological communities are scheduled to be retained.

The existing trees to be removed are mostly foreign or invasive Rhamnus cathartica (Common Buckthorn) as well as some Pinus sylvestris (Scots Pine) and Fraxinus spp. (Ash) trees that are infested with Emerald Ash Borer. This is not a significant loss. Most of these hedgerow trees must be removed to allow for the required cut and fill to take place on the site. Phase 1 grade must be substantially lowered to allow development to proceed. The "cut" from phase 1 will be spread through phases 2, 3, 4, 5, and 6, encompassing the centrally preserved island of mature Pinus strobus (White Pine).

SITE PHOTOS

FIGURE 4. PHASE 2 EXISTING 10 M CLEARING THROUGH PHASE LINE. LOOKING NORTH TOWARDS ELGIN STREET.

FIGURE 5. VEGETATION ALONG PHASE 2 BROCK ROAD LIMIT. LOOKING NORTH-WEST INTO PHASE 2.

FIGURE 6. PHASE 3 LOOKING SOUTH ALONG EXISTING HEDGEROW OF INVASIVE DOMINANT SPECIES. NATURAL CORRIDOR SHOWN IN BACKGROUND.

FIGURE 7. PHASE 4 EXISTING HEDGEROW LOOKING NORTH TOWARDS DANFORTH ROAD.

FIGURE 8. LOOKING WEST FROM GREER ROAD TOWARDS BUFFER THAT SEPARATES PHASE 5 & 6.

FIGURE 9. PHASE 6 LIMIT ALONG NATURAL BUFFER HEADING TOWARDS GREER ROAD.

FIGURE 10. PHASE 7 EXISTING VEGETATION LOOKING NORTH-EAST FROM ELGIN ROAD.

APPENDIX A - DISCLAIMER / LIMITATIONS

Appendix A: Disclaimer/Limitations

1. Data has been verified insofar as possible; however Henry Kortekaas & Associates Inc. can neither guarantee nor be responsible for the accuracy of information provided by others.

2. Unless otherwise required by law, possession of this report or a copy thereof does not imply right of publication or use for any purpose in whole or in part by any other than the person to whom it is addressed, without the prior expressly written or verbal consent of Henry Kortekaas & Associates Inc.

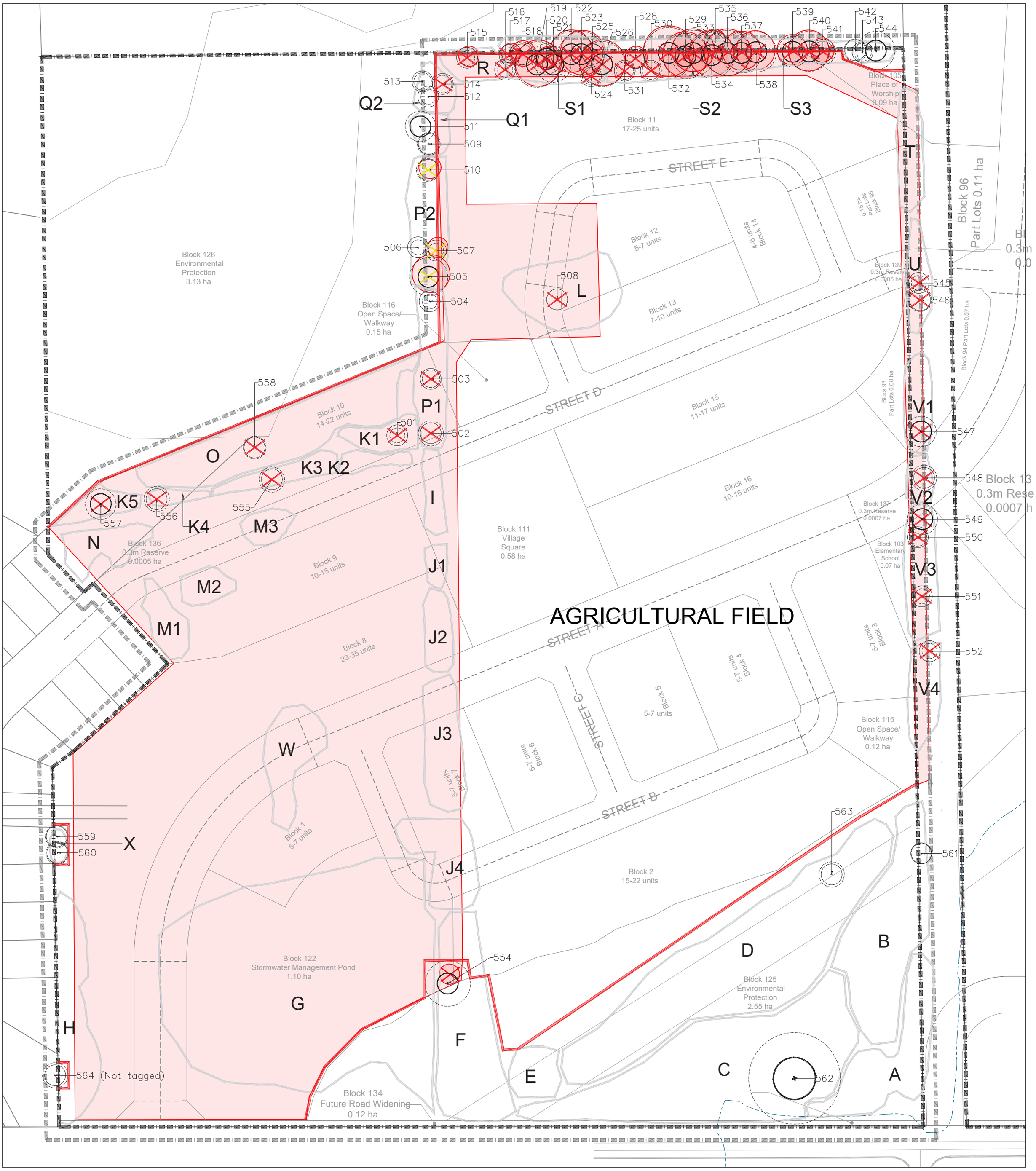
3. Excerpts or alterations to this report, without the authorization of Henry Kortekaas & Associates Inc. invalidates its intent and/or implied conclusions. This report may not be used for any expressed purpose other than its intended purpose and alteration of any part of this report invalidates the report.

4. Unless expressed otherwise: 1) information contained in the report covers only those items that were examined and reflect the condition of those items at the time of inspection; and 2) the inspection was made using accepted arboricultural techniques and is limited to visual examination of accessible items without climbing, dissection, probing or coring, and detailed root examination involving excavation. Weather conditions such as thick snow cover will limit the potential for basal examination and further site visits may be required. While reasonable efforts have been made to asses trees outlined in this report, there is no warranty or guarantee, expressed or implied, that problems or deficiencies with the tree(s) or any part(s) of them may not arise in future. All trees should be inspected and reassessed periodically.

5. The determination of ownership of any subject tree(s) is the responsibility of the owner and any civil or common-law issues, which may exist between property owners with respects to trees, must be resolved by the owner. A recommendation to remove or maintain tree(s) does not grant authority to encroach in any manner onto adjacent private properties.

6. The scope of work undertaken in this report, with the noted site observations and resultant conclusion, was based on existing site conditions and the proposed schematic site development layout as referenced in the EIS.

APPENDIX B - PHASE 1 TREE INVENTORY DRAWINGS SOURCE: THE PLANNING PARTNERSHIP



LEGEND

- Existing Tree
- Over 60 cm Existing Tree, Diameter
- Tree ID Number (555)
- N — Patch Area No.
- Patch Area Boundary
- Property Lines
- Tree Protection Zone
- Block 126 not included) Offset From Property Lines, Tree Inventory Boundary (6 m
- Fencing Proposed Tree Protection
- Watercourse
- Tree to be Removed
- Candidate for Habitat Stump Tree to be Removed,

TREE REMOVALS

project north

project title

RONDEAU DEVELOPMENT PHASE 1 (COBOURG)

project no. 1613

sheet title

DRAFT TREE INVENTORY, PRESERVATION AND REMOVALS PLAN

The Planning Partnership
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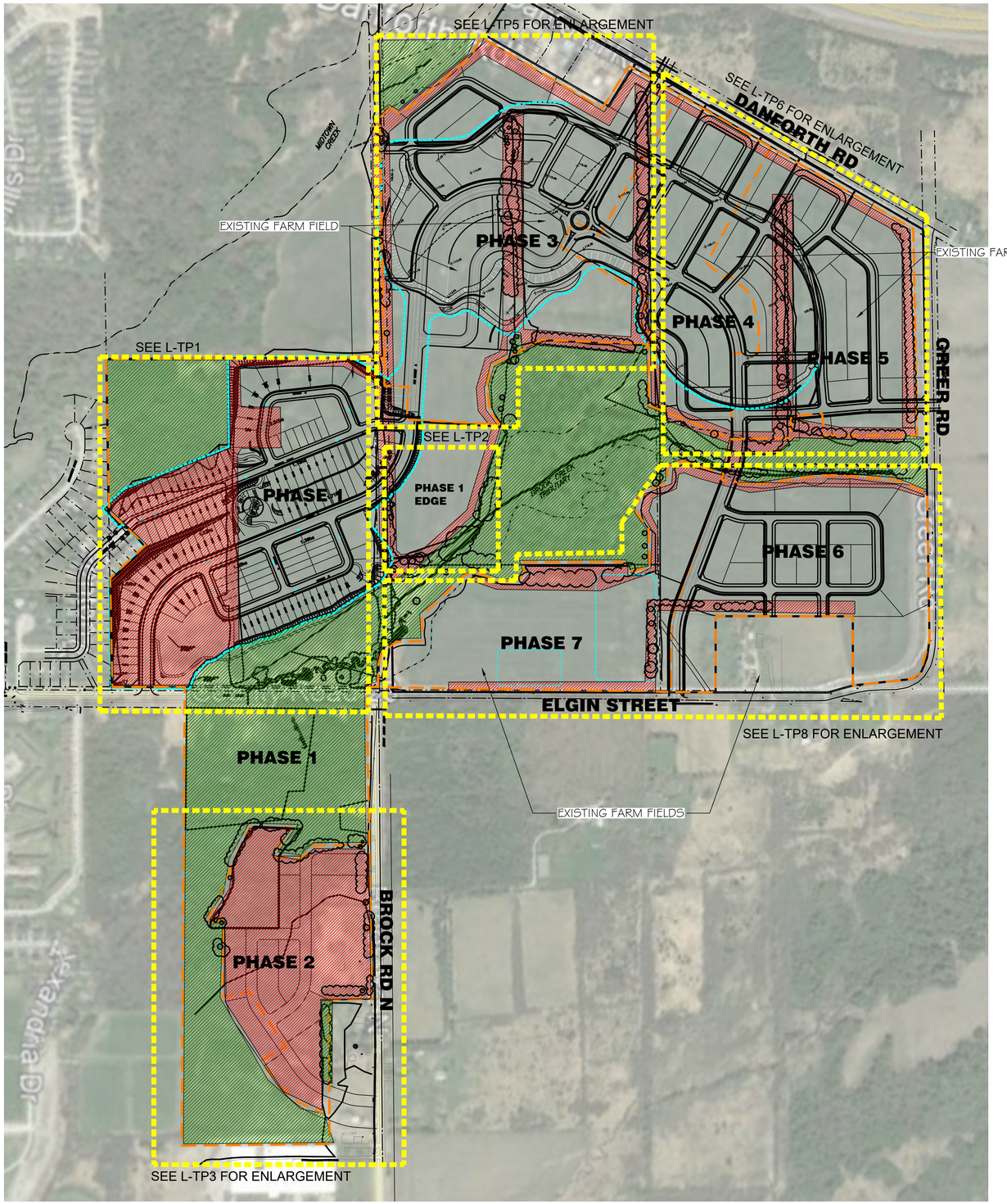
scale NTS

date 2019.07.03

drawn KS checked MOH

issued for: ARBORIST REPORT

APPENDIX C - CITY OF COBOURG TREE PRESERVATION DETAIL L-TP1 & TREE INVENTORY DRAWINGS PHASES 1-6



VILLAGES OF CENTRAL PARK

COBOURG, ON

TREE INVENTORY & PRESERVATION PLAN

HKLA JOB NUMBER: 2020-112

DRAWING LIST:

LEGEND

AREAS OF TREE REMOVAL

AREAS OF TREE PRESERVATION

HENRY KORTEKAAS & ASSOCIATES
LANDSCAPE ARCHITECTS, ARBORISTS, ENVIRONMENTAL & RECREATIONAL PLANNERS

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PROJECT NUMBER: 2018-072

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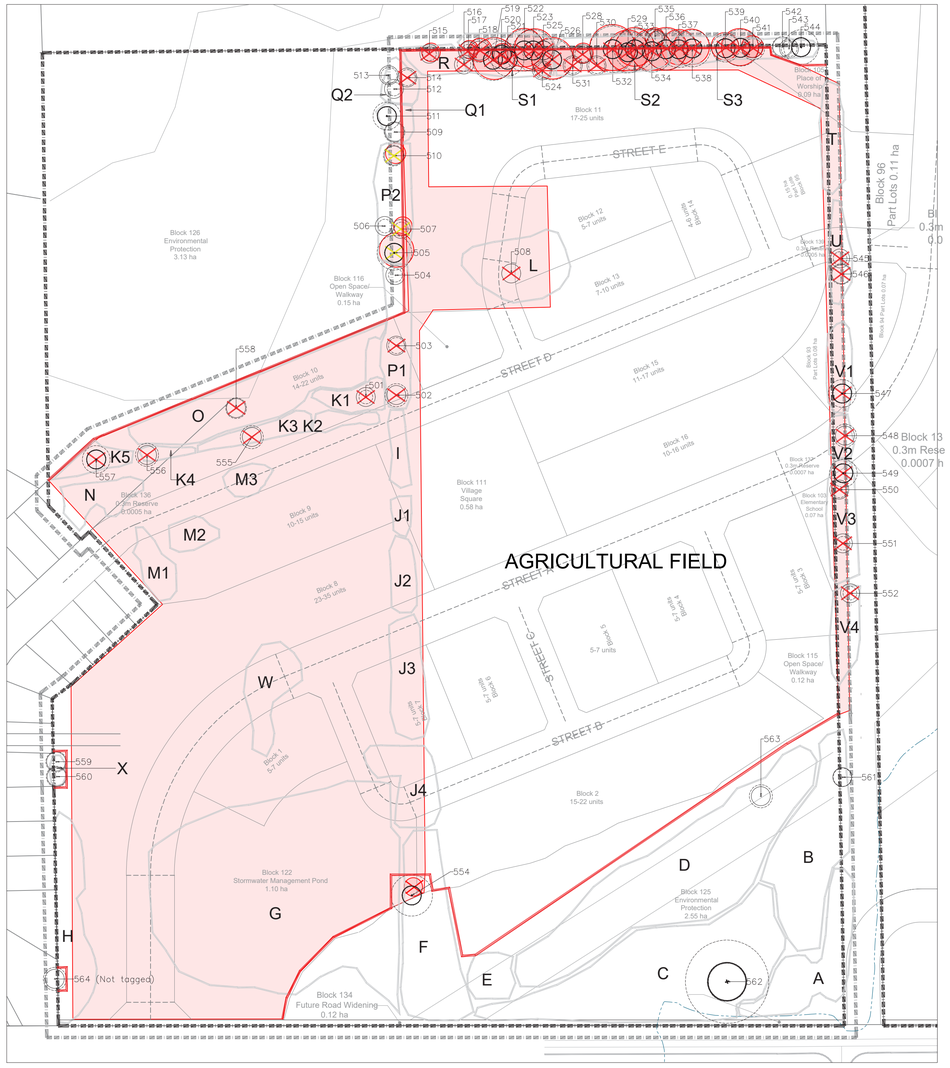

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ARBORIST REPORT

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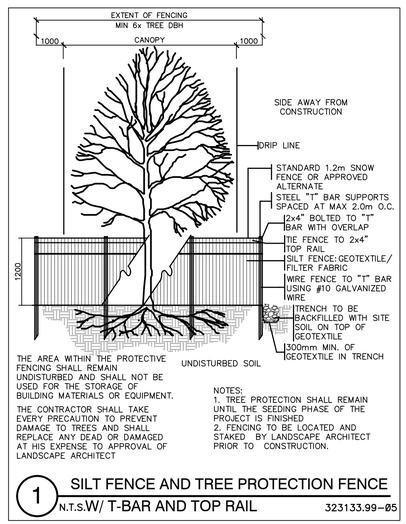
PHASE 1 REMOVALS
AS PER PLANNING PARTNERSHIP ARBORIST REPORT

EAST COBOURG PHASE 1 — 21-Dec-18

Tree Tag #	Species	D.B.H. (cm)	Condition	T.P.Z. (m)*	Action	Patch ID	Comments
501**	PSy	30.0	Good	3.5	Remove	K1	BB, Not Significant Specimen
502	FS	50.0	Good	5.9	Remove	P1	BB, BC, Unusual open branch structure, Unconfirmed EAB
503**	FS	35.0	Fair-Good	4.1	Remove	P1	BB, IB, Unconfirmed EAB, Not Significant Specimen
504**	FS	30.0	Good	3.5	Preserve	P1	BB, Unconfirmed EAB, Not Significant Specimen
505	FS	75.0	Poor	8.9	Remove/ HS	P2	BB, D, GD, Unconfirmed EAB, Likely hollow
506**	FS	30.0	Good	3.5	Preserve	P2	BB, Unconfirmed EAB, Not Significant Specimen
507	PrS	30.0	Poor	3.5	Remove	P2	BB, D, GD
508	PSy	50.0	Fair-Good	5.9	Remove	L	CD (two 30cm dbh trunks, 50 cm below split)
509	TO	45.0	Fair-Good	5.3	Preserve	Q1	CD (three trunks, 45cm, 45cm and 30 cm dbh)
510	PrS	45.0	Poor-Fair	5.3	Remove/ HS	P2	T, BB, UC
511	FS	60.0	Poor-Fair	7.1	Preserve	Q1	CD, GD, BB, IB
512	TO	30.0	Good	3.5	Preserve	Q2	CD (three trunks, 30cm, 30cm and 15 cm dbh), CW, IB, SS
513	PT	35.0	Fair	4.1	Preserve	Q2	CW, S, SS
514	PrS	35.0	Poor-Fair	4.1	Remove/ HS	Q2	L, DW, BB, UC
515	PT	35.0	Good	3.5	Preserve	R	BC
516	AS	30.0	Fair	3.5	Preserve	R	IB, UC, V
517	AR	30.0	Fair-Good	3.5	Preserve	S1	DW, IB, BB
518	AS	50.0	Good	5.9	Preserve	S1	DW, BC
519	AS	90.0	Fair	10.6	Preserve/H	S1	IB, HW, GR, BC
520	FS	60.0	Poor	7.1	Remove/ HS	S1	FC (large – possibly structural), DW, BB, Canker
521	AS	70.0	Fair	8.3	Preserve/H	S1	DW, BW, IB, UC, Likely hollow
522	FS	90.0	Fair-Good	10.6	Preserve/H	S1	BB, BC
523	AS	90.0	Poor-Fair	10.6	Preserve/H	S1	D, IB, Mostly hollow
524	AS	35.0	Good	4.1	Preserve	S1	BC
525	AS	40.0	Good	4.7	Preserve	S1	DW, BB
526	FS	90.0	Poor	10.6	Remove/ HS	S1	DW, CD, IB. BB, CW, GD
528	PrS	35.0	Fair	4.1	Preserve	S2	DW, UC
529	AS	90.0	Good	10.6	Preserve/H	S2	UC,DW
530	AN	35.0	Fair	4.1	Preserve	S2	UC, DW, Could be FS
531	AN	35.0	Good	4.1	Preserve	S2	BC, Could be FS
532	AS	100.0	Fair-Good	11.8	Preserve/H	S2	DW, IB, BC, Tree growing in branch crotch
533	AS	90.0	Poor-Fair	10.6	Remove/ HS	S2	DW, F, D, IB
534	AS	90.0	Poor-Fair	10.6	Remove/ HS	S2	DW, IB
535	AN	30.0	Fair	3.5	Preserve	S2	DW, D, SB
536	AS	90.0	Fair	10.6	Preserve/H	S2	DW, IB
537	AS	80.0	Fair	9.4	Preserve/H	S3	DW, IB
538	AS	70.0	Good	8.3	Preserve/H	S3	DW, IB, BB
539	AS	60.0	Good	7.1	Preserve/H	S3	BC
540	AS	80.0	Poor-Fair	9.4	Preserve/H	S3	IB, DW, WW, CD
541	AS	50.0	Poor	5.9	Remove/ HS	S3	CW, DW, GD, D
542	AS	45.0	Good	5.3	Preserve	S3	Minor IB, DW
543	PrS	35.0	Fair	4.1	Preserve	S3	UC, DW
544	AS	75.0	Good	8.9	Preserve/H	S3	Minor DW, BC, Most significant specimen on site
545	AS	30.0	Good	3.5	Remove	U	BC, S
546**	FS	45.0	Good	5.3	Remove	U	CD (Three trunks, 45 cm each), Not a significant specimen
547	FS	60.0	Good	7.1	Remove	V1	PS, DW, CD
548	FS	50.0	Fair-Good	5.9	Remove	V2	DW, IB
549	AS	60.0	Fair-Good	7.1	Remove	V3	CD, Minor DW
550	AS	35.0	Good	4.1	Remove	V3	Minor DW
551	PrS	30.0	Fair	3.5	Remove	V3	UC, DW, CD (Two trunks, 30cm & 25cm dbh)
552	PrS	30.0	Fair	3.5	Remove	V4	DW, IB
554	AS	90.0	Fair-Good	10.6	Preserve/H	F	DW, CD, IB, BC, Very significant specimen
555	FS	50.0	Good	5.9	Remove	K3	BC, Minor DW, Minor Bark Blonding (EAB)
556	FS	50.0	Fair-Good	5.9	Remove	K4	BC, Minor DW, Minor Bark Blonding (EAB)
557	FS	60.0	Fair-Good	7.1	Remove	K5	BC, Minor DW, Minor Bark Blonding (EAB)
558	PS	45.0	Good	5.3	Preserve	O	BC, DW, BB
559	PA	45.0	Good	5.3	Preserve	X	BC, East side of backyard fence
560	PA	45.0	Good	5.3	Preserve	X	BC, East side of backyard fence
561	AN	40.0	Poor-Fair	4.7	Preserve	B	UB, L, DW,
562	SB	180.0	Fair-Good	21.3	Preserve/H	C	CD
563	FS	50.0	Good	5.9	Preserve	D	BC, No visible signs of EAB
564	AS	50.0	Good	5.9	Preserve	H	BC, On private property (no tag attached)

*NOTE:
TREES ARE NOT SURVEY ACCURATE LOCATED.



THE AREA WITHIN THE PROTECTIVE FENCING SHALL REMAIN UNDISTURBED AND SHALL NOT BE USED FOR THE STORAGE OF BUILDING MATERIALS OR EQUIPMENT.

THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PREVENT DAMAGE TO TREES AND SHALL REPLACE ANY DEAD OR DAMAGED AT HIS EXPENSE TO APPROVAL OF LANDSCAPE ARCHITECT

NOTES:
1. TREE PROTECTION SHALL REMAIN UNTIL THE SEEDING PHASE OF THE PROJECT IS FINISHED
2. FENCING TO BE LOCATED AND STAKED BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.

1 SILT FENCE AND TREE PROTECTION FENCE
N.T.S.W/ T-BAR AND TOP RAIL 323133.99-05

LOCATION MAP

GENERAL NOTES

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REVISIONS

NO.	DATE	NOTES	BY
3	2021-01-07	TREE PRESERVATION PLAN	KL
2	2020-12-21	TREE PRESERVATION PLAN	RW
1	2020-12-21	SET UP PRELIMINARY DRAWING	RW

THESE LANDSCAPE DRAWINGS SHALL ONLY BE USED FOR THE PURPOSES INDICATED BELOW AS NOTED AND WHEN SIGNED BY THE CONSULTING LANDSCAPE ARCHITECT.

- ☒ CONCEPTUAL
- ☐ PRELIMINARY
- ☐ SITE PLAN
- ☐ PERMIT
- ☐ TENDER
- ☐ CONTRACT
- ☐ CONSTRUCTION
- ☐ AS-BUILT

CERTIFIED ARBORIST ISA

ASSOCIATION OF LANDSCAPE ARCHITECTS HENRY KORTEKAAS OALA MEMBER

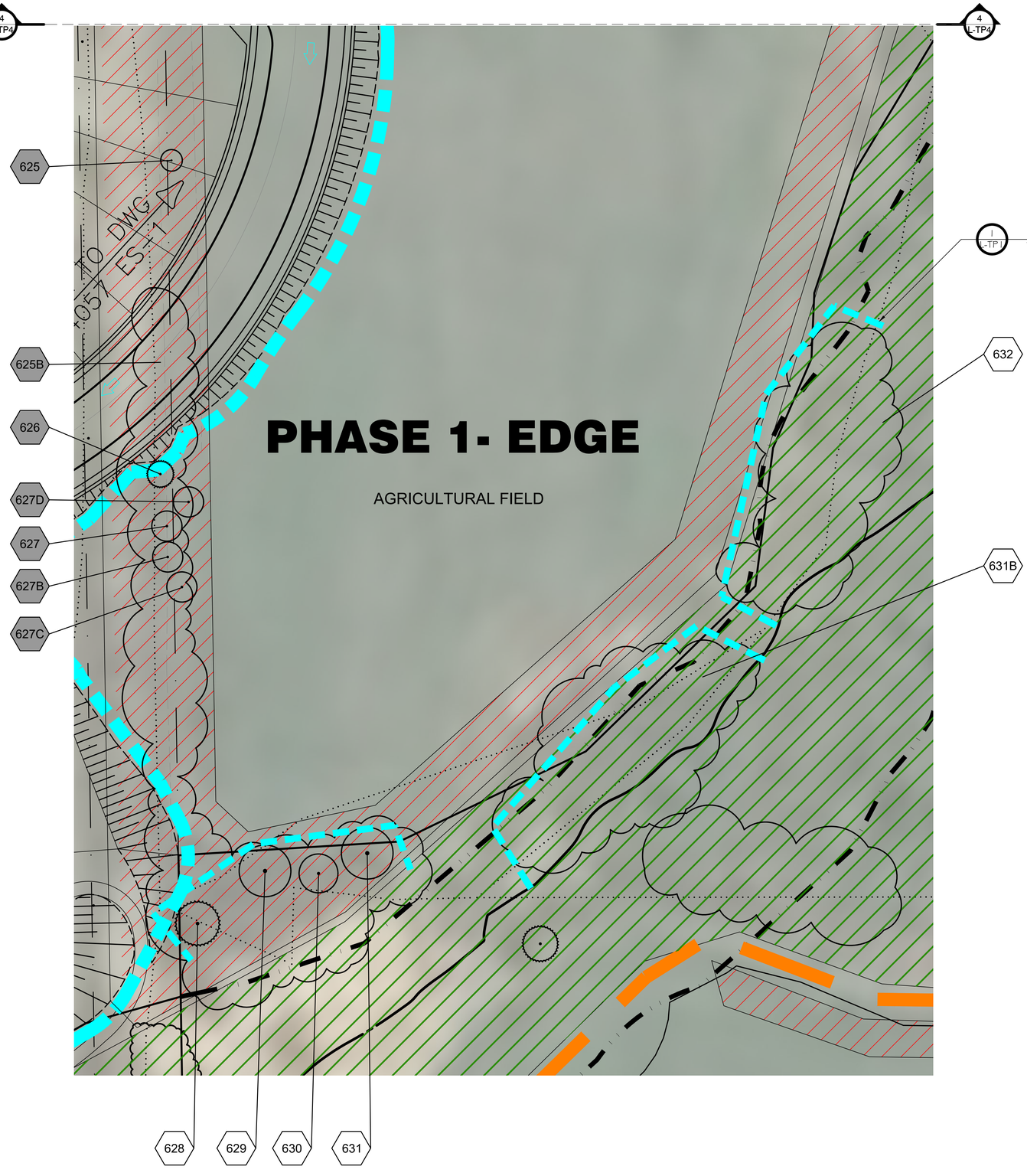
HENRY KORTEKAAS & ASSOCIATES INC.
LANDSCAPE ARCHITECTS, ARBORISTS, ENVIRONMENTAL & RECREATIONAL PLANNERS
599 LIVERPOOL ROAD TEL 905-839-5599
PICKERING, ON L1W 1R1 EMAIL INFO@HKLA.CA

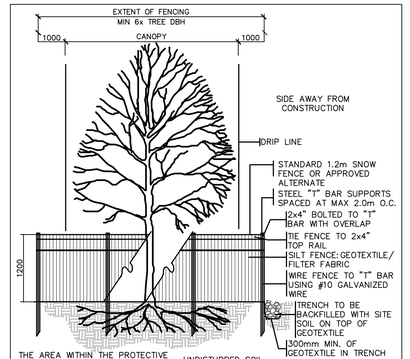
PROJECT: PHASE 1 VILLAGES OF CENTRAL PARK COBOURG, ON

DRAWING: TREE PRESERVATION PLAN

DRAWN BY:	SCALE:	
RAW		L-TP1
CHECKED BY: HJK	DATE: 2020-12-21	DRAWING 1 of 8
JOB NO.: 2020-112		

File #2020-112.





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N.T.S. W/ T-BAR AND TOP RAIL 323133.99-05

*NOTE:
SEE TREE INVENTORY DATA ON PAGE L-TP4

*NOTE:
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LEGEND

- 123 TREES TO BE REMOVED
- 123 TREES TO BE RETAINED
- TREE PRESERVATION / SILT FENCE AS PER ENGINEER
- PHASE LIMIT
- AREAS OF REMOVAL
- AREAS OF TREE PRESERVATION

SCALE 1:500
0 5 10 15 20 30 40 50 75m

LOCATION MAP

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PICKERING, ON L1W 1R1 EMAIL INFO@HKLA.CA

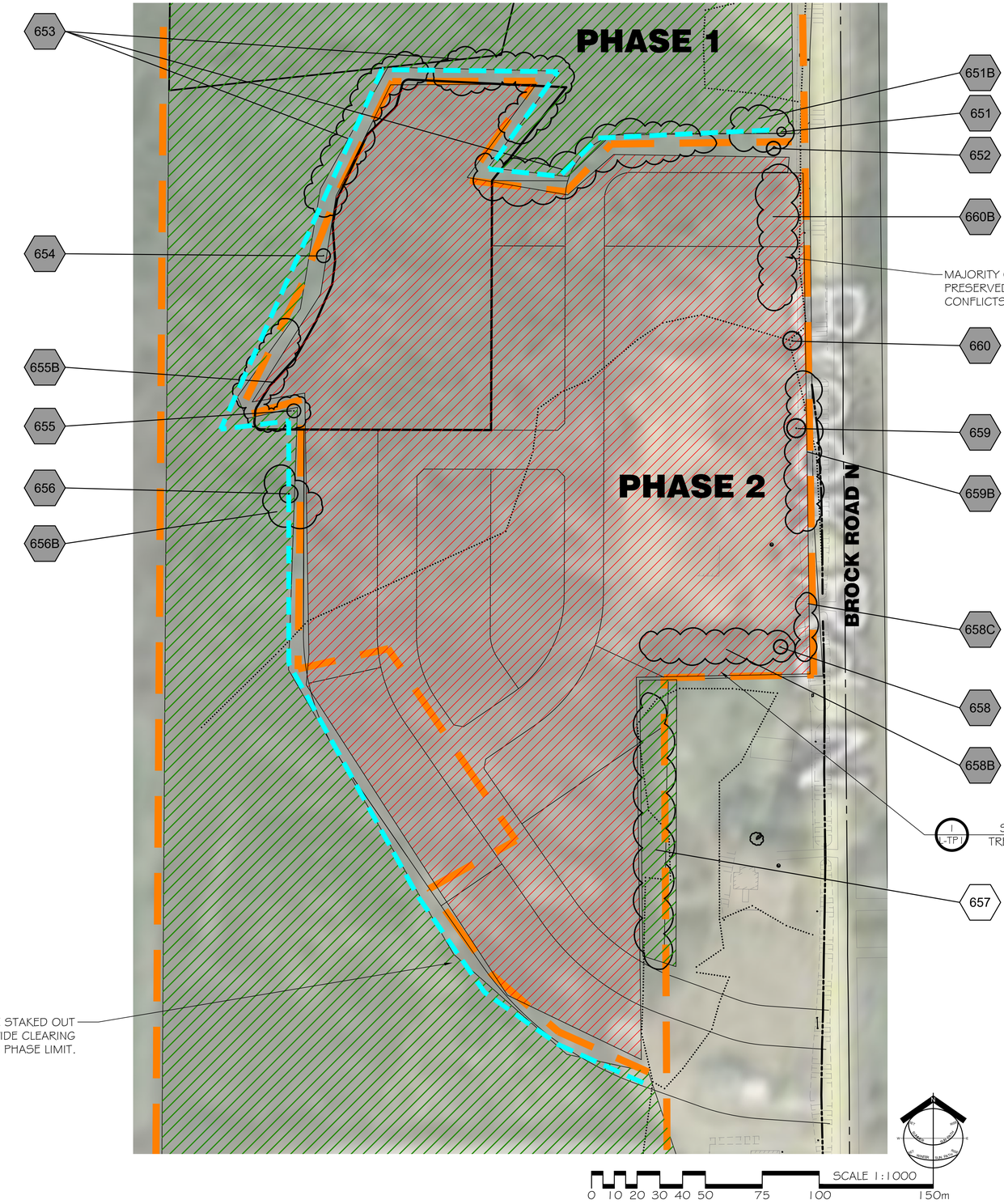
PROJECT:
PHASE 1- EDGE
VILLAGES OF CENTRAL PARK
COBOURG, ON

DRAWING:
TREE PRESERVATION PLAN

DRAWN BY: RAW	SCALE: 1:500
CHECKED BY: HJK	DATE: 2020-12-21
JOB NO.: 2020-112	

L-TP2
DRAWING 2 of 8

File #2020-112.



*NOTE:
SEE TREE INVENTORY DATA ON PAGE L-TP4

*NOTE:
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LEGEND

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- 123 TREES TO BE RETAINED
- TREE PRESERVATION / SILT FENCE AS PER ENGINEER
- PHASE LIMIT
- AREAS OF REMOVAL
- AREAS OF TREE PRESERVATION

LOCATION MAP

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REVISIONS

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PROJECT:
PHASE 2
VILLAGES OF CENTRAL PARK
COBOURG, ON

DRAWING:
TREE PRESERVATION PLAN

DRAWN BY: RAW	SCALE: 1:1000	L-TP3
CHECKED BY: HJK	DATE: 2020-12-21	DRAWING 3 of 8
JOB NO.: 2020-112		

File #2020-112.

PHASE 1 EDGE- INVENTORY

Tree Inventory

Project: Villages of Central Park Phase 1 Edge

HKA Job #: 2020-112

Date: 2020-12-16
Conditions: -9,
overcast.

Inventory Done
By: Katia Lepka &
Ross Williams

CODES		
DBH	Diameter at breast height	(mm)
SPR	Spread	(m)
HT	Height	(m)
TI	Trunk Integrity	(G,F,P)
CS	Crown Structure	(G,F,P)
CV	Crown Vigor	(G,F,P)
CDB	Crown Die Black	(%)
SPP	Species Potential	(L,M,H)
SIP	Site Potential	(L,M,H)
PHY	Physical Condition	(text)

~ = Estimate (L)=low (M)=moderate (H)=high (G) = Good, Fair, (P) = Poor (F) =

Tree Tag #	Common Name	Scientific Name	DBH	SP	HT	TI	CS	CV	CDB	SPP	SIP	PHY	Notes	Recommendation (REMOVE/RETAIN)
625	Hawthorn	Crataegus spp.	65	5	8	F	F	F	20%	L	L	Multi-stem (5+), edge of field, vine throughout	Typical understory	REMOVE
626	White pine	Pinus strobus	24	6	10	F	F	P	45%	L	L	Top of berm, debris over root zone, saplings adjacent	Lower canopy scarce	REMOVE
627	Sugar maple	Acer saccharum	28,28,16	7	17	F	F	F	20%	L	L	3 sterns, hawthorn understory, adjacent to other maples		REMOVE
627B	Sugar maple	Acer saccharum	41	7	17	F	F	F	20%	L	L	Crotch at .8m from ground, hawthorn understory		REMOVE
627C	Norway maple	Acer platanoides	34	7	16	P	P	P	50%	L	L	Half of leader broken and fallen into adjacent understory		REMOVE
627D	Norway maple	Acer platanoides	24	6	15	F	P	F	35%	L	L	Vine in canopy, hawthorn understory		REMOVE
628	White pine	Pinus strobus	47	10	18	F	F	P	25%	H	H	Lower canopy choked by understory of hawthorn and cherry, bottom 3rd of canopy scarce		RETAIN
625B	Sumac, hawthorn, buckthorn	Rhus typhina, Crataegua spp, Rhamnus	6-12	10	9	P	F	F	35%	L	L	Lots of understory shrub along field edge		REMOVE
629	Hawthorn	Crataegus spp.	17 -27	12	8	P	F	F	25%	H	H	Edge of field, near standing snag, 5-stem		RETAIN
630	Cherry	Prunus avium	40	9	20	P	P	P	40%	H	H	Leaning south, adjacent to hawthorn, poor condition, edge of field		RETAIN
631	Norway maple	Acer platanoides	54	12	19	F	G	F	25%	H	H	Mess of hawthorn and buckthorn	Near ash snag	RETAIN
631B	Grouping of hawthorn, buckthorn	Crataegus spp, Rhamnus	10-14	10	10	G	F	P	25%	M	M	Typical brush, dogwoods, golden rod		RETAIN
632	Group of birch	Betula spp.	10 to 45	4 to 8	15 to 25	F	F	F		H	H	35 plus trees in grouping		RETAIN

PHASE 2- INVENTORY

Tree Inventory

Project: Villages of Central Park Phase 2

HKA Job #: 2020-112

Date: 2020-12-17
Conditions: -8,
windy & sunny.

Inventory Done
By: Katia Lepka &
Ross Williams

CODES		
DBH	Diameter at breast height	(mm)
SPR	Spread	(m)
HT	Height	(m)
TI	Trunk Integrity	(G,F,P)
CS	Crown Structure	(G,F,P)
CV	Crown Vigor	(G,F,P)
CDB	Crown Die Black	(%)
SPP	Species Potential	(L,M,H)
SIP	Site Potential	(L,M,H)
PHY	Physical Condition	(text)

~ = Estimate (L)=low (M)=moderate (H)=high (G) = Good, Fair, (P) = Poor (F) =

Tree Tag #	Common Name	Scientific Name	DBH	SP	HT	TI	CS	CV	CDB	SPP	SIP	PHY	Notes	Recommendation (REMOVE/RETAIN)
651	Birch	Betula spp.	42	4	20	F	F	F	15%	L	L	Bottom of slope, end of clearing, in grouping of cedar, birch, and pine		REMOVE
651B	Birch, cedar, pine	Betula spp. Cedrus spp. Pinus strobus	20 to 45	2 to 6	10 to 20	F	F	F	25%	L	L	Large group at bottom of slope from road, various conditions, saplings and typical understory species		REMOVE
652	White pine	Pinus strobus	47	6	20	P	P	P	60%	L	L	Crotch at 1m from ground, majority of lower braches broken off/ no canopy		REMOVE
653	Birch grouping	Betula spp.	12 to 30	3 to 5	10 to 20	F	P	F	30%	L	L	Buckthorn understory, fallen branches and saplings surrounding basal area		REMOVE
654	Aspen	Populus tremuloides	34	6	22	G	P	P	50%	L	L	Broken branches, adjacent to survey paint and group of cedars		REMOVE
655	Birch	Betula spp.	33	4	23	F	G	F	25%	L	L	Some broken branches through canopy, tangled with adjacent cedars		REMOVE
655B	Birch and cedar	Betual spp. Cedrus spp.	8 to 45	2 to 7	6 to 25	F	P	F	20%	L	L	Fallen trees throughout grouping, typical understory		REMOVE
656	Norway maple	Acer plantanoides	30	6	18	F	F	F	30%	L	L	Broken branches, edge of thick buckthorn group		REMOVE
656B	Birch grove	Betula spp.	12 to 30	2 to 5	12 to 25	F	F	F	30%	L	L	Some small cedars and saplings, edge of buckthorn		REMOVE
657	Hedge of cedar	Cedrus spp.	25 to 45	5 to 8	5 to 8	F	F	F	25%	L	L	Matured hedge row; 25+ in group, buckthorn, saplings and understory surrounding	NOTE: Retain majority of grouping - Adjacent Property	RETAIN
658	Scots pine	Pinus sylvestris	19	5	7	G	G	F	20%	H	H	Next to wooden property fence, some lower canopy missing, typical understory		REMOVE
658B	White cedar hedge row	Thuja occidentalis	15 to 25	4 to 6	5 to 8	F	G	G	30%	H	H	Approx 10 in a row, some smaller saplings, buckthorn and hawthorn adjacent		REMOVE
658C	Small caliper hedge - cedar	Cedrus spp.	5 to 10	1 to 3	3 to 5	F	G	G		H	H	Approx 15m in a row		REMOVE
659	Scots pine	Pinus sylvestris	31	7	13	F	P	F	20%	H	H	Bottom of ditch in hedge row, broken lower braches		REMOVE
659B	Row of pine and cedar	Pinus spp. Cedrus spp.	5 to 30	2 to 5	5 to 13	F	F	F		H	H	35+ in a row, along base of ditch, broken branches within canopies		REMOVE
660	Scots pine	Pinus sylvestris	30	7	10	F	G	F	20%	M	M	Next to cattle fence and telephone pole, canopy in overhead wires, buckthorn understory		REMOVE
660B	Birch pine, cedar, hawthorne, buckthorn	Pinus spp. Cedrus spp. Rhamnus, Crataegus	20	7	7	G	P	P	40%	L	L	Large grouping along bottom of slope, thick understory, cattle fence running through length		REMOVE

LOCATION MAP

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REVISIONS

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2	2020-12-21	TREE PRESERVATION PLAN	RW
1	2020-12-21	SET UP PRELIMINARY DRAWING	RW

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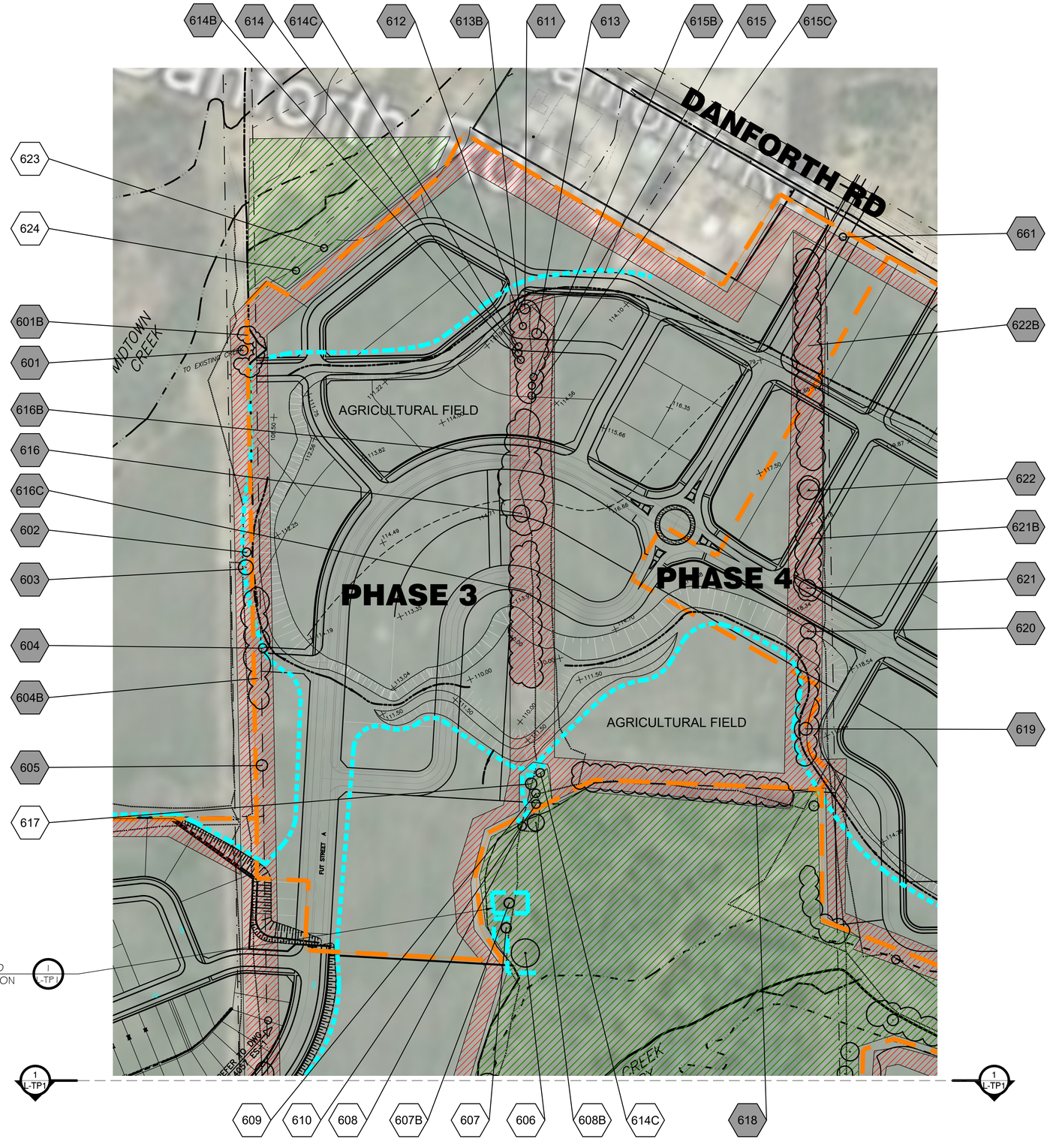
PICKERING, ON L1W 1R1 EMAIL INFO@HKLA.CA

PROJECT: PHASE 1 & PHASE 2
VILLAGES OF CENTRAL PARK
COBOURG, ON

DRAWING: INVENTORY

DRAWN BY: RAW	SCALE: N.T.S	L-TP4
CHECKED BY: HJK	DATE: 2020-12-21	DRAWING 4 of 8
JOB NO.: 2020-112		

File #2020-112.



*NOTE:
SEE TREE INVENTORY DATA ON PAGE L-TP7

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LEGEND

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- 123 TREES TO BE RETAINED
- TREE PRESERVATION / SILT FENCE AS PER ENGINEER
- PHASE LIMIT
- AREAS OF REMOVAL
- AREAS OF TREE PRESERVATION

SCALE 1:1500
0 10 30 50 75 100 200m

LOCATION MAP

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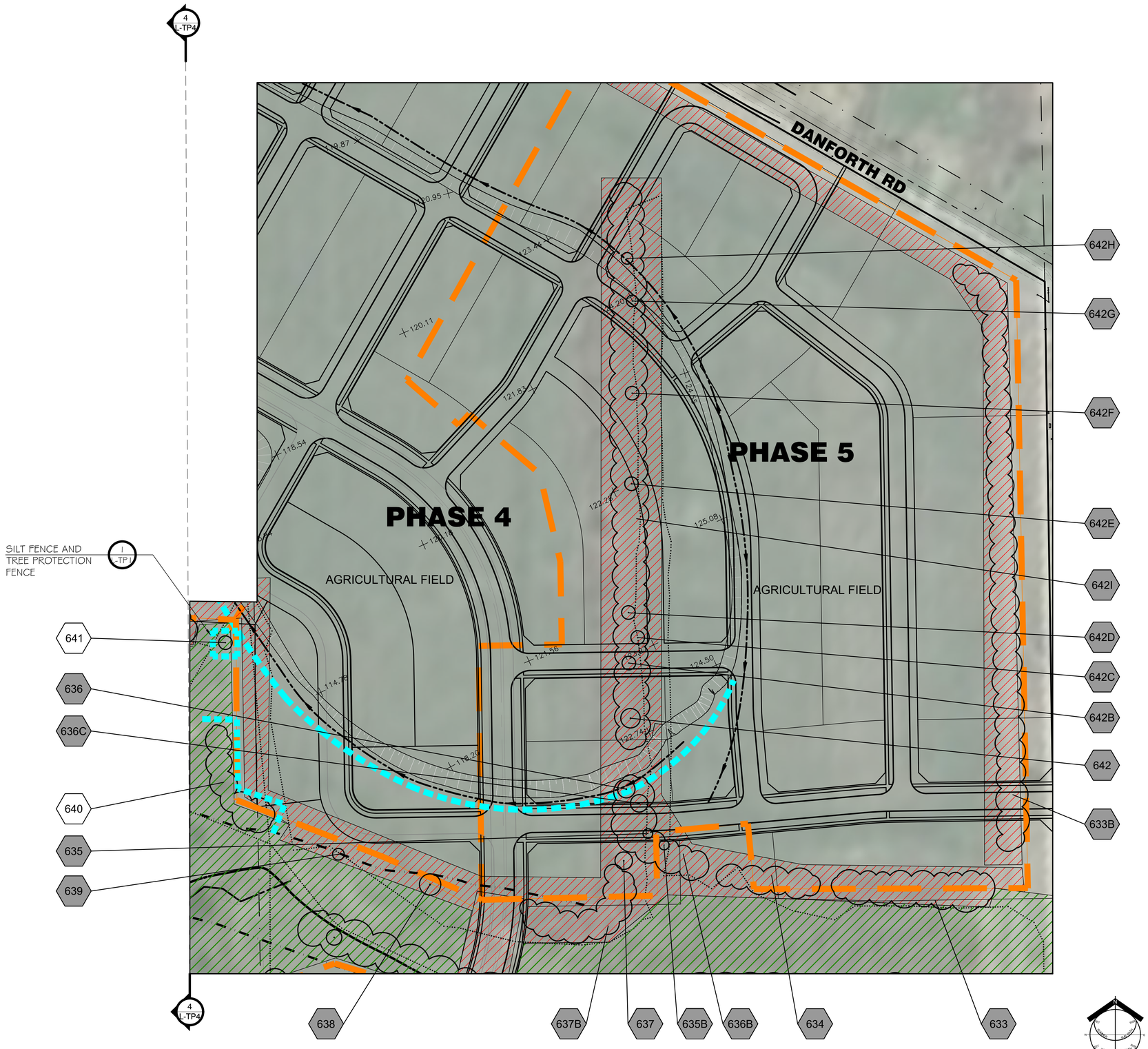
PROJECT:
PHASE 3&4
VILLAGES OF CENTRAL PARK
COBOURG, ON

DRAWING:
TREE PRESERVATION PLAN

DRAWN BY: RAW	SCALE: 1:1500
CHECKED BY: HJK	DATE: 2020-12-21
JOB NO.: 2020-112	

L-TP5
DRAWING 5 of 8

File #2020-112.



*NOTE:
SEE TREE INVENTORY DATA ON PAGE L-TP7

*NOTE:
TREES ARE NOT SURVEY ACCURATELY LOCATED.

LEGEND

- 123 TREES TO BE REMOVED
- 123 TREES TO BE RETAINED
- TREE PRESERVATION / SILT FENCE AS PER ENGINEER
- PHASE LIMIT
- AREAS OF REMOVAL
- AREAS OF TREE PRESERVATION

LOCATION MAP

GENERAL NOTES

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CONSTRUCTION MUST CONFORM TO ALL CODES AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

REVISIONS

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2	2020-12-21	TREE PRESERVATION PLAN	RW
1	2020-12-21	SET UP PRELIMINARY DRAWING	RW

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PROJECT: PHASE 4&5
VILLAGES OF CENTRAL PARK
COBOURG, ON

DRAWING: TREE PRESERVATION PLAN

DRAWN BY: RAW	SCALE: 1:1000
CHECKED BY: HJK	DATE: 2020-12-21
JOB NO.: 2020-112	

L-TP6
DRAWING 6 of 8

File #2020-112.

PHASE 3 & 4 - INVENTORY

Tree Inventory

Project: Villages of Central Park Phase 3 & 4

HKA Job #: 2020-112

Date: 2020-12-15
Conditions: -7
windy .

Inventory Done
By: Katia Lepka &
Ross Williams

CODES

DBH	Diameter at breast height	(mm)
SPR	Spread	(m)
HT	Height	(m)
TI	Trunk Integrity	(G,F,P)
CS	Crown Structure	(G,F,P)
CV	Crown Vigor	(G,F,P)
CDB	Crown Die Black	(%)
SPP	Species Potential	(L,M,H)
SIP	Site Potential	(L,M,H)
PHY	Physical Condition	(text)

~ = Estimate (L)=low (M)=moderate (H)=high (G) = Good, (F) = Fair, (P) = Poor

Tree Tag #	Common Name	Scientific Name	DBH	SP	HT	TI	CS	CV	CDB	SPP	SIP	PHY	Notes	Recommendation (REMOVE/RETAIN)
601	Willow	Salix spp.	43	7	12	P	P	P	40%	M	L	Broken branches throughout, debris over root zone, fallen branches	Understory shrubs/ vine	REMOVE
601B	Cedar grouping	Cedrus	6-12	2 to 4	4 to 9					M	L	8 cedars along field edge, golden rod understory		REMOVE
602	Willow	Salix spp.	50	6	13	P	F	F	20%	L	L	Broken branches, suckering at base, poor form		REMOVE
603	Willow	Salix spp.	25,63,22	9	11	P	P	P	30%	L	L	Multi-stem (3), very poor condition	Buckthorn and choke cherry surrounding	REMOVE
604	Buckthorn	Rhamnus	15,13,11	6	9	P	P	F	20%	L	L	3 stem, top of berm, debris over root zone		REMOVE
604B	Group of Sumac	Rhus	2 to 7	1 to 5	2 to 6					L	L			REMOVE
605	Buckthorn	Rhamnus	7 to 12	8	8	F	F	F	15%	L	L	Multi-stem (5+), edge of field, messy form, broken branches throughout canopy		REMOVE
606	Sugar maple	Acer saccharum	48	20	10	G	G	G	10%	H	H	Good condition, edge of creek, 10m in from field edge		RETAIN
607	Eastern white pine	Pinus strobus	48	6	20	G	F	F	20%	H	H	Tall and straight, approx 10m in from field edge		RETAIN
607B	Eastern white pine	Pinus strobus	49	6	20	G	F	F	20%	H	H	Tall and straight, approx 10m in from field edge		RETAIN
608	Crabapple	Malus spp.	30	6	8	P	P	P	30%	M	H	Messy form, many broken branches		RETAIN
608B	Crabapple	Malus spp.	26,16,18	12	8	P	P	P	30%	H	H	Multi-stem, many broken branches		RETAIN
609	Red oak	Quercus rubra	75	6	20	F	F	P	20%	M	H	Crotch at 1m from ground, leaning SW		REATIN
610	Red oak	Quercus rubra	46	7	20	P	P	P	20%	H	H	Broken branches, spalding bark		RETAIN
611	Oak spp.	Quercus spp.	68	7	15	P	P	P	35%	L	M	Buckthorn understory		REMOVE
612	American elm	Ulmus americana	31	5	17	G	G	G	15%	L	M	Suckers and buckthorn, broken branches		REMOVE
613	Oak spp.	Quercus spp.	90	7	14	P	P	P	40%	L	M	Buckthorn understory, branches cracked	Suckers, some spalding bark, multiple holes and wounds in trunk, near dead	REMOVE
613B	Manitoba maple, Red oak group	Acer negundo, Quercus rubra	7 to 27	3 to 7	4 to 15					L	L	Many splings and suckers throughout group, smaller caliper trees, buckthorn throughout		REMOVE
614	Red oak	Quercus rubra	27	5	13	P	P	P		L	L	Suckers and natural regenerating saplings		REMOVE
614B	Red oak	Quercus rubra	27	4	12	P	P	P		L	L	Suckers and natural regenerating saplings		REMOVE
614C	Red oak	Quercus rubra	28	5	11	P	P	P		L	L	Suckers and natural regenerating saplings		REMOVE
615	Red oak	Quercus rubra	34	5	15	F	F	F	25%	L	L	Broken branches		REMOVE
615B	Red oak	Quercus rubra	35	5	15	F	F	F	25%	L	L	Broken branches		REMOVE
615C	Red oak	Quercus rubra	26	4	11	F	P	P	30%	L	L	Broken leader		REMOVE
616	Willow	Salix spp.	130	12	17	P	P	P	50%	L	L	Hazard, very poor condition, many broken branches in canopy and fallen over root zone		REMOVE
616B	Group of Red oak, Maple and Elm	Quercus rubra, Acer spp, Ulmus spp.	14 to 32	4 to 7	7 to 14	F	F	F	25%	L	L	20+ in group		REMOVE
616C	Group of Oak	Quercus rubra	8 to 37	2 to 7	7 to 16					M	L	Buckthorn understory, red oak and white oak, 25+ in group		REMOVE
617	Red oak	Quercus rubra	66	6	20	F	F	F	20%	H	H	Adjacent to standing snag, spalding bark at bottom	Crotch at 3m from ground, buckthorn understory	RETAIN
618	Group along forest edge		20-40	10	20	P	F	F	35%	H	H	Tag on paper birch group, birch spp, buckthorn, maple, aspen, typical understory and regenerating species		REMOVE
619	Red oak	Quercus rubra	35,35,22	8	17	F	P	P	30%	L	L	Multi-stem, buckthorn, many saplings an regenerating species, adjacent to wooden fence and standing snag		REMOVE
620	White oak	Quercus alba	80	10	19	F	F	F	20%	L	M	Vine in canopy, buckthorn understory		REMOVE
621	Oak spp.	Quercus spp.	220	12	20	F	F	F	25%	L	L	Crotch at 1m, broken branches		REMOVE
621B	Red oak, buckthorn, sumac	Quercus spp. Rhamnus, Rhus typhina	4 to 15	2 to 8	2 to 10					L	L	Vine and messy understory		REMOVE
622	American elm	Ulmus americana	94	14	20	G	G	G	10%	L	L	Buckthorn understory		REMOVE
622b	Group of sumac, red oak saplings	Quercus rubra, Rhus typhina	3 to 20	2 to 7	3 to 17					M	L	Dogwood, buckthorn, vine and naturally regenerating species		REMOVE
623	Rum cherry	Prunus serotina	24	4	12	F	P	P	35%	L	L	Buckthorn and vine, edge of field		REMOVE
624	Rum cherry	Prunus serotina	24	4	12	F	F	F	20%	L	L	Vine in canopy, edge of field		REMOVE
661	White spruce	Picea glauca	18	3	8	G	F	F	10%	L	L	Edge of road, grass adjacent and smaller caliper understory, at end of field hedge row		REMOVE

PHASE 4 & 5 - INVENTORY

Tree Inventory

Project: Villages of Central Park Phase 4 & 5

HKA Job #: 2020-112

Date: 2020-12-16
Conditions: -9,
cloudy.

Inventory Done
By: Katia Lepka &
Ross Williams

CODES

DBH	Diameter at breast height	(mm)
SPR	Spread	(m)
HT	Height	(m)
TI	Trunk Integrity	(G,F,P)
CS	Crown Structure	(G,F,P)
CV	Crown Vigor	(G,F,P)
CDB	Crown Die Black	(%)
SPP	Species Potential	(L,M,H)
SIP	Site Potential	(L,M,H)
PHY	Physical Condition	(text)

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633	Aspen	Populus tremuloides	10 to 25	2 to 4	10 to 17	F	F	F	35%	L	L	30+ in group along field edge, buckthorn throughout understory		REMOVE
633B	Cedar, juniper, hawthorn, buckthorn	Cedrus spp. Juniperus, Rhamnus, Crataegus	10 to 25	5 to 15	10 to 17	F	F	F	20%	L	L	Along Greer Rd and field edge, small caliper and brush		REMOVE
634	Birch	Betula spp.	10 to 25	2 to 4	10 to 15	F	F	F	25%	L	L	30+ in group along field edge, buckthorn throughout understory		REMOVE
635	Birch	Betula spp.	25	4	16	P	F	F	25%	L	L	Buckthorn and typical understory, fallen branches leaning on trunk		REMOVE
635B	Birch	Betula spp.	25	4	16	P	P	F	35%	L	L	Buckthorn and typical understory		REMOVE
636	White Ash	Fraxinus americana	50	8	18	P	P	P	45%	L	L	Vine throughout canopy, poor condition		REMOVE
636B	Buckthorn, snags, hawthorn, dogwood, smaller caliper trees		6 TO 12	8	12	P	F	F	35%	L	L			REMOVE
636C	White Ash	Fraxinus americana	52	8	19	P	F	P	40%	M	L	Vine throughout canopy		REMOVE
637	Manitoba maple	Acer negundo	55	8	18	F	P	P	40%	M	L	Leaning east, suckering all up trunk		REMOVE
637B	Aspen, hawthorn, buckthorn	Populus spp. Rhamnus, Crataegus							40%	L	M			REMOVE
638	Willow	Salix spp.	157	11	16	P	P	P	50%	L	L	Broken leader; fallen, buckthornand vine, many broken branches		REMOVE
639	Red oak	Quercus rubra	50	6	17	P	P	P	45%	L	L	Completely covered in vine		REMOVE
640	Maple, oak, cottonwood	Acer spp. Quercus spp. Populus spp.	12 to 75	5 to 9	12 to 20	F	F	F	30%	H	H	15+ in group, corner of field, various conditions	Dogwood, buckthorn, and typical understory below	RETAIN
641	White Ash	Fraxinus americana	74	7	18	P	P	P	40%	H	H	Completely covered in vine, corner of forest node at edge of field		RETAIN
642	Red oak	Quercus rubra	53	9	17	F	F	F	25%	L	L	Crotch at 5m from ground, surrounded by buckthorn and hawthorn, some broken branches		REMOVE
642B	Cottonwood	Populus deltoides	45	6	18	F	P	F	20%	L	L	Vine, surrounded by smaller caliper suckers and saplings		REMOVE
642C	Cottonwood	Populus deltoides	50	7	20	F	G	F	20%	L	L	Thick understory, vine around canopy		REMOVE
642D	Cottonwood	Populus deltoides	55	6	18	F	P	F	30%	L	L	Thick understory, vine around canopy		REMOVE
642E	Cottonwood	Populus deltoides	90	7	25	F	F	F	25%	L	M	Thick understory, vine around canopy		REMOVE
642F	Red oak	Quercus rubra	70	6	17	F	P	P	40%	L	L	Thick understory, vine around canopy		REMOVE
642G	Red oak	Quercus rubra	20	5	16	F	F	F	25%	L	L	Smaller caliper around, middle of hedge row		REMOVE
642H	Cottonwood	Populus deltoides	36	6	17	F	F	F	30%	M	L	Surrounded by vine and thick understory in middle of hedge row		REMOVE
642I	Hawthorn, buckthorn, saplings, vine, Chokecherry	Crataegus, Rhamnus, Prunus virginiana	15-Oct	10	15	P	P	P	25%	L	M	Entire hedge row thick with understory and brush		REMOVE

LOCATION MAP

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PROJECT:
PHASE 3 & 4 & 5
VILLAGES OF CENTRAL PARK
COBOURG, ON

DRAWING:
INVENTORY

DRAWN BY: RAW	SCALE: N.T.S
CHECKED BY: HJK	DATE: 2020-12-21
JOB NO.: 2020-112	L-TP7
	DRAWING 7 of 8

File #2020-112.

Tree Inventory

Project: Villages of Central Park Phase 6 & 7

HKA Job #: 2020-112

Date: 2020-12-16
& 2020-12-18
Conditions: -9,
cloudy.

Inventory Done
By: Katia Lepka &
Ross Williams

CODES

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SPR	Spread	(m)
HT	Height	(m)
TI	Trunk Integrity	(G,F,P)
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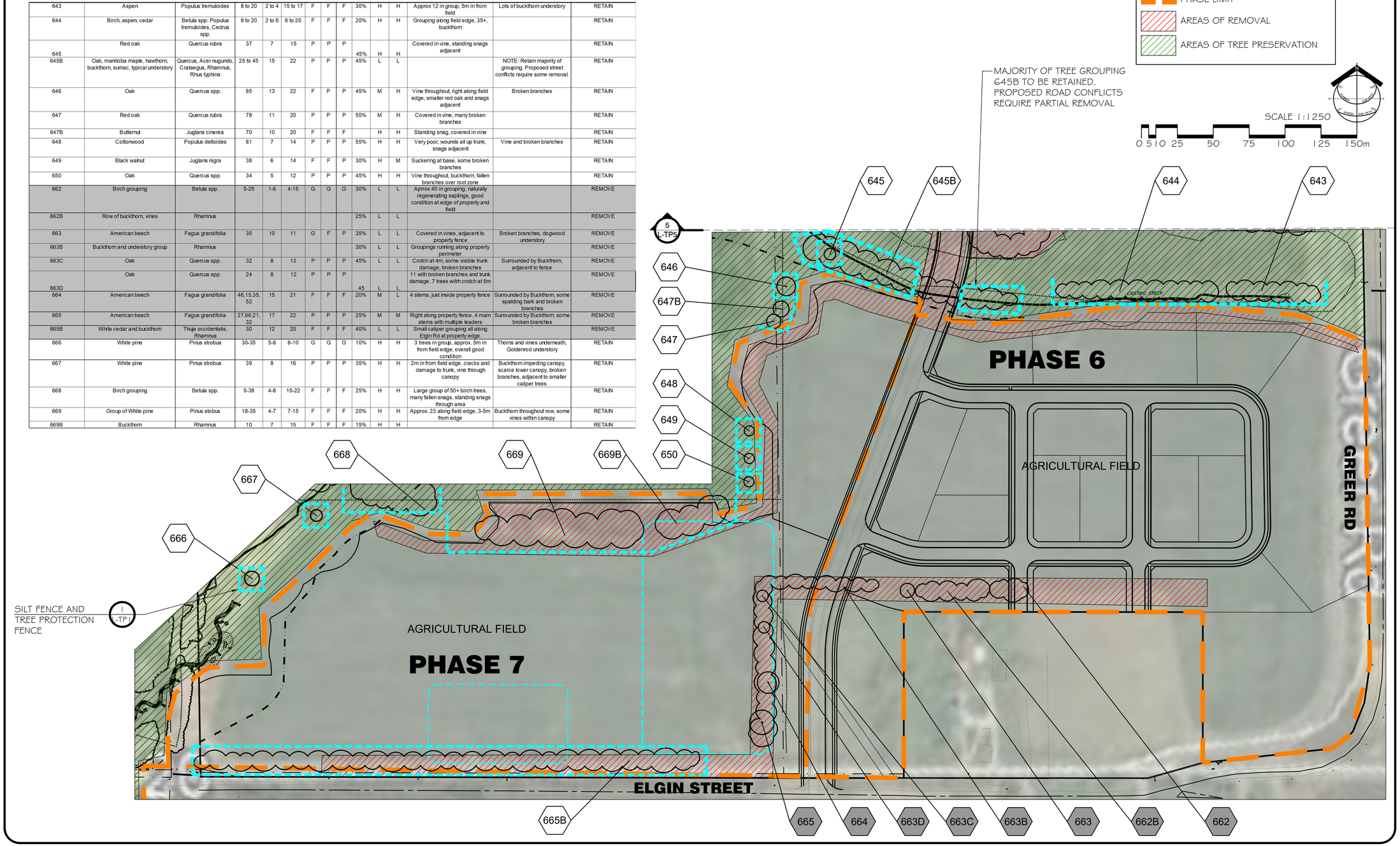
643	Aspen	Populus tremuloides	8 to 20	2 to 4	15 to 17	F	F	F	30%	H	H	Approx 12 in group, 5m in from field	Lots of buckthorn understory	RETAIN
644	Birch, aspen, cedar	Betula spp. Populus tremuloides, Cedrus spp.	8 to 20	2 to 6	8 to 20	F	F	F	20%	H	H	Grouping along field edge, 35+, buckthorn		RETAIN
645	Red oak	Quercus rubra	37	7	15	P	P	P	45%	H	H	Covered in vine, standing snags adjacent		RETAIN
645B	Oak, manitoba maple, hawthorn, buckthorn, sumac, typical understory	Quercus, Acer nugundo, Crataegus, Rhamnus, Rhus typhina	25 to 45	15	22	P	P	P	45%	L	L		NOTE: Retain majority of grouping. Proposed street conflicts require some removal.	RETAIN
646	Oak	Quercus spp.	85	13	22	F	P	P	45%	M	H	Vine throughout, right along field edge, smaller red oak and snags adjacent	Broken branches	RETAIN
647	Red oak	Quercus rubra	78	11	20	P	P	P	50%	M	H	Covered in vine, many broken branches		RETAIN
647B	Butternut	Juglans cinerea	70	10	20	F	F	F		H	H	Standing snag, covered in vine		RETAIN
648	Cottonwood	Populus deltoides	81	7	14	P	P	P	55%	H	H	Very poor, wounds all up trunk, snags adjacent	Vine and broken branches	RETAIN
649	Black walnut	Juglans nigra	38	6	14	F	F	P	30%	H	M	Suckering at base, some broken branches		RETAIN
650	Oak	Quercus spp.	34	5	12	P	P	P	45%	H	H	Vine throughout, buckthorn, fallen branches over root zone		RETAIN
662	Birch grouping	Betula spp.	5-25	1-6	4-15	G	G	G	30%	L	L	Aprox 40 in grouping, naturally regenerating saplings, good condition at edge of property and field		REMOVE
662B	Row of buckthorn, vines	Rhamnus							25%	L	L			REMOVE
663	American beech	Fagus grandifolia	35	10	11	G	F	P	35%	L	L	Covered in vines, adjacent to property fence	Broken branches, dogwood understory	REMOVE
663B	Buckthorn and understory group	Rhamnus							30%	L	L	Groupings running along property perimeter		REMOVE
663C	Oak	Quercus spp.	32	8	13	P	P	P	45%	L	L	Crotch at 4m, some visible trunk damage, broken branches	Surrounded by Buckthorn, adjacent to fence	REMOVE
663D	Oak	Quercus spp.	24	8	12	P	P	P	45	L	L	11 with broken branches and trunk damage, 7 trees with crotch at 5m		REMOVE
664	American beech	Fagus grandifolia	46,15,35, 52	15	21	F	F	F	20%	M	L	4 stems, just inside property fence	Surrounded by Buckthorn, some spalding bark and broken branches	REMOVE
665	American beech	Fagus grandifolia	27,66,21, 32	17	22	P	P	P	25%	M	M	Right along property fence, 4 main stems with multiple leaders	Surrounded by Buckthorn, some broken branches	REMOVE
665B	White cedar and buckthorn	Thuja occidentalis, Rhamnus	30	12	20	F	F	F	40%	L	L	Small caliper grouping all along Elgin Rd at property edge		REMOVE
666	White pine	Pinus strobus	30-35	5-8	8-10	G	G	G	10%	H	H	3 trees in group, approx. 5m in from field edge, overall good condition	Thorns and vines underneath, Goldenrod understory	RETAIN
667	White pine	Pinus strobus	39	8	16	P	P	P	35%	H	H	2m in from field edge, cracks and damage to trunk, vine through canopy	Buckthorn impeding canopy, scarce lower canopy, broken branches, adjacent to smaller caliper trees	RETAIN
668	Birch grouping	Betula spp.	5-38	4-8	15-22	F	F	F	25%	H	H	Large group of 50+ birch trees, many fallen snags, standing snags through area		RETAIN
669	Group of White pine	Pinus stobus	18-35	4-7	7-15	F	F	F	20%	H	H	Approx. 23 along field edge, 3-5m from edge	Buckthorn throughout row, some vines within canopy	RETAIN
669B	Buckthorn	Rhamnus	10	7	15	F	F	F	15%	H	H			RETAIN



LOCATION MAP

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PROJECT: PHASE 6&7
VILLAGES OF CENTRAL PARK
COBOURG, ON

DRAWING: INVENTORY

DRAWN BY: RAW	SCALE: 1:1250
CHECKED BY: HJK	DATE: 2020-12-21
JOB NO.: 2020-112	L-TP8 DRAWING 8 of 8

File #2020-112.

APPENDIX D - THE TOWN OF COBOURG BY-LAW 020-2006 (TREE PRESERVATION BY-LAW)

THE CORPORATION OF THE TOWN OF COBOURG

BY-LAW NUMBER 020-2006

A BY-LAW TO AUTHORIZE THE ESTABLISHMENT OF A TREE PRESERVATION POLICY.

WHEREAS Section 135 of the Municipal Act, 2001, S.O. 2001, Chapter 25 as amended authorizes the Council of a local municipality to enact by-laws prohibiting or regulating the destruction or injuring of trees;

AND WHEREAS Council deems it appropriate and necessary to establish a tree preservation policy respecting municipal property in areas of potential development;

AND WHEREAS Council deems it desirable to regulate and prohibit the injury or destruction of trees within the Town of Cobourg;

NOW THEREFORE THE COUNCIL FOR THE CORPORATION OF THE TOWN OF COBOURG HEREBY ENACTS AS FOLLOWS:

SHORT TITLE

1. This By-law may be cited as the Tree Preservation By-law.

2. **DEFINITIONS**

(1) In this By-law:

a) **"Act"** - means the Municipal Act 2001, S.O. 2001, c.25 as amended;

b) **"Arborist"** - means an individual possessing the technical competence through education, experience and related training to provide for or supervise the care and management of trees or other woody plants in a landscape setting;

c) **"Approved Development Agreement"** - shall mean a Site Plan Agreement pursuant to Section 41 of the Planning Act, a subdivision Agreement pursuant to Section 51 of the Planning Act, or a Development Agreement pursuant to Section 53 of the Planning Act;

d) **"Council"**- shall mean the Council for the Corporation of the Town of Cobourg;

e) **"Designated Area"** - shall mean:

(i) those lands that are located within 6 feet (1.8 metres) of the boundary line of any municipal road allowance in the Town of Cobourg; or

(ii) any lot in the Town of Cobourg that has an area of 2 acre (0.8 hectares) or more; or

(iii) lands that are owned by the Town which are subject to a moratorium on tree removal.

f) **"Destroy"** - means any action which causes or results in the irreversible injury of or death to a tree;

g) **"Emergency Work"** - means drain, utility or structural repairs of an emergency nature to a building or structure;

h) **"Good Forestry Practice"** - shall mean the care and development of forests including selective thinning, harvesting, renewal and maintenance activities known to be appropriate for the forest and environmental conditions to which they are being applied and which minimize harm to all forest values including eco-systems, fish and wildlife habitat, soil and water supplies and forest productivity and health;

i) **"Injury"** - means any action which causes physical, biological or chemical damage to a tree;

j) **"Lot"** - shall mean any parcel of land shown as a lot or block on a registered plan of subdivision or the total horizontal area of a parcel of land described within a registered Transfer or other document legally capable of conveying a parcel of land in accordance with the subdivision control provisions of the Planning Act;

k) **"Municipal Lands"** - shall mean lands owned by the Town;

l) **"Officer"** - shall mean a person duly authorized by Council by By-law to enforce the provisions of this By-law;

m) **"Ornamental Plantings"** - means plants cultivated for their beauty and intended to be managed or clipped on an annual or bi-annual basis rather than for their natural use including but not limited to foundation shrubbery, clipped hedges and fruit trees that produce fruit for human consumption;

n) **"Owner"** - shall mean a person having any right, title, interest or equity in land;

o) **"Permit"** - shall mean the written authorization from an Officer to injure or destroy a tree in accordance with the provisions of this By-law;

p) **"Person"** - shall mean an individual, association, partnership, corporation, a municipal, provincial or federal agency or an agent or employee thereof;

q) **"Planning Act"** - shall mean the Planning Act, R.S.O., 1990, c.P-13 as it may be amended from time to time;

r) **"Site"** - shall mean any area of land containing any trees proposed to be injured, destroyed or harvested;

s) **"Town"** - shall mean the Corporation of the Town of Cobourg;

t) **"Tree"** - shall mean any woody stemmed plant that has reached the height of 4.5 metres (15 feet) above the ground with a minimum diameter of 75 mm (3 inches) at a point that is 1.5 metres above the ground;

u) **"Tree Planting Levy"** - shall mean the sum of money as established by the Municipality from time to time to be used for the planting of trees within the Municipality and payable to the Town by a person developing land.

3. GENERAL PROHIBITION

3.1 Subject to the provisions of Section 3.2 and 3.3 below, no person shall injure or destroy any tree in a Designated Area within the Town of Cobourg.

3.2 Despite the provisions of Section 3.1 above, any person who has entered into an Approved Development Agreement with the Town in accordance with the provisions of this By-law may injure or destroy trees in a Designated Area provided that the trees are injured or destroyed in accordance with the provisions of the Approved Development Agreement between the person and the Town.

3.3 Despite Section 3.1and 3.2 above, a person who has received a permit from an Officer issued pursuant to the provisions of this By-law may destroy or injure the tree or trees for which the permit is issued in accordance with the terms and conditions of the permit.

4. EXEMPTIONS

4.1 This By-law does not apply to:

(a) activities or matters undertaken by a Municipality or a local Board of a Municipality;

(b) activities or matters undertaken under a licence issued under the Crown Forest Sustainability Act, 1994;

(c) the injury or destruction of trees by a person licensed under the Surveyors Act to engage in the practice of cadastral surveying or his or her agent, while making a survey;

(d) the injury or destruction of trees imposed after December 31, 2002 as a condition to the approval of a Site Plan, Plan of Subdivision or a Consent under Section 41, 51 or 53 respectively of the Planning Act or as a requirement of a Site Plan Agreement or Subdivision Agreement entered into under those Sections;

(e) the injuring or destruction of trees imposed after December 31, 2002 as a condition to a development permit authorized by Regulation made under Section 70.2 of the Planning Act or as a requirement of an agreement entered into under the Regulation;

(f) the injury or destruction of trees by a transmitter or distributor as those terms are defined in Section 2 of the Electricity Act, 1998 for the purpose of constructing and maintaining a transmission system or a distribution system as those terms are defined in that Section;

(g) the injuring or destruction of trees undertaken on land described in a licence for a pit or quarry or a permit for a wayside pit or a way side quarry issued under the Aggregate Resources Act; or

(h) the injuring or destruction of trees undertaken on land in order to lawfully establish and operate or enlarge any pit or quarry on land,

1. that has not been designated under the Aggregate Resources Act or any predecessor of that Act, and

2. on which a pit or quarry is a permitted land use under a By-law passed under Section 34 of the Planning Act.

5. DEVELOPMENT APPLICATIONS

5.1 Any person who makes an application to the Town's Planning Department for an Approved Development Plan shall be required to submit a landscaping and street furniture plan for approval by the Planning Department and in approving an Approved Development Agreement, the Planning Department shall consider and have regard to the Tree Preservation Guidelines attached to and forming part of this By-law as Schedule "B".

5.2 Any person who applies to enter into an Approved Development Agreement with the Town shall be subject to a tree planting levy as set out in Schedule "A" attached to and forming part of this By-law and calculated and payable in accordance with the provisions of Schedule "A".

5.3 The Planning Department shall consult with the Town's arborist prior to recommending to Council the approval of any Approved Development Agreement which permits the injuring or destruction of trees within a Designated Area.

6. PERMIT REQUIRED

6.1 Council hereby designates the Town's arborist as an Officer for the purposes of this By-law and hereby delegates to the Officer the power to issue permits and impose conditions to the permits pursuant to Section 135 (11) of the Act.

6.2 Any person who wishes or intends to injure or damage any tree within a Designated Area which is not subject to an Approved Development Agreement shall apply to the Town's Officer for a permit to alter or damage a tree.

6.3 Any person who wishes to injure or damage a tree or carry out any activity which may injure or destroy a tree or otherwise cause damage to a tree shall submit to the Town's Officer a completed application in the prescribed form and shall also provide the following:

(a) a tree survey and photograph showing the location, size and condition of the tree or trees intended to be injure or destroyed;

(b) an evaluation of the condition of the tree or trees prepared by an arborist; and

(c) where required by the Town's arborist, a landscaping and replanting plan.

7. EXCEPTIONS

7.1 Despite the provisions of Section 3.1, 3.2 and 3.3 of this By-law, an Approved Development Agreement or permit is not required under this By-law for the following activities:

(a) the removal of a diseased, dead or hazardous tree including trees causing structural problems certified as such by the Officer;

(b) the pruning of a tree in accordance with good arboricultural practices in order to maintain the health of the tree;

(c) the pruning of tree branches that interfere with utility conductors;

(d) the pruning or removal of Ornamental Plantings; or

(e) Emergency Work.

8. AUTHORITY TO ENTER AND INSPECT LANDS

8.1 An Officer may, during daylight hours and upon producing identification enter and inspect any land, but not buildings on the lands, in order to carry out his or her duties under this By-law.

9. ORDER TO CORRECT VIOLATION

9.1 If the Officer is satisfied, after making an inspection, that there is a contravention of this By-law, the Officer may make an Order setting out the particulars of the contravention and requiring the person to stop the removal, injury, destruction of or damage to the tree or trees.

10. ENFORCEMENT

10.1 Any person who contravenes or who causes or permits a contravention of any provision of this By-law is guilty of an offence.

10.2 Any person convicted of an offence under this By-law is liable to a fine as set out in Section 138 (1) and (1.1) of the Act.

10.3 In addition to any other remedy or any penalty provided by law, the Court in which the conviction has been entered and any Court of competent jurisdiction thereafter may make an Order prohibiting the continuation or repetition of the offence by any person.

10.4 The Court in which the conviction has been entered and any Court of competent jurisdiction thereafter may order the person to replant or have replanted such tree or trees in such manner and within such a time period as the Court considers appropriate.

11. VALIDITY

11.1 Should any clause or provision of this By-law be declared by a Court of competent jurisdiction to be invalid, the same shall not affect the validity of this By-law as a whole or any part thereof other than the part so declared to be invalid.

READ a first, second and third time and finally passed this 6th day of March, 2006.

Mayor

Clerk

SCHEDULE "A"

TREE PLANTING LEVY

ARTICLE 1 - INTERPRETATION

DEFINITIONS

"Linear frontage" - Linear frontage on a highway shall be the same meaning as that in the Zoning By-law and Official Plan.

ARTICLE 2 - POLICY

Adoption — The Corporation of the Town of Cobourg herein adopts and shall implement the tree planting policy as recited in this Chapter.

Compliance — All Town staff, agencies, committees, local boards and commissions shall comply with the tree planting policy as outlined in the body of this by-law

Committee of Adjustment Responsibility

The Committee of Adjustment is requested to impose, as a condition of severance, the obligation to provide a tree levy as described herein. This request shall not apply to a severance which permits the creation of a parcel of land that will be subject to site plan control pursuant to Section 41 of the Planning Act, R.S. O. 1990, c. P13.

Plan of Subdivision Tree Levy Requirement

The Corporation of the Town of Cobourg imposes, as a condition incidental to the approval of any plan of subdivision under Section 50 of the Planning Act, 1983, or incidental to any consent under Section 52 of the Planning Act, 1983, the requirement of a tree planting levy to be collected, incidental to such subdivision of land.

Subdivision Severance - Trees on Road Allowance

The requirement to provide trees along streets and their road allowances will be imposed in the form of a levy as a condition of a subdivision agreement, site plan agreement or severance approval.

SCHEDULE "A" CONT'D

ARTICLE 3 - SUPPLY - INSTALLATION - MAINTENANCE

Levy Calculation

It is hereby decreed that the levy will be equivalent to the municipal costs for the supply, installation, and provision of maintenance for a period of one year of such "street trees" and the said levy shall be calculated as follows:

The levy charged will be calculated by multiplying the total number of required trees times the base charge per tree. The amount will be subject to annual review.

The base charge per tree shall be $350.00 effective March 6th, 2006.

Road Allowance - New Subdivisions Provisions

It is hereby deemed that trees shall be provided along such road allowances incidental to new development and in-fil development in the manner set out in "Supervision - Parks Department".

Supervision - Parks Department

The supply, installation, maintenance and necessary replacement of trees will be supervised by the Parks Department using the levied funds to either contract the work or undertake the work by Parks staff.

Timing - Levy Collection from the Applicant

The levy shall be collected from the applicant incidental to the processing of the site plan / development agreement or subdivision agreement and the registration of the plan of subdivision.

Annual Review / Change of Requirements

The levy as expressed in Schedule "A" shall be reviewed annually, and the assessment and any modifications to the said levy shall be presented to Council no later than April 1 in each calendar year.

Severance Consents - Levy Collection - Before Issuance

The levy shall be collected for severance consents prior to the issuance of the certificate of consent by the Secretary of the Committee of Adjustment.

ARTICLE FOUR - LEVY CHARGES

Formula / Calculation per Street Frontage

The amount of the tree planting levy for all development and in-fill development shall be based upon a formula which recognizes that a "street tree" should be provided for every forty (40) feet (12.2 metres) of linear frontage along a municipal highway.

Formula / Calculation - Residential Developments

Accordingly, the tree planting levy shall be established for all developments and in-fill developments in accordance with the following formula:

Actual linear Frontage of Developed Site
40 ft (12.2 hectares)
X
Multiplied by the applicable yearly levy

Formula / Examples - Interpretation

The following examples shall assist in the interpretation of the said formula:

Site to be developed	= 80 feet of frontage
Tree levy applicable	= 80 / 40 X $250 (present levy) = $500.00 levy

Corner Lot Example

Site to be developed	= 120 feet on one side, 60 feet on the other side
Tree levy applicable	Linear frontage is applied to both flanks in accordance with the Zoning By-law:

(120 + 60) / 40 X $250.00 = $1,125.00

ARTICLE FIVE - GENERAL PROVISIONS

Report by the Parks Department

Upon application, the Parks Department of the Town of Cobourg shall report to Council or to the approved Site Plan Review Committee (in cases of dedicated site plan approval), the requirement as it would pertain to the provision of trees incidental to such commercial, industrial or institutional development on the developed site.

Severed Lots Formula

Town staff shall request, as a condition of consent for severance to the Committee of Adjustment that a levy be imposed on the basis of a tree or trees being required for every severed lot in accordance with the formula prescribed under "Levy Charges".

Severance - Lot Retained Exemption

The lot to be retained shall not be subject to the tree levy.

Assessment Levy Calculation - Upon Committee of Adjustment Decision

The assessment and appropriate levy calculation shall be made at the time of the decision of consent to sever, made by the Committee of Adjustment.

Size / Quality / Determination / Specifications

The size and quality of trees shall be determined by the Parks Department and the standards for tree size and quality will be in accordance with the current edition of the Canadian Nursery Association Specifications for Nursery Stock.

Species / Selection / Determination

Species of trees to be planted shall be selected by the Parks Department from a schedule of permitted species as determined by the Parks Department.

Location Within the Road Allowance / Conditions

The trees shall be located within the road allowance and planting shall be coordinated with respect to the location of all existing and proposed underground and above ground utilities.

Location / Other Factors / Conditions

Factors such as environmental conditions, likelihood of future root system disturbance, clearance for vehicular and pedestrian traffic, overhead utilities, and the character and ultimate size of the tree species shall be considered in determining the appropriate location of the tree.

ARTICLE SIX - COMMERCIAL / INDUSTRIAL / INSTITUTIONAL DEVELOPMENT

Applications

Commercial, industrial or institutional development shall be addressed through applications for approval pursuant to ARTICLE 40 of the Planning Act, 1983.

Report by the Parks Department

Upon application, the Parks Department of the Town of Cobourg shall report to Council or to the approved Site Plan Review Committee (in cases of dedicated site plan approval), the requirement as it would pertain to the provision of trees incidental to such commercial, industrial or institutional development on the developed site.

FINANCIAL

Reserve Fund - Established

A reserve fund shall be created by the treasurer in relation to the monies received for trees as prescribed in this Chapter.

ENACTMENT

Effective Date

This policy shall be deemed to be in effect as of March 6th, 2006.

SCHEDULE "B"

SECTION ONE: TREE PRESERVATION GUIDELINES

Preservation requires the commitment of all parties.

Each participant on a development project, from the owner, architect, engineer, and landscape architect to the demolition, grading, construction and landscape contractor and municipality must be committee to tree preservation.

Tree preservation cannot wait until construction.

Successful preservation begins when the project is conceived and continues through the planning, design, demolition, construction and maintenance phases. If efforts at preservation are delayed or ignored until construction begins, preservation efforts are largely doomed to failure.

All trees cannot and should not be preserved.

Stands, species and individual trees vary in their suitability for preservation, both on the basis of their innate character and potential construction impacts. Trees that are structurally unsound, in poor health or unable to survive construction impacts are a liability to a project rather than an asset. With permission of the municipality they may be removed.

Tree preservation programs must respect patterns of tree growth and development.

All development project members and municipal departments must be familiar with the rudimentary aspects of tree growth and development or use resources that are, if they are to understand the relationships between tree survival and construction practices.

Construction impacts to trees are cumulative.

The effect of the impact and injuries that result form construction, grading, etc. is additive. Small, apparently insignificant events, add up over the length of the project and may kill a tree if adequate protection measures are not used.

Preservation focuses on preventing injury to trees.

Arboricultural practices such as root fertilizing, cannot cure either construction damage to trees or degradation of their environment.

Tree preservation requires accurate site information.

Successful preservation involves minimizing construction impacts to trees. In many cases, potential impacts cannot be assessed without thorough review of geotechnical reports or soils information and accurate locations of tree trunks and canopies in relation to construction activity.

Arborists must communicate with design and engineering professionals.

Information regarding tree preservation must be conveyed in a form that visually-oriented professionals like architects and engineers can easily assimilate, such as maps, drawings, sections and other graphics.

Tree preservation requires space.

Trees occupy large volumes of space, above- and below ground. Their preservation during development must allow for sufficient space to minimize injury in both directions. Adequate space must be allowed for future tree growth as well.

Forest fragments are not natural systems.

Preservation of small remnant patches of the original forest is a valuable and important part of tree preservation efforts. However, these fragments are no longer natural systems; they require active and on-going management.

These guiding principles reflect three key elements. **First**, preservation must acknowledge and respond to tree biology. The tree itself defines the outer limit for preservation, quite apart from aspects of the project. **Second**, each member of the development team must understand and respond to the influence their participation has on tree preservation. **Third**, the ability of consultants to cure construction injury is very limited and the focus of preservation efforts must be prevention of damage.

SECTION TWO: TREE PRESERVATION PROCESS

The sequence of events that results in successful tree preservation is intimately linked to the development process itself. As the development proceeds, more and more detailed information is required. From a strictly arboricultural standpoint, the preservation process consists of the following steps:

Article 1 **Evaluate the resource** (Pre-Application)
Tree stand delineation (general description of tree cover)
Tree survey (Individual trees - trunk and canopy)
Establish general guidelines for tree preservation

Article 2 **Identify trees suitable for preservation** (Time of Application)
Based upon species tolerance to impacts, tree condition and health, longevity, and future potential
Identify Tree Protection Zone (TPZ)

Article 3 **Assess potential impacts to trees** (Project Review)
Review all plans for potential impact to trees (existing and proposed grades, services, buildings, and all revisions)

Article 4 **Suggest modifications to development plans.**
Identify areas where impacts are too severe
Modify plans

Article 5 **Identify tree work needed prior to clearing and grading** (Preparation of Plans)
Arboricultural treatments (pruning, removals, etc.)

Article 6 **Prepare specifications for tree preservation** (Preparation of Plans).
Locate trees on all plans
Provide notes for fencing, pruning and excavation

Article 7 **Monitor trees during construction** (Construction Phase)
Reconcile plans and field conditions
Identify and treat damage

Article 8 **Prepare post-construction maintenance plan** (Preparation of Plans).
Arboricultural treatments to preserved trees (root fertilizing, watering, etc.)
Re-planting plan where and if necessary

Article 3 **Assess potential impacts to trees** (Project Review)
Review all plans for potential impact to trees (existing and proposed grades, services, buildings, and all revisions)

Article 4 **Suggest modifications to development plans.**
Identify areas where impacts are too severe
Modify plans

Article 5 **Identify tree work needed prior to clearing and grading** (Preparation of Plans)
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Article 6 **Prepare specifications for tree preservation** (Preparation of Plans).
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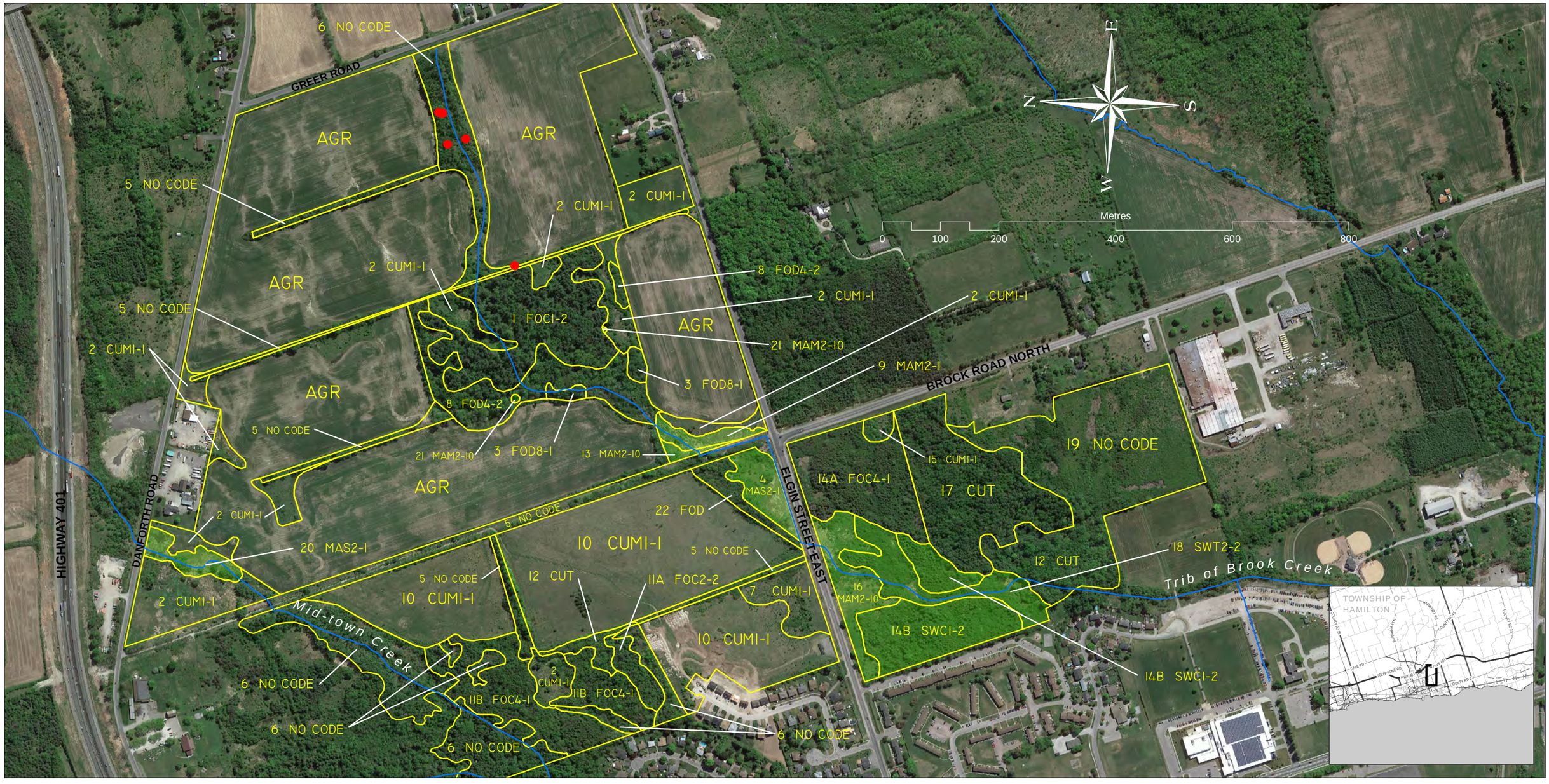
Provide notes for fencing, pruning and excavation

Article 7 **Monitor trees during construction** (Construction Phase)
Reconcile plans and field conditions
Identify and treat damage

Article 8 **Prepare post-construction maintenance plan** (Preparation of Plans).
Arboricultural treatments to preserved trees (root fertilizing, watering, etc.)
Re-planting plan where and if necessary

APPENDIX E - NATURAL HERITAGE AREAS OF CENTRAL PARK (COBOURG) & SPECIES LIST
SOURCE: NIBLETT ENVIRONMENTAL ASSOCIATES



LEGEND

- Retainable Butternut
- Watercourse
- Property Boundary
- Vegetation Community
- Parcel Fabric
- Wetland Community

Composite imagery acquired in May 2015. DigitalGlobe WorldView-2. 30 cm Resolution.

ELC TYPES (1ST APPROXIMATION)

CODE	TYPE DESCRIPTION
CUMI-1	Dry-moist old field meadow
CUT	Cultural thicket
FOCI-2	Dry-fresh white pine-red pine coniferous forest
FOC2-2	Dry-fresh white cedar coniferous forest
FOC4-1	Fresh-moist white cedar coniferous forest
FOD	Deciduous forest
FOD4-2	Dry-fresh white ash deciduous forest
FOD8-1	Fresh-moist poplar deciduous forest
MAM2-1	Bluejoint mineral meadow marsh
MAM2-10	Forb mineral meadow marsh
MAS2-1	Cattail mineral shallow marsh
SWCI-1	White cedar mineral coniferous swamp
SWT2-2	Willow mineral thicket swamp

FIGURE 1: VEGETATION COMMUNITIES

Pt Lots 11 & 12, Con 1, Heritage Village of Rondeau
Town of Cobourg, Secondary Plan Area
Peterborough District

UTM Zone 17
WKID: 26917 Authority: EPSG
Transverse Mercator
GCS North American 1983, ESRI ArcGIS 10.1

REVISIONS

NO	BY	DATE	DESCRIPTION
1	W.P.	10/05/2016	Initial map creation.
2	W.P.	17/06/2016	Changed labels 18A, 18B, and 19.

CONTACT: Will Pridham, GIS Specialist & Cartographer
PHONE/FAX: T: 1 (705)-878-9399 F: 1 (705)-878-9390
EMAIL: Will Pridham: wpridham@niblett.ca General Inquiries: mail@niblett.ca

PROJECT NO: PN14056
REVISION NO.: RV-01
PROJECT: East Cobourg
CLIENT: N/A

SCALE: 1:6,500 CENTIMETERS

NIBLETT ENVIRONMENTAL ASSOCIATES INC.

WWW.NIBLETT.CA

Community Species

Project: Central Park

HKA Job #: 2020-112

Date: 2020-12-14

Conditions:

Community #	*Tree Size*	*Quantity*	*Common Name*	*Botanical name*
1			butternut	Juglans cineria
			American beech	Fagus grandifolia
			ironwood	Ostrya virginiana
			balsam poplar	Populus balsamifera
			large-toothed aspen	Populus grandidentata
			trembling aspen	Populus tremuloides
			apple	Malus domesica
			black cherry	Prunos serotina
			European mountain ash	Sorbus aucuparia
			alternate-leaf dogwood	Cornus alternifolia
			European buckthorn	Rhamnus cathartica
			Manitoba maple	Acer negundo
			sugar maple	Acer saccharum
			black ash	Fraxinus nigra
2			balsam poplar	Populus balsamifera
			trembling aspen	Populus tremuloides
			weeping willow	Salix babylonica
			Bebb's willow	Salix bebbiana
			pussy willow	Salix discolor
			crack willow	Salix fragilis
			hawthorn species	Crataegus spp.
			choke cherry	Prunus virginiana
			European mountain ash	Sorbus aucuparia
			red-osier dogwood	Cornus stolonifera
			European buckthorn	Rhamnus cathartica
			Manitoba maple	Acer negundo
			sugar maple	Acer saccharum
			staghorn sumac	Rhus typhina
			white ash	Fraxinus americana
			black ash	Fraxinus nigra
			tartarian honeysuckle	Lonicera tartarica
			butternut	Juglans cineria
			red oak	Quercus rubra

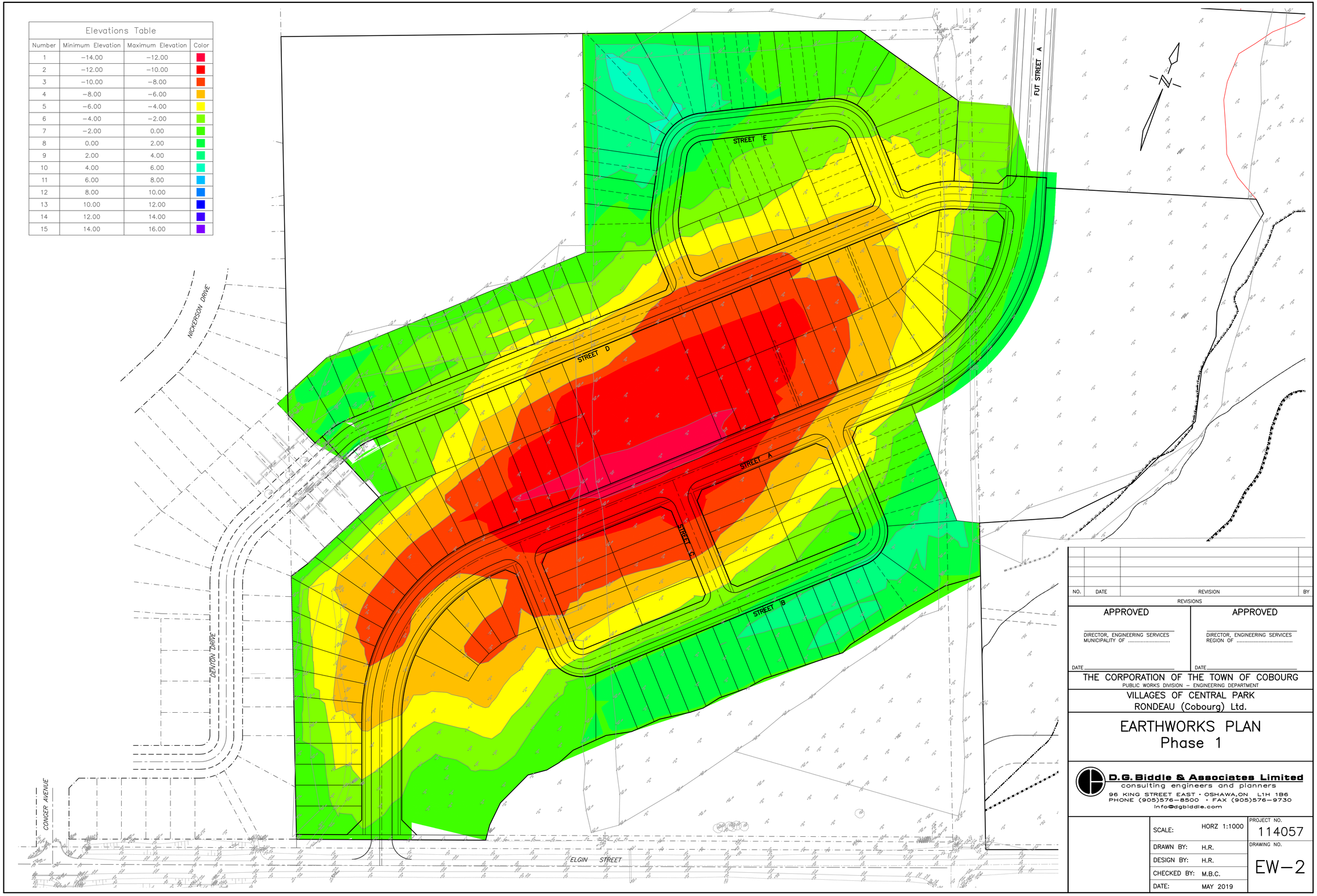
3			white birch	Betula paperyfera
			balsam poplar	Populus balsamifera
			trembling aspen	Populus tremuloides
			smooth juneberry	Amelanchier laevis
			hawthorn species	Crataegus spp.
			common crabapple	Malus pumila
			black cherry	Prunos serotina
			choke cherry	Prunos verginiana
			American mountain ash	Sorbus americana
			European mountain ash	Sorbus aucuparia
			alternate-leaf dogwood	Cornus alternifolia
			red-osier dogwood	Cornus stolonifera
			European buckthorn	Rhamnus cathartica
			Manitoba maple	Acer negundo
			silver maple	Acer saccharinum
			sugar maple	Acer saccharum
			staghorn sumac	Rhus typhina
			white ash	Fraxinus americana
			green ash	Fraxinus pennsylvanica
			tartarian honeysuckle	Lonicera tartarica
			high bush cranberry	Viburnum trilobium
4			weeping willow	Salix babylonica
			red-osier dogwood	Cornus stolonifera
			European buckthorn	Rhamnus cathartica
5			balsam poplar	Populus balsamifera
			trembling aspen	Populus tremuloides
			hawthorn species	Crataegus spp.
			black cherry	Prunos serotina
			choke cherry	Prunos verginiana
			alternate-leaf dogwood	Cornus alternifolia
			European buckthorn	Rhamnus cathartica
			Manitoba maple	Acer negundo
6			white birch	Betula paperyfera
			balsam poplar	Populus balsamifera
			trembling aspen	Populus tremuloides
			hawthorn species	Crataegus spp.
			black cherry	Prunos serotina
			choke cherry	Prunos verginiana
			European mountain ash	Sorbus aucuparia
			alternate-leaf dogwood	Cornus alternifolia
			Manitoba maple	Acer negundo
			high bush cranberry	Viburnum trilobium

7			choke cherry	Prunos verginiana
			American mountain ash	Sorbus americana
			European buckthorn	Rhamnus cathartica
			tartarian honeysuckle	Lonicera tartarica
8			trembling aspen	Populus tremuloides
			black cherry	Prunos serotina
			American mountain ash	Sorbus americana
			white ash	Fraxinus americana
			green ash	Fraxinus pennsylvanica
10			hawthorn species	Crataegus spp.
			black cherry	Prunos serotina
			choke cherry	Prunos verginiana
			European buckthorn	Rhamnus cathartica
			staghorn sumac	Rhus typhina
			white ash	Fraxinus americana
11b			trembling aspen	Populus tremuloides
			green ash	Fraxinus pennsylvanica
12			white ash	Fraxinus americana
13			pussy willow	Salix discolor
			slender willow	Salix petiolaris
			red-osier dogwood	Cornus stolonifera
14a			hawthorn species	Crataegus spp.
			European buckthorn	Rhamnus cathartica
14b			pussy willow	Salix discolor
			alternate-leaf dogwood	Cornus alternifolia
			European buckthorn	Rhamnus cathartica
15			hawthorn species	Crataegus spp.
16			eastern white cedar	Thuja occidentalis
			Bebb's willow	Salix bebbiana
			slender willow	Salix petiolaris
			red-osier dogwood	Cornus stolonifera
			reed canary grass	Phalaris arundinacea
17			eastern white cedar	Thuja occidentalis
			hawthorn species	Crataegus spp.
			European buckthorn	Rhamnus cathartica
18			eastern hemlock	Tsuga canadensis
			eastern white cedar	Thuja occidentalis
			crack willow	Salix fragilis
			slender willow	Salix petiolaris
19			eastern white cedar	Thuja occidentalis
			balsam poplar	Populus balsamifera
			trembling aspen	Populus tremuloides
			hawthorn species	Crataegus spp.
			European buckthorn	Rhamnus cathartica
20			pussy willow	Salix discolor
			slender willow	Salix petiolaris
			narrow-leafed cattail	Typha angustifolia
21			slender willow	Salix petiolaris
			balsam poplar	Populus balsamifera

22			European buckthorn	Rhamnus cathartica
			crack willow	Salix fragilis
			white ash	Fraxinus americana
			reed canary grass	Phalaris arundinacea
			common cattail	Typha latifolia

APPENDIX F - EARTHWORKS PLAN DRAWINGS (CUT / FILL)
PHASES 1-5
SOURCE: D.G. BIDDLE & ASSOCIATES

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	−14.00	−12.00	
2	−12.00	−10.00	
3	−10.00	−8.00	
4	−8.00	−6.00	
5	−6.00	−4.00	
6	−4.00	−2.00	
7	−2.00	0.00	
8	0.00	2.00	
9	2.00	4.00	
10	4.00	6.00	
11	6.00	8.00	
12	8.00	10.00	
13	10.00	12.00	
14	12.00	14.00	
15	14.00	16.00	



NO.	DATE	REVISION	BY

REVISIONS

APPROVED

DIRECTOR, ENGINEERING SERVICES
MUNICIPALITY OF .....

DATE _____

APPROVED

DIRECTOR, ENGINEERING SERVICES
REGION OF .....

DATE _____

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION – ENGINEERING DEPARTMENT

VILLAGES OF CENTRAL PARK
RONDEAU (Cobourg) Ltd.

EARTHWORKS PLAN
Phase 1

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA,ON L1H 1B6
PHONE (905)576-8500 • FAX (905)576-9730
info@dgbiddle.com

SCALE:	HORZ 1:1000	PROJECT NO. 114057
DRAWN BY:	H.R.	DRAWING NO. EW-2
DESIGN BY:	H.R.	
CHECKED BY:	M.B.C.	
DATE:	MAY 2019	

\\FSHRVSTAFF\JOB FILES\114000\114057 RONDEAU COBOURG\114057 DRAWINGS CIVIL\114057 EARTH QUANTITIES\114057-3D-EARTH QUANTITIES.DWG
May 15, 2019

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	−6.00	−5.50	
2	−5.50	−5.00	
3	−5.00	−4.50	
4	−4.50	−4.00	
5	−4.00	−3.50	
6	−3.50	−3.00	
7	−3.00	−2.50	
8	−2.50	−2.00	
9	−2.00	−1.50	
10	−1.50	−1.00	
11	−1.00	−0.50	
12	−0.50	0.00	
13	0.00	0.50	
14	0.50	1.00	
15	1.00	1.50	
16	1.50	2.00	
17	2.00	2.50	
18	2.50	3.00	
19	3.00	3.50	
20	3.50	4.00	
21	4.00	4.50	
22	4.50	5.00	
23	5.00	5.50	
24	5.50	6.00	

AREA OF PRESERVATION
NO CUT OF FILL DISTURBENCE

CONCEPTUAL

NO.	DATE	REVISION	BY

REVISIONS

APPROVED

DIRECTOR, ENGINEERING SERVICES
MUNICIPALITY OF

DATE

APPROVED

DIRECTOR, ENGINEERING SERVICES
REGION OF

DATE

THE CORPORATION OF THE TOWN OF COBOURG
PUBLIC WORKS DIVISION — ENGINEERING DEPARTMENT

VILLAGES OF CENTRAL PARK
RONDEAU (Cobourg) Ltd.

EARTHWORKS PLAN
Phases 2 to 5

D.G. Biddle & Associates Limited
consulting engineers and planners
99 KING STREET EAST · OSHAWA, ON L1H 1B6
PHONE (905)579-8500 · FAX (905)579-8730
info@dgbiddle.com

SCALE:	HORZ 1:1000	PROJECT NO. 114057
DRAWN BY:	H.R.	DRAWING NO. EW-3
DESIGN BY:	H.R.	
CHECKED BY:	M.B.C.	
DATE:	AUG 2019	

APPENDIX G - PHASE 1 LANDSCAPE ANALYSIS AND ABORIST REPORT WITH AMENDMENT LETTER
SOURCE: THE PLANNING PARTNERSHIP

MEMORANDUM

To:	Rory Quigley, Town of Cobourg
From:	Michael Ormston-Holloway, The Planning Partnership
Date:	December 18, 2020
Subject:	East Cobourg Landscape Analysis and Arborist Report – Amendment Letter

---

Dear Rory Quigley,

The Planning Partnership had initially prepared our Arborist Report (dated July 3, 2019) in support of the 1st engineering submission for the Rondeau – East Cobourg subdivision lands (File: Z-07-16, SUB; 14T-160001).

As noted in the Draft "Tree Inventory Preservation and Removals Plan" (A1 of the Report) in the Arborist Report, Tree 554 was identified as a significant specimen and efforts were made by the project team to protect significant specimens adjacent to the regulatory floodline associated with Brook Creek. As referenced in Appendix A and B to this letter, Tree 554 is located in the northeast edge of the Stormwater Management (SWM) Pond for Phase 1 (Block 147). It has come to my attention that Trees 554 is now in conflict with the proposed design for the East Cobourg community.

Since the first engineering submission, the detailed civil and grading design of the Phase 1 subdivision lands has significantly progressed through numerous discussions with the Town's Development Review Team (DRT). During the detail design process, and through subsequent review by the project team, it became apparent that the grading around the surrounding areas of the SWM pond (block 147) would be a significant impact to Tree 554.

To confirm the actual location of potential trees that may be impacted by potential grading works, Trees 554, 561, 562, and 563 were georeferenced by the project surveyor (DFP). As the trees have been georeferenced (see appendix A to this letter), we can see that Tree 554 will not be able to withstand the impact of construction. Furthermore, it is now apparent that Tree 554 cannot be preserved without significant redline revisions to the approved draft plan of subdivision. The current lotting layout has been specifically designed to optimize the location of roads and lots in response to the existing site grading, and

we understand that revisions to this layout would not be feasible and practical from a civil engineering perspective.

Despite the removal of Tree 554, other significant specimens (Tree 561, 562, and 563) would not be impacted by these works and would remain protected as the subdivision is constructed. Furthermore, these areas will continue to function as an environmental protection area and will be enhanced through additional landscaping to support the Brook Creek realignment and the SWM Pond.

We understand that the East Cobourg team has now submitted an application for tree removal for Phase 1 of the subdivision. We trust that this letter would assist in the review of the tree removals permit that has been submitted by HKLA.

Please contact me if you have any questions about the above.

Sincerely,

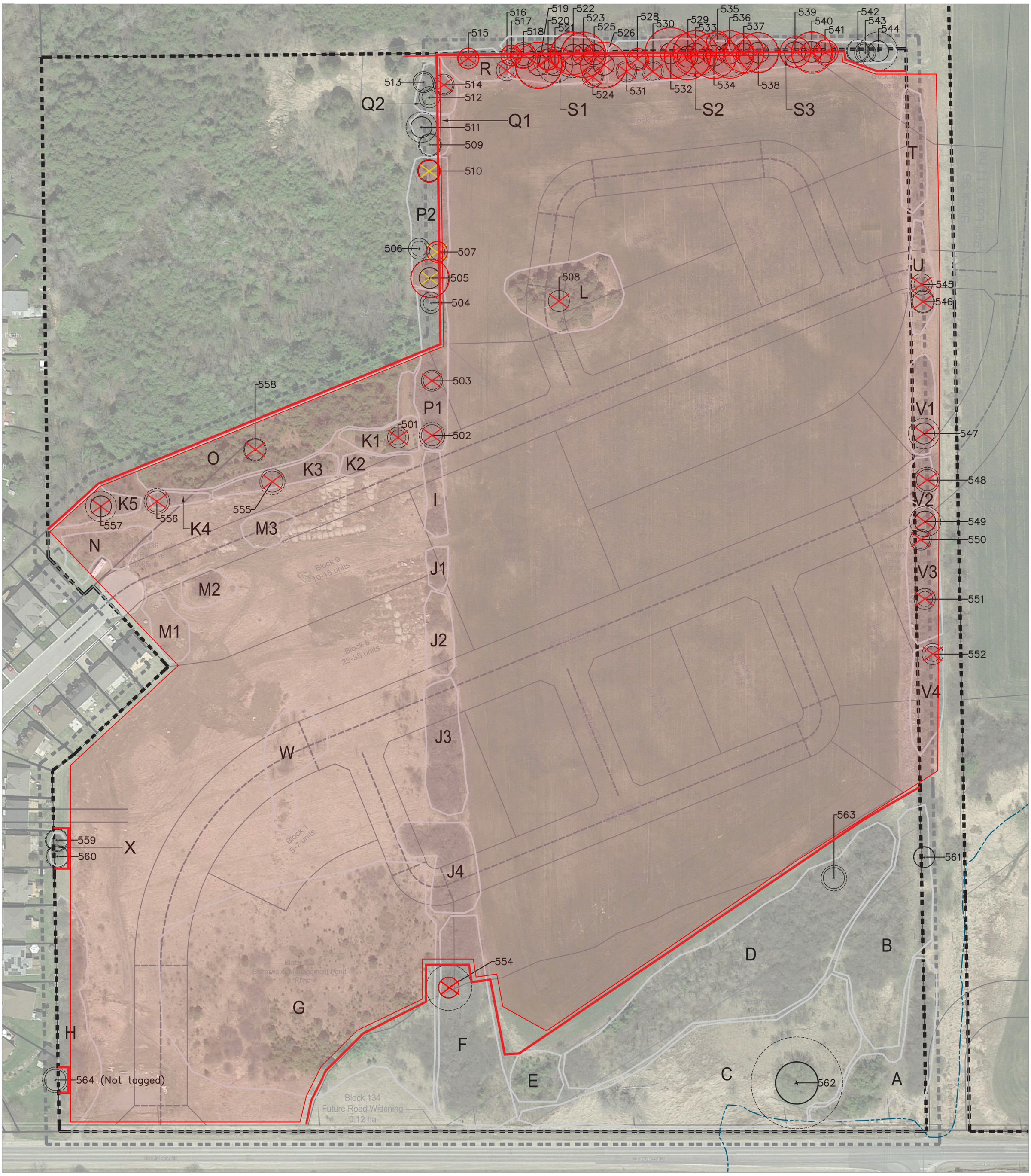
Michael Ormston-Holloway

BSc, MScP, GDHort, MLA, ASLA, ISA
Principal, Landscape + Urban Ecology

416.975.1556 x245
mholloway@planpart.ca

Appendix A: Tree Removals Plan (HKLA)

Appendix B: Phase 1 Removals – Conflicts (HKLA)



LEGEND

- Existing Tree
- Existing Tree, Diameter Over 60 cm
- 555 — Tree ID Number
- N — Patch Area No.
- Patch Area Boundary
- Property Lines
- Tree Inventory Boundary (6 m Offset From Property Lines, Block 126 not included)
- Tree Protection Zone
- Proposed Tree Protection Fencing
- Watercourse
- Tree to be Removed
- Tree to be Removed, Candidate for Habitat Stump

TREE REMOVALS

project north

project title

RONDEAU DEVELOPMENT PHASE 1 (COBOURG)

project no. 1613

sheet title

DRAFT TREE INVENTORY, PRESERVATION AND REMOVALS PLAN

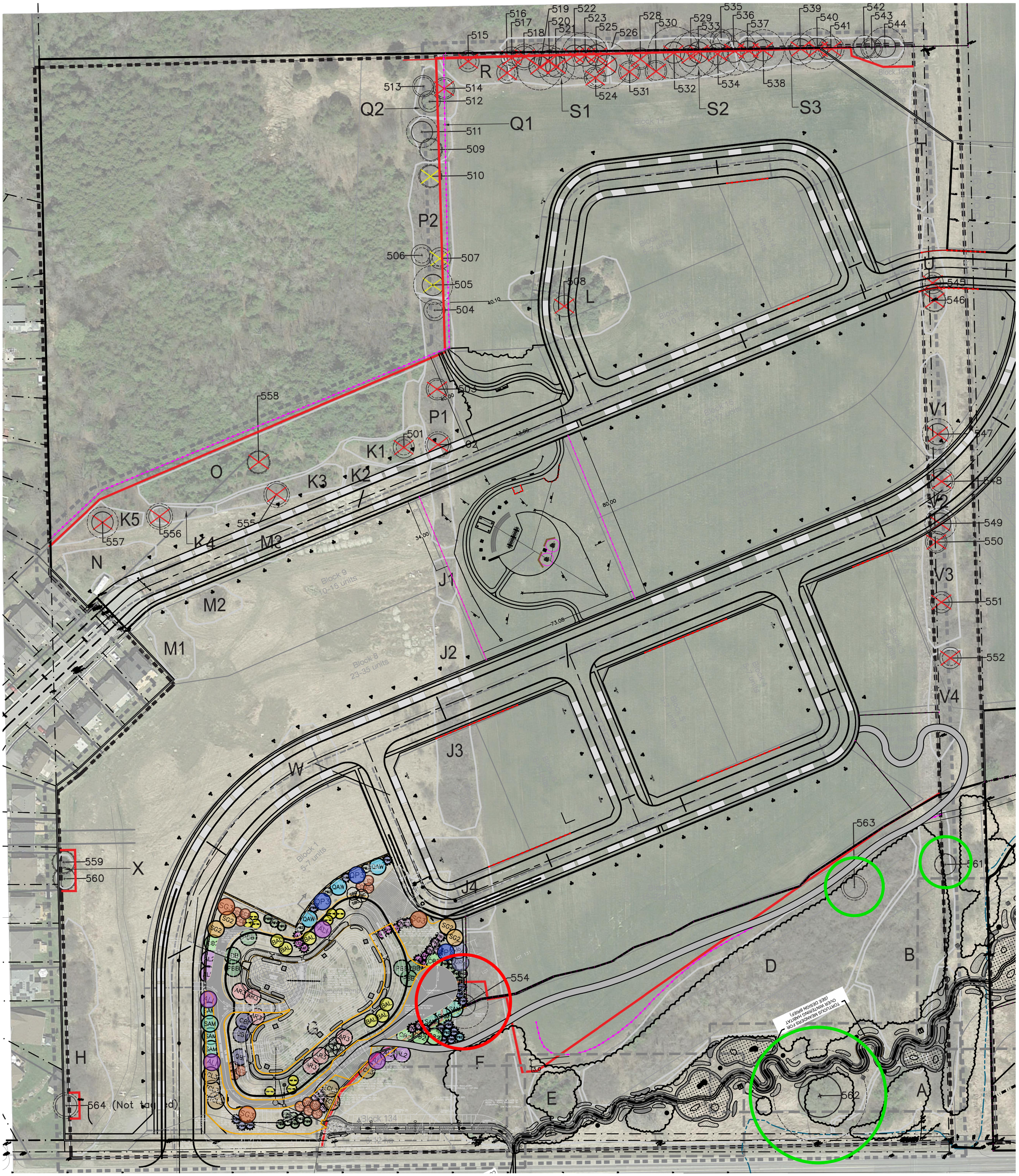
The Planning Partnership
1255 Bay Street, Suite 500 Toronto ON M5R 2A9
t 416-975-1556 f 416-975-1580 www.planpart.ca

scale NTS

date 2019.07.03

drawn KS checked MOH

issued for: ARBORIST REPORT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563
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559
560
X
554
D
B
H
F
E
564 (Not tagged)
562
A
Block 9
10-15 units
Block 8
23-35 units
Block 1
5-7 units
Block 134
TORTUOUS MEANDERS FOR
OVER WINTERING HABITAT
(SEE DESIGN BRIEF)

EAST COBOURG PHASE 1

LANDSCAPE ANALYSIS AND ARBORIST REPORT

THE PLANNING PARTNERSHIP

Arborist Survey & Report

MICHAEL ORMSTON-HOLLOWAY

ISA CERTIFIED ARBORIST ON-1480A

Partner

BSc, MScP, GDHort, MLA, Associate ASLA, ISA Certified Arborist

Landscape + Urban Ecology

December 21, 2018

Rev. February 4, 2019

The Planning Partnership
Urban Design . Landscape Architecture . Planning . Communications

EAST COBOURG PHASE 1
Landscape Analysis and Arborist Report

Section Contents

Appendix

To: Town of Cobourg, Parks Department

From: Michael Ormston-Holloway – The Planning Partnership

Survey Dates: December 13-14 & 18-19, 2018

Report Date: December 21, 2018

Subject: East Cobourg-Rondeau Tree Inventory Towards Pending Phase 1 Development

EAST COBOURG-RONDEAU PHASE 1 DEVELOPMENT

LANDSCAPE ANALYSIS, ARBORIST SURVEY AND REPORT

The following landscape analysis and arborist report has been prepared in keeping with the expectations of the International Society of Arboriculture (ISA), as well as the tenets of established best practices within the fields of forestry and urban forestry, in terms of tree removal and tree preservation. As a document, it looks to inform tree management and removal for the pending Phase 1 of the Rondeau development along Elgin Street East, East Cobourg. It is also an opportunity to identify existing trees which could be preserved, and add value to the proposed development. As such, this is a detailed report of all the trees deemed significant specimens growing within the proposed Phase 1 development as shown in the Preliminary D Plan (October 30, 2018), that is, the fields east of the existing Denton Drive subdivision, within Part Lot 12 and Part Lot 13, bounded by Elgin Street East on the south side, and Part Lot 13, Concession 1 on the north side.

In consultation with Town of Cobourg Parks Department Arborist Rory Quigley, significant specimens were deemed to be all trees with diameters at breast height (DBH) over 30cm, with the except of those belonging to the species *Fraxinus spp.* and *Pinus sylvestris*. For these two species, significant specimens were considered to be those over 50 cm DBH. This due to the status of *Pinus sylvestris* as an invasive species, and the likelihood that most *Fraxinus spp.* are infected by the Emerald Ash Borer (EAB), and in decline. Significant specimens were identified, measured, and recorded within a minimum of 6m of the subject site.

Significant site documentation of wood understorey shrubs and saplings was also undertaken and included within this report. This to create a more comprehensive understanding of the growth patterns of the specimens in question, the current state of the landscape, as well as the character of the adjacent landscapes prior to moving forward with development.

In the context of this development, it is understood that a large number of trees will be removed, and that areas of land within the development have been set aside to protect environmentally significant areas and ecological connectivity, as recommended in the Environmental Impact Study (Niblett Environmental Associates Inc., 18 May 2016). However, it is also the opinion of the arborists that a number of trees identified within the hedgerows and wooded edges of the site may also be preserved. Preserving these trees would help to mediate between the new development and the rural character of the surrounding lands, as well as provide interest to the new residents, and habitat to existing fauna.

In total, 57 trees were identified as significant species. Many of these trees are located either towards side or rear lot lines of the proposed subdivision, and could potentially be preserved during construction with minimal impacts on the design. This report will be updated to include recommendations for preservation or removal after discussion of the draft plan.

It is important to note that no survey identifying tree location was provided for the completion of this report and therefore tree locations in the attached map are based on the arborist's best judgement of the conditions found on site, and their relationship to satellite images and existing property boundaries. This in turn means that when the time comes for construction, it is entirely possible that some healthy trees labelled for removal may be preserved and conversely, some trees labelled for preservation may be removed. It is the opinion of this arborist that strong efforts should be made to preserve

as many healthy native trees as possible as there is evidence that this property provides important habitat for numerous birds, insects, and mammals.

Any trees retained within the property boundary will also require strategic canopy cleaning via pruning. Limbs that may prove to be hazardous in the future (codominance, weak branching, etc.,) will be individually assessed and addressed accordingly. As with all development, sound construction practice is recommended to minimize impact and protect the healthier specimens.

Ultimately, the goal of this report is to provide a physical inventory of the trees within the study area. This report also ranks the trees in terms of their health; their present impediments to growth; and will identify action to be taken in terms of preservation or removal. If you have any questions regarding tree surveying or any other information contained within this report, please contact Michael Ormston-Holloway of TPP.

Regards,

Michael Ormston-Holloway

Partner
ISA Certified Arborist ON-1480A
BSc, MScP, GDHort, MLA, ASLA, ISA Certified Arborist

Katie Strang

Landscape + Ecology
ISA Certified Arborist ON-2245A
BFA, MLA, ISA Certified Arborist

Section 2 Arborist Survey Methods

The trees included in this report were inventoried during four days in December of 2018, by ISA Certified Arborists Michael Ormston-Holloway and Katie Strang.

Date	Max Temp.	Conditions	Precip. (mm)
December 13, 2018	1°C	Overcast	0.0
December 14, 2018	3°C	Overcast, with scatter showers and flurries	3.0
December 18, 2018	-4°C	Sunny	0.0
December 19, 2018	5°C	Sunny, with some clouds	0.0

All trees considered significant specimens within a 6m offset of the site boundaries were part of this survey. In consultation with Town of Cobourg Parks Department Arborist Rory Quigley, significant specimens were deemed to be all trees with diameters at breast height (DBH) over 30cm, with the except of those belonging to the species *Fraxinus spp.* and *Pinus sylvestris*. For these two species, significant specimens were deemed to be those over 50 cm DBH. This due to the status of *Pinus sylvestris* as an invasive species, and the likelihood that most *Fraxinus spp.* are infected by the Emerald Ash Borer (EAB), and in decline.

Each of the aforementioned trees was given a number, and specimens were individually inspected for character, and health. In addition, the unique growing conditions within which they developed was documented.

The following inventory data was collected for each tree:

- Tree Number
- Species
- DBH – Diameter at approximately 1.4m above ground level
- T.P.Z. – Value is determined by International Society of Arboriculture standard of 1' offset per 1" diameter or 30cm of offset per 2.54cm of diameter (Figure 1 below)
- Condition – Summarized as follows:

    1) Good
    2) Fair-Good
    3) Fair
    4) Poor-Fair
    5) Poor
    6) Dead

- Comments – Included in physical inventory.
- Action – Denotes whether a tree is to be removed or preserved.

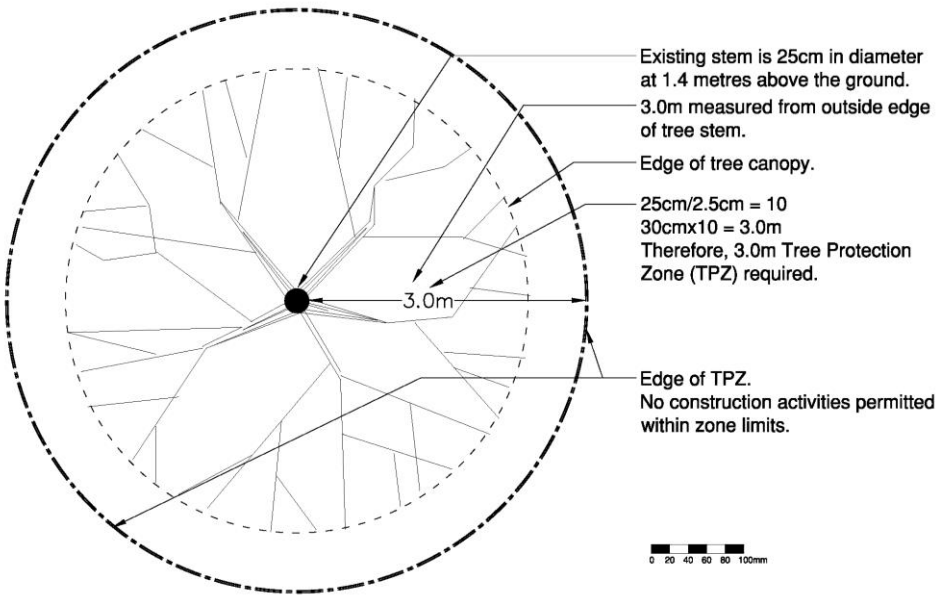


Figure 1 – Tree Protection Zone Calculation

Section 3 General Results

Site Location and Size

The Phase 1 site is in Cobourg, Ontario, and is approximately 20 hectares. The development area consists of the fields east of the existing Denton Drive subdivision, within Part Lot 12 and Part Lot 13, bounded by Elgin Street East on the south side, and Part Lot 13, Concession 1 on the north side. The northwest corner of the site contains a 3.13 ha woodlot which will not be developed, and was not surveyed for this report. The study area is graphically defined within Section 8 – Maps: Tree Inventory, Preservation + Removals Plan, packaged with this report.

Site Character and Significance

The study area is a combination of fallow and recently planted agricultural fields, as well as regenerated woodland and a small wetland adjacent to a tributary to Brook Creek. It is bound by a combination of roads, woodlots, hedge rows, and residential backyards giving it a variety of edge conditions. A trail exists around the eastern perimeter of the woodlot in the northwest corner of the site, and it is frequently used by dog owners taking their pets for walks.

The western portion of the site is that of a successional meadow hemmed in by scrubby woodland edges, while the eastern section is an active agricultural field, flanked by hedgerows. Most of these edges and hedgerows are dominated by pioneer species, and invasive buckthorn shrubs, and do not reflect a high level of diversity. However, the hedgerows do include mature native species, some of which have impressive size and form. These trees are primarily *Acer saccharum* (Sugar Maple) and *Fraxinus spp.* (Ash). Since the spread of EAB into Ontario forests in the early 2000s, it is unusual to find large *Fraxinus spp.* which appear to be in relatively good health. This finding would have to be confirmed in spring, as canopy dieback cannot be fully assessed after leaf drop.

The site also includes an area of densely planted invasive *Pinus sylvestris* (Scots Pine) within the agricultural field, which shows signs of human use, and may have been used as a hunting blind. This copse of trees has a very low species diversity, and does not contribution significantly to the local ecology.

Key Findings and Recommendations

- Trees within the designed Environmental Protection Areas (EPA) are to be protected, and an edge management strategy should be developed for the transitional zone from these areas to the subdivision. Significant specimens near, but not within EPA, should be considered for protection, particular the large maple tree tagged #554 (adjacent to the regulatory floodline).

- 57 trees are identified as significant specimens. These are to be individually assessed for preservation potential or for compensation to the Town of Cobourg when more detailed grading plans are released. However, our initial assessment indicates 21 of these trees should be removed, and will require permits or compensation as indicated by the Town of Cobourg.

- Invasive trees, or *Fraxinus spp.* with DBH under 50 cm and trees in poor health are to be removed. Invasive trees and *Fraxinus spp.* in good health with DBH over 50cm should be preserved if possible due to their high biomass and large contribution to the canopy cover and local ecology.

- The large trees found within the north-south hedgerows are primarily *Fraxinus spp.*, with an understorey dominated by invasive buckthorn, with some hawthorn and poplar tree growth. Most of the *Fraxinus spp.* are likely infected by EAB, so these clusters of trees have low preservation potential.

- The east-west hedgerow along the north boundary of Lot 12 has 13 *Acer spp.* and 3 *Fraxinus spp.*, with DBH 60 cm or more. Many of these trees have diameters near a meter, and should be recognized as valuable due to their age, size, resilience, and habitat contribution. As large old trees, many of them contain deadwood and cavities, and may require a special management strategy or risk assessment. This area contains most of the significant tree specimens on the site, and has high preservation potential.

- There are eight large old trees in decline that been called out in the Tree Inventory Spreadsheet as having potential for preservation as habitat stumps. Hazardous branches would have to be removed, and detailed individual tree assessments would have to be preformed.

- A patch of what appears to be hybridized *Juglans nigra* (Black Walnut) and *Juglans cinerea* (Butternut) was found in the southwest corner of the site. Confirmation of this hybridization would require genetic testing. These trees all have DBH under 30cm, and would not be considered significant if found to be *Juglans nigra* or hybrids.

Ultimately, the goal of this report is to provide a physical inventory of the trees within the study area. This report also ranks the trees in terms of their health; their present impediments to growth; and, identifies the existing trees that will be removed.

It is strongly recommended that all the trees that are preserved on site be pruned by an ISA Certified Arborist in order to remove dead wood, twisting branches, and other areas of concern that may be treated.

Any pruning must be done according to the CODIT principle and follow ANSI best practices to ensure the healing of wounds.

For ease of navigating the following Tree Inventory Spreadsheet, please refer the following acronym charts.

SURVEYED SPECIES

KEY	Botanical Name	Common Name
AN	*Acer negundo*	Manitoba Maple
AP	*Acer platanoides*	Norway Maple
AR	*Acer rubrum*	Red Maple
AS	*Acer saccharum*	Sugar Maple
ASI	*Acer saccharinum*	Silver Maple
BP	*Betula papyrifera*	Paper Birch
FS	*Fraxinus spp.*	Ash Species
JN	*Juglans nigra*	Black Walnut
MS	*Malus sp.*	Crab Apple
OV	*Ostrya virginiana*	Ironwood
PA	*Picea abies*	Norway Spruce
PD	*Populus deltoides*	Cottonwood
PSY	*Pinus sylvestris*	Scots Pine
PRS	*Prunus serotina*	Black Cherry

PT	*Populus tremuloides*	Trembling Aspen
PB	*Populus balsamifera*	Balsam Poplar
QR	*Quercus rubra*	Red Oak
SB	*Salix babylonica*	Weeping Willow
TA	*Tilia americana*	Basswood
TC	*Tilia cordata*	Little Leaf Linden
TO	*Thuja occidentalis*	White Cedar

TREE HEALTH COMMENTS

KEY	CONDITION
AD	Apical Dieback
ANTS	Carpenter Ants
B	Borer
BW	Basal Wound
CD	Codominant
CW	Cambium Wound
D	Decay
DEAD	Dead
DW	Dead Wood
EAB	Emerald Ash Borer
F	Grown in Fence
FC	Frost Crack
FU	Fungus
GD	General Dieback
GR	Girdling Roots
HT	Hazard Tree
HW	Healing Wound
IB	Included Bark
ID	Insect Defoliator
L	Leaning
M	Mites
PS	Pruning Stub
SU	Suckering
SB	Sloughing Bark
SS	Sap Sucker
T	Topped
TB	Twisting Branching
UC	Unbalanced Canopy
WB	Weak Branching
WR	Wood Rot
WW	Wet Wood

Section 4 Tree Inventory Spreadsheet

ACTION LEGEND

KEY	DETAIL
REMOVE/HS	Remove/Habitat Stump: Tree is large (>60 dbh), and good habitat, but in poor condition. We recommend removing hazardous limbs, and creating habitat stump.
REMOVE	Remove: Tree is in conflict with future roads or buildings, or in poor health.
PRESERVE	Preserve: Tree is significant specimen in EPA, woodland edge, or back of lot. Review required when detailed grading plan is received.
PRESERVE/H	Preserve/Heritage Tree: Tree is large (>60), with habitat/heritage value, and located in EPA, woodland edge, or back of lot. Review required when detailed grading plan is received.

EAST COBOURG PHASE 1							**21-Dec-18**
Tree Tag #	**Species**	**D.B.H. (cm)**	**Condition**	**T.P.Z. (m)***	**Action**	**Patch ID**	**Comments**
501**	PSy	30.0	Good	3.5	Remove	K1	BB, Not Significant Specimen
502	FS	50.0	Good	5.9	Remove	P1	BB, BC, Unusual open branch structure, Unconfirmed EAB
503**	FS	35.0	Fair-Good	4.1	Remove	P1	BB, IB, Unconfirmed EAB, Not Significant Specimen
504**	FS	30.0	Good	3.5	Preserve	P1	BB, Unconfirmed EAB, Not Significant Specimen
505	FS	75.0	Poor	8.9	Remove/ HS	P2	BB, D, GD, Unconfirmed EAB, Likely hollow
506**	FS	30.0	Good	3.5	Preserve	P2	BB, Unconfirmed EAB, Not Significant Specimen
507	PrS	30.0	Poor	3.5	Remove	P2	BB, D, GD
508	PSy	50.0	Fair-Good	5.9	Remove	L	CD (two 30cm dbh trunks, 50 cm below split)
509	TO	45.0	Fair-Good	5.3	Preserve	Q1	CD (three trunks, 45cm, 45cm and 30 cm dbh)
510	PrS	45.0	Poor-Fair	5.3	Remove/ HS	P2	T, BB, UC

511	FS	60.0	Poor-Fair	7.1	Preserve	Q1	CD, GD, BB, IB
512	TO	30.0	Good	3.5	Preserve	Q2	CD (three trunks, 30cm, 30cm and 15 cm dbh), CW, IB, SS
513	PT	35.0	Fair	4.1	Preserve	Q2	CW, S, SS
514	PrS	35.0	Poor-Fair	4.1	Remove/ HS	Q2	L, DW, BB, UC
515	PT	35.0	Good	3.5	Preserve	R	BC
516	AS	30.0	Fair	3.5	Preserve	R	IB, UC, V
517	AR	30.0	Fair-Good	3.5	Preserve	S1	DW, IB, BB
518	AS	50.0	Good	5.9	Preserve	S1	DW, BC
519	AS	90.0	Fair	10.6	Preserve/H	S1	IB, HW, GR, BC
520	FS	60.0	Poor	7.1	Remove/ HS	S1	FC (large – possibly structural), DW, BB, Canker
521	AS	70.0	Fair	8.3	Preserve/H	S1	DW, BW, IB, UC, Likely hollow
522	FS	90.0	Fair-Good	10.6	Preserve/H	S1	BB, BC
523	AS	90.0	Poor-Fair	10.6	Preserve/H	S1	D, IB, Mostly hollow
524	AS	35.0	Good	4.1	Preserve	S1	BC
525	AS	40.0	Good	4.7	Preserve	S1	DW, BB
526	FS	90.0	Poor	10.6	Remove/ HS	S1	DW, CD, IB. BB, CW, GD
528	PrS	35.0	Fair	4.1	Preserve	S2	DW, UC
529	AS	90.0	Good	10.6	Preserve/H	S2	UC,DW
530	AN	35.0	Fair	4.1	Preserve	S2	UC, DW, Could be FS
531	AN	35.0	Good	4.1	Preserve	S2	BC, Could be FS
532	AS	100.0	Fair-Good	11.8	Preserve/H	S2	DW, IB, BC, Tree growing in branch crotch
533	AS	90.0	Poor-Fair	10.6	Remove/ HS	S2	DW, F, D, IB
534	AS	90.0	Poor-Fair	10.6	Remove/ HS	S2	DW, IB

535	AN	30.0	Fair	3.5	Preserve	S2	DW, D, SB
536	AS	90.0	Fair	10.6	Preserve/H	S2	DW, IB
537	AS	80.0	Fair	9.4	Preserve/H	S3	DW, IB
538	AS	70.0	Good	8.3	Preserve/H	S3	DW, IB, BB
539	AS	60.0	Good	7.1	Preserve/H	S3	BC
540	AS	80.0	Poor-Fair	9.4	Preserve/H	S3	IB, DW, WW, CD
541	AS	50.0	Poor	5.9	Remove/ HS	S3	CW, DW, GD, D
542	AS	45.0	Good	5.3	Preserve	S3	Minor IB, DW
543	PrS	35.0	Fair	4.1	Preserve	S3	UC, DW
544	AS	75.0	Good	8.9	Preserve/H	S3	Minor DW, BC, Most significant specimen on site
545	AS	30.0	Good	3.5	Remove	U	BC, S
546**	FS	45.0	Good	5.3	Remove	U	CD (Three trunks, 45 cm each), Not a significant specimen
547	FS	60.0	Good	7.1	Remove	V1	PS, DW, CD
548	FS	50.0	Fair-Good	5.9	Remove	V2	DW, IB
549	AS	60.0	Fair-Good	7.1	Remove	V3	CD, Minor DW
550	AS	35.0	Good	4.1	Remove	V3	Minor DW
551	PrS	30.0	Fair	3.5	Remove	V3	UC, DW, CD (Two trunks, 30cm & 25cm dbh)
552	PrS	30.0	Fair	3.5	Remove	V4	DW, IB
554	AS	90.0	Fair-Good	10.6	Preserve/H	F	DW, CD, IB, BC, Very significant specimen
555	FS	50.0	Good	5.9	Remove	K3	BC, Minor DW, Minor Bark Blonding (EAB)
556	FS	50.0	Fair-Good	5.9	Remove	K4	BC, Minor DW, Minor Bark Blonding (EAB)
557	FS	60.0	Fair-Good	7.1	Remove	K5	BC, Minor DW, Minor Bark Blonding (EAB)
558	PS	45.0	Good	5.3	Preserve	O	BC, DW, BB

559	PA	45.0	Good	5.3	Preserve	X	BC, East side of backyard fence
560	PA	45.0	Good	5.3	Preserve	X	BC, East side of backyard fence
561	AN	40.0	Poor-Fair	4.7	Preserve	B	UB, L, DW,
562	SB	180.0	Fair-Good	21.3	Preserve/H	C	CD
563	FS	50.0	Good	5.9	Preserve	D	BC, No visible signs of EAB
564	AS	50.0	Good	5.9	Preserve	H	BC, On private property (no tag attached)

* Minimum Tree Protection Zone guideline from the International Society of Arboriculture standard: 1' offset per 1" diameter or 30cm of offset per 2.54cm of diameter

** Tree identified with metal tag that is not a considered a significant specimen due to its species. Not included in overall significant specimen totals.

Section 5 Woodlot/Hedgerow Survey

In addition to the significant trees surveyed within 6 meters of the site boundary, a less formal survey was conducted of the character of the woody vegetation to be disturbed during the indicated subdivision construction. The location of this area can be more accurately seen in Section 8: Map – Draft Tree Preservation and Removals Plan. This survey broke the hedgerows and woodlot down into 40 approximate zones and then visually calculated number of woody plants of different size ranges in each zone. A list of the observed species in each zone was made.

Zone A

Tree Size	Quantity	Tree Species
1 – 4 cm DBH	<50	*Populus balsamifera*
1 – 10 cm DBH	80+	*Ostrya virginiana*
1 – 25 cm DBH	250+	*Rhamnus cathartica*
1 – 4 cm DBH	<20	*Rhamnus frangula*
1 – 25 cm DBH	200+	*Ulmus americana*
1-15 cm DBH	250+	*Thuja occidentalis*
1-20 cm DBH	10	*Pinus strobus*
1-15 cm DBH	<20	*Salix babylonica, Salix fragilis, Salix × fragilis*

Zone B

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	50+	*Acer negundo*
30+ cm DBH	1	*Acer negundo*
1 – 8 cm DBH	60+	*Ostrya virginiana*
1 – 20 cm DBH	200+	*Rhamnus cathartica*
1 – 6 cm DBH	<20	*Rhamnus frangula*
1 – 20 cm DBH	80+	*Ulmus americana*
1-15 cm DBH	60+	*Fraxinus americana*
1 – 8 cm DBH	20	*Fraxinus pennsylvanica*
1 – 2 cm DBH	20+	*Ulmus thomasii*
1 – 6 cm DBH	<50	*Salix bebbiana*
1 – 6 cm DBH	<50	*Salix discolor*
1-6 cm DBH	<20	*Salix babylonica, Salix fragilis, Salix × fragilis*

Zone C

Tree Size	Quantity	Tree Species
1 – 35 cm DBH	<10	*Populus tremuloides*
1 – 8 cm DBH	15	*Populus balsamifera*
1 – 12 cm DBH	300+	*Rhamnus cathartica*
1 – 15 cm DBH	200+	*Ulmus americana*

1-10 cm DBH	250+	*Thuja occidentalis*
1-6 cm DBH	50+	*Fraxinus americana*
30+ cm DBH	1	*Salix babylonica*
1-15 cm DBH	<50	*Salix babylonica, Salix fragilis, Salix × fragilis*
1 – 6 cm DBH	<100	*Salix bebbiana*
1 – 6 cm DBH	<100	*Salix discolor*

Zone D

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	<10	*Populus tremuloides*
1 – 25 cm DBH	<10	*Populus balsamifera*
1 – 12 cm DBH	<50	*Betula papyrifera*
1 – 8 cm DBH	60+	*Ostrya virginiana*
1 – 12 cm DBH	200+	*Rhamnus cathartica*
1 – 15 cm DBH	50+	*Ulmus americana*
1-10 cm DBH	50+	*Thuja occidentalis*
1-10 cm DBH	50+	*Fraxinus americana*
10-45 cm DBH	<10	*Fraxinus americana*
50+ cm DBH	1	*Fraxinus americana*
1-15 cm DBH	<50	*Salix babylonica, Salix fragilis, Salix × fragilis*
1 – 6 cm DBH	<100	*Salix bebbiana*
1 – 6 cm DBH	<100	*Salix discolor*
1 – 25 cm DBH	<100	*Acer negundo*

Zone E

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	<10	*Populus tremuloides*
1-30 cm DBH	<100	*Fraxinus americana*
1-15 cm DBH	<100	*Fraxinus pennsylvanica*
1 – 12 cm DBH	250+	*Rhamnus cathartica*
1 – 8 cm DBH	15+	*Rhamnus frangula*
1-20 cm DBH	20	*Pinus strobus*
1-25 cm DBH	20	*Pinus nigra*
1-20 cm DBH	20	*Juniperus virginiana*

Zone F

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	<50	*Acer saccharum*
30+ cm DBH	1	*Acer saccharum*
1 – 25 cm DBH	<50	*Acer negundo*
1 – 10 cm DBH	<20	*Quercus rubra*
1 – 15 cm DBH	<20	*Populus tremuloides*
1 – 5 cm DBH	<20	*Populus balsamifera*
1-15 cm DBH	<100	*Fraxinus americana*

1-15 cm DBH	<100	*Fraxinus pennsylvanica*
1 – 12 cm DBH	100+	*Rhamnus cathartica*
1 – 8 cm DBH	100+	*Rhamnus frangula*
1 – 8 cm DBH	100+	*Rhus typhina*
1-10 cm DBH	<20	*Prunus serotina*
1-10 cm DBH	<20	*Prunus pensylvanica*
1 – 20 cm DBH	100+	*Crataegus spp.*
1 – 6 cm DBH	<50	*Salix bebbiana*
1 – 6 cm DBH	<50	*Salix discolor*
1 – 12 cm DBH	<50	*Betula papyrifera*
1 – 20 cm DBH	20-40	*Sorbus americana*

Zone G

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	50+	*Populus tremuloides*
1-30 cm DBH	60	*Fraxinus americana*
1-15 cm DBH	<20	*Fraxinus pennsylvanica*
1 – 12 cm DBH	250+	*Rhamnus cathartica*
1 – 8 cm DBH	80+	*Rhamnus frangula*
1-25 cm DBH	<50	*Pinus strobus*
1-25 cm DBH	40	*Pinus nigra*
1-35 cm DBH	100+	*Pinus sylvestris*
1-20 cm DBH	40	*Juniperus virginiana*
1-20 cm DBH	250+	*Thuja occidentalis*

Zone H

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	50+	*Populus tremuloides*
1-20 cm DBH	40+	*Fraxinus americana*
1-15 cm DBH	6	*Fraxinus pennsylvanica*
1 – 4 cm DBH	60+	*Rhamnus cathartica*
1 – 6 cm DBH	40+	*Rhus typhina*
1-10 cm DBH	15	*Juglans nigra*
1-25 cm DBH	<10	*Juglans x cinerea*
1 – 20 cm DBH	11	*Acer saccharum*
30+ cm DBH	1	*Acer saccharum*

Zone I

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-20 cm DBH	40+	*Fraxinus americana*
1-15 cm DBH	6	*Fraxinus pennsylvanica*
1 – 18 cm DBH	100+	*Rhamnus cathartica*
1 – 6 cm DBH	40+	*Rhus typhina*

1-10 cm DBH	<10	*Prunus pensylvanica*
1-25 cm DBH	50+	*Crataegus spp.*
1 – 15 cm DBH	50+	*Acer negundo*

Zone J1

Tree Size	Quantity	Tree Species
1 – 15 cm DBH	50+	*Populus tremuloides*
1-10 cm DBH	50+	*Fraxinus americana*
1-10 cm DBH	10+	*Fraxinus pennsylvanica*
1 – 18 cm DBH	100+	*Rhamnus cathartica*
1 – 6 cm DBH	40+	*Rhus typhina*
1-25 cm DBH	25+	*Crataegus spp.*

Zone J2

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-15 cm DBH	100+	*Fraxinus americana*
1-10 cm DBH	20+	*Fraxinus pennsylvanica*
1 – 18 cm DBH	100+	*Rhamnus cathartica*
1 – 10 cm DBH	25+	*Rhus typhina*
1-25 cm DBH	25+	*Crataegus spp.*

Zone J3

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-25 cm DBH	100+	*Fraxinus americana*
1-10 cm DBH	20+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	100+	*Rhamnus cathartica*
1 – 25 cm DBH	<10	*Malus spp.*
1 – 10 cm DBH	25+	*Rhus typhina*
1-25 cm DBH	50+	*Crataegus spp.*

Zone J4

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-25 cm DBH	50+	*Fraxinus americana*
1-10 cm DBH	20+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1 – 15 cm DBH	50+	*Rhus typhina*
1-25 cm DBH	100+	*Crataegus spp.*
1 – 6 cm DBH	<25	*Salix bebbiana*
1 – 6 cm DBH	<25	*Salix discolor*
1 – 8 cm DBH	<25	*Betula papyrifera*

Zone K1

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-15 cm DBH	25+	*Fraxinus americana*
1-10 cm DBH	25+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	150+	*Rhamnus cathartica*
1 – 15 cm DBH	150+	*Rhus typhina*
1-15 cm DBH	50+	*Crataegus spp.*
1 – 25 cm DBH	<50	*Pinus sylvestris*
30+ cm DBH	1	*Pinus sylvestris*
1 – 15 cm DBH	<20	*Pinus strobus*
1 – 10 cm DBH	<10	*Juniperus virginiana*
1 – 15 cm DBH	<50	*Thuja occidentalis*
1 – 10 cm DBH	<25	*Betula papyrifera*

Zone K2

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-10 cm DBH	25+	*Fraxinus americana*
1-10 cm DBH	25+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1 – 15 cm DBH	200+	*Rhus typhina*
1-15 cm DBH	100+	*Crataegus spp.*
1 – 10 cm DBH	<20	*Pinus sylvestris*
1 – 5 cm DBH	<25	*Betula papyrifera*

Zone K3

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-45 cm DBH	50+	*Fraxinus americana*
50+ cm DBH	1	*Fraxinus americana*
1-10 cm DBH	25+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1 – 15 cm DBH	100+	*Rhus typhina*
1-25 cm DBH	100+	*Crataegus spp.*
1 – 10 cm DBH	<10	*Pinus sylvestris*
1 – 15 cm DBH	<25	*Thuja occidentalis*
1 – 5 cm DBH	<25	*Betula papyrifera*

Zone K4

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-45 cm DBH	50+	*Fraxinus americana*
50+ cm DBH	1	*Fraxinus americana*
1-10 cm DBH	25+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1 – 15 cm DBH	100+	*Rhus typhina*
1-25 cm DBH	100+	*Crataegus spp.*
1 – 10 cm DBH	<20	*Juniperus virginiana*
1 – 15 cm DBH	<25	*Thuja occidentalis*
1 – 5 cm DBH	<25	*Betula papyrifera*

Zone K5

Tree Size	Quantity	Tree Species
1 – 15 cm DBH	25+	*Populus tremuloides*
1-45 cm DBH	50+	*Fraxinus americana*
50+ cm DBH	1	*Fraxinus americana*
1 – 15 cm DBH	50+	*Acer negundo*
1 – 15 cm DBH	150+	*Rhamnus cathartica*
1 – 25 cm DBH	50+	*Quercus rubra*
1 – 15 cm DBH	100+	*Rhus typhina*
1-25 cm DBH	150+	*Crataegus spp.*
1 – 10 cm DBH	<20	*Juniperus virginiana*
1 – 15 cm DBH	<25	*Thuja occidentalis*
1 – 5 cm DBH	<25	*Betula papyrifera*
1 – 10 cm DBH	<20	*Tilia americana*

Zone L

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	50+	*Pinus sylvestris*
30+ cm DBH	2	*Pinus sylvestris*
1 – 15 cm DBH	25+	*Rhus typhina*
1 – 15 cm DBH	40	*Thuja occidentalis*

Zone M1

Tree Size	Quantity	Tree Species
1 – 20 cm DBH	<50	*Acer negundo*
1 – 10 cm DBH	<10	*Betula papyrifera*
1 – 10 cm DBH	25+	*Rhamnus cathartica*
1 – 10 cm DBH	<10	*Thuja occidentalis*

Zone M2

Tree Size	Quantity	Tree Species

1 – 20 cm DBH	<75	*Acer negundo*
1 – 5 cm DBH	<15	*Betula papyrifera*
1 – 10 cm DBH	25+	*Rhamnus cathartica*
1 – 10 cm DBH	<10	*Thuja occidentalis*

Zone M3

Tree Size	Quantity	Tree Species
1 – 15 cm DBH	<50	*Acer negundo*
1 – 15 cm DBH	25+	*Populus tremuloides*
1 – 5 cm DBH	25+	*Rhamnus cathartica*

Zone N

Tree Size	Quantity	Tree Species
1 – 20 cm DBH	<75	*Acer negundo*
1 – 10 cm DBH	25+	*Rhamnus cathartica*

Zone O

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-15 cm DBH	25+	*Fraxinus americana*
1-10 cm DBH	25+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	100+	*Rhamnus cathartica*
1-15 cm DBH	50+	*Crataegus spp.*
1 – 30 cm DBH	50+	*Pinus sylvestris*
1 – 15 cm DBH	50+	*Pinus strobus*
30+ cm DBH	1	*Pinus strobus*
1 – 10 cm DBH	25+	*Acer negundo*
1 – 15 cm DBH	750+	*Thuja occidentalis*
1 – 10 cm DBH	<25	*Betula papyrifera*

Zone P1

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	50+	*Populus tremuloides*
1-25 cm DBH	300+	*Fraxinus americana*
30-45 cm DBH	<5	*Fraxinus americana*
50+ cm DBH	1	*Fraxinus americana*
1-10 cm DBH	50+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	300+	*Rhamnus cathartica*
1-25 cm DBH	100+	*Crataegus spp.*
1 – 10 cm DBH	100+	*Rhus typhina*
1 – 10 cm DBH	<10	*Pinus strobus*
1 – 10 cm DBH	25+	*Acer negundo*
1 – 10 cm DBH	<15	*Thuja occidentalis*

1 – 20 cm DBH	<15	*Betula papyrifera*
1 – 15 cm DBH	<15	*Betula lenta*

Zone P2

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	50+	*Populus tremuloides*
1-25 cm DBH	100+	*Fraxinus americana*
30-45 cm DBH	<10	*Fraxinus americana*
50+ cm DBH	1	*Fraxinus americana*
1-10 cm DBH	50+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1-25 cm DBH	50+	*Crataegus spp.*
1 – 15 cm DBH	50+	*Rhus typhina*
1 – 10 cm DBH	25+	*Acer negundo*
1 – 10 cm DBH	<15	*Thuja occidentalis*
1 – 10 cm DBH	<15	*Betula papyrifera*
1-15 cm DBH	<25	*Prunus serotina*
30+ cm DBH	2	*Prunus serotina*

Zone Q1

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	25+	*Populus tremuloides*
1-20 cm DBH	50+	*Fraxinus americana*
50+ cm DBH	1+	*Fraxinus americana*
1-10 cm DBH	25+	*Fraxinus pennsylvanica*
1 – 15 cm DBH	25+	*Rhamnus cathartica*
1-25 cm DBH	25+	*Crataegus spp.*
1 – 10 cm DBH	100+	*Rhus typhina*
1 – 10 cm DBH	<10	*Pinus strobus*
1 – 10 cm DBH	<30	*Thuja occidentalis*
30+ cm DBH	1	*Thuja occidentalis*
1 – 15 cm DBH	<10	*Betula lenta*
1-20 cm DBH	<5	*Malus spp.*
1-10 cm DBH	<25	*Prunus serotina*
30+ cm DBH	1	*Prunus serotina*

Zone Q2

Tree Size	Quantity	Tree Species
1 – 10 cm DBH	<25	*Populus tremuloides*
30+ cm DBH	1	*Populus tremuloides*
1-20 cm DBH	<25	*Fraxinus americana*
1-10 cm DBH	<25	*Fraxinus pennsylvanica*
1 – 15 cm DBH	25+	*Rhamnus cathartica*
1-25 cm DBH	<15	*Crataegus spp.*

1 – 15 cm DBH	<10	*Thuja occidentalis*
30+ cm DBH	1	*Thuja occidentalis*
1 – 15 cm DBH	<5	*Betula lenta*
1-10 cm DBH	<5	*Prunus serotina*
30+ cm DBH	1	*Prunus serotina*

Zone R

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	50+	*Populus tremuloides*
30+ cm DBH	1	*Populus tremuloides*
1-20 cm DBH	50+	*Fraxinus americana*
1-10 cm DBH	<25	*Fraxinus pennsylvanica*
1 – 15 cm DBH	25+	*Rhamnus cathartica*
1-25 cm DBH	25+	*Crataegus spp.*
1 – 25 cm DBH	50+	*Acer negundo*
1-10 cm DBH	50+	*Ulmus americana*
1 – 10 cm DBH	<25	*Betula papyrifera*

Zone S1

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	100+	*Acer saccharum*
30+ cm DBH	7	*Acer saccharum*
1 – 20 cm DBH	<50	*Acer rubrum*
30+ cm DBH	1	*Acer rubrum*
1 – 10 cm DBH	50+	*Populus tremuloides*
30+ cm DBH	1	*Populus tremuloides*
1-25 cm DBH	150+	*Fraxinus americana*
35+ cm DBH	2	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1-25 cm DBH	100+	*Crataegus spp.*
1 – 25 cm DBH	50+	*Acer negundo*
1 – 30 cm DBH	<50	*Pinus sylvestris*
1 – 25 cm DBH	<50	*Betula papyrifera*

Zone S2

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	100+	*Acer saccharum*
30+ cm DBH	5	*Acer saccharum*
1 – 10 cm DBH	50+	*Populus tremuloides*
1-25 cm DBH	150+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1-25 cm DBH	100+	*Crataegus spp.*

1 – 25 cm DBH	50+	*Acer negundo*
30+ cm DBH	3	*Acer negundo*
1 – 15 cm DBH	<25	*Quercus rubra*
30+ cm DBH	1	*Prunus serotina*

Zone S3

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	100+	*Acer saccharum*
30+ cm DBH	7	*Acer saccharum*
1 – 15 cm DBH	50+	*Populus tremuloides*
1-15 cm DBH	150+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 15 cm DBH	100+	*Rhamnus cathartica*
1-25 cm DBH	50+	*Crataegus spp.*
1 – 25 cm DBH	50+	*Acer negundo*
1 – 15 cm DBH	<25	*Quercus rubra*
30+ cm DBH	1	*Prunus serotina*

Zone T

Tree Size	Quantity	Tree Species
25 – 45 cm DBH	<10	*Fraxinus americana*
1-25 cm DBH	150+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1-25 cm DBH	25+	*Crataegus spp.*
1 – 10 cm DBH	<25	*Betula papyrifera*

Zone U

Tree Size	Quantity	Tree Species
25 – 45 cm DBH	<8	*Fraxinus americana*
1-25 cm DBH	100+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 25 cm DBH	<25	*Acer saccharum*
30+ cm DBH	1	*Acer saccharum*
1 – 15 cm DBH	150+	*Rhamnus cathartica*
1-25 cm DBH	25+	*Crataegus spp.*
1 – 10 cm DBH	<25	*Betula papyrifera*

Zone V1

Tree Size	Quantity	Tree Species
50+ cm DBH	1	*Fraxinus americana*
1-25 cm DBH	100+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*

1 – 25 cm DBH	<20	*Acer saccharum*
1 – 15 cm DBH	150+	*Rhamnus cathartica*
1-25 cm DBH	25+	*Crataegus spp.*
1 – 10 cm DBH	<25	*Betula papyrifera*

Zone V2

Tree Size	Quantity	Tree Species
50+ cm DBH	1	*Fraxinus americana*
1-45 cm DBH	100+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 15 cm DBH	100+	*Rhamnus cathartica*
1-25 cm DBH	20+	*Crataegus spp.*

Zone V3

Tree Size	Quantity	Tree Species
30+ cm DBH	2	*Acer saccharum*
1 – 25 cm DBH	<40	*Acer saccharum*
30+ cm DBH	1	*Prunus serotina*
1 – 25 cm DBH	<25	*Prunus serotina*
1-15 cm DBH	100+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 15 cm DBH	150+	*Rhamnus cathartica*
1-25 cm DBH	25+	*Crataegus spp.*

Zone V4

Tree Size	Quantity	Tree Species
1 – 25 cm DBH	<50	*Acer saccharum*
30+ cm DBH	1	*Prunus serotina*
1 – 25 cm DBH	<25	*Prunus serotina*
1-30 cm DBH	100+	*Fraxinus americana*
1-10 cm DBH	<50	*Fraxinus pennsylvanica*
1 – 15 cm DBH	200+	*Rhamnus cathartica*
1-25 cm DBH	50+	*Crataegus spp.*
1 – 15 cm DBH	50+	*Acer negundo*

Zone W

Tree Size	Quantity	Tree Species
1-20 cm DBH	50+	*Fraxinus americana*
1-10 cm DBH	<20	*Fraxinus pennsylvanica*
1 – 15 cm DBH	<50	*Rhamnus cathartica*
1-10 cm DBH	<25	*Crataegus spp.*
1 – 10 cm DBH	<25	*Acer negundo*

Zone X

Tree Size	Quantity	Tree Species
30+ cm DBH	2	*Picea abies*

It must be noted that quantities and species listed in the above Woodlot/Hedgerow Survey charts are not intended to be read as precise, but rather as a more general framework for the expected plant palette to be found within the area. This is helpful in that it tells us broadly what has historically been found in this area as well as what the future of this woodlot might be expected to contain.

Section 6 General Recommendations & Best Practices

In addition to the management approaches proposed in Section 3, the arborists propose the development of a comprehensive replanting strategy for the subdivision that includes at least two trees per lot. These trees should be chosen from a palette that includes native species already found on site, and adds other resilient native species to increase biodiversity. Some appropriate species to include would be *Acer saccharum* (Sugar Maple), *Acer rubrum* (Red Maple), *Thuja occidentalis* (Eastern White Cedar), *Tilia americana* (American Basswood), *Quercus rubra* (Northern Red Oak), *Pinus strobus* (Eastern White Pine), *Ostrya virginiana* (Ironwood), *Juglans nigra* (Black Walnut), and Dutch-elm disease resistant *Ulmus americana* (American Elm).

It is understood that due to the nature of the pending development, there will be tree removals and injuries necessary both before and during the construction. However, to ensure good practice, as many of the following recommended Best Management Practices should be employed as is possible, to protect the health and future development of the trees that are either left onsite or are adjacent to the development (see Appendix A – City of Toronto: Tree Protection Policy and Specifications for Construction Near Trees of Toronto for further clarification):

1) Tree Protection Zones (TPZ): These zones establish limits for the erection of Tree Protection Hoarding; this hoarding serves to prevent the operation of equipment, the storage of equipment, or manipulation of the soil within the specified protection zone. In the event that the municipality or region does not set minimum Tree Protection Zones it is recommended the value be determined by International Society of Arboriculture standard of 1' offset per 1" diameter or 30cm of offset per 2.54cm of diameter as this considered best practice.

2) Tree Protection Hoarding: Tree protection hoarding should serve to prevent the operation of equipment, the storage of equipment, or manipulation of the soil within the specified protection zone.

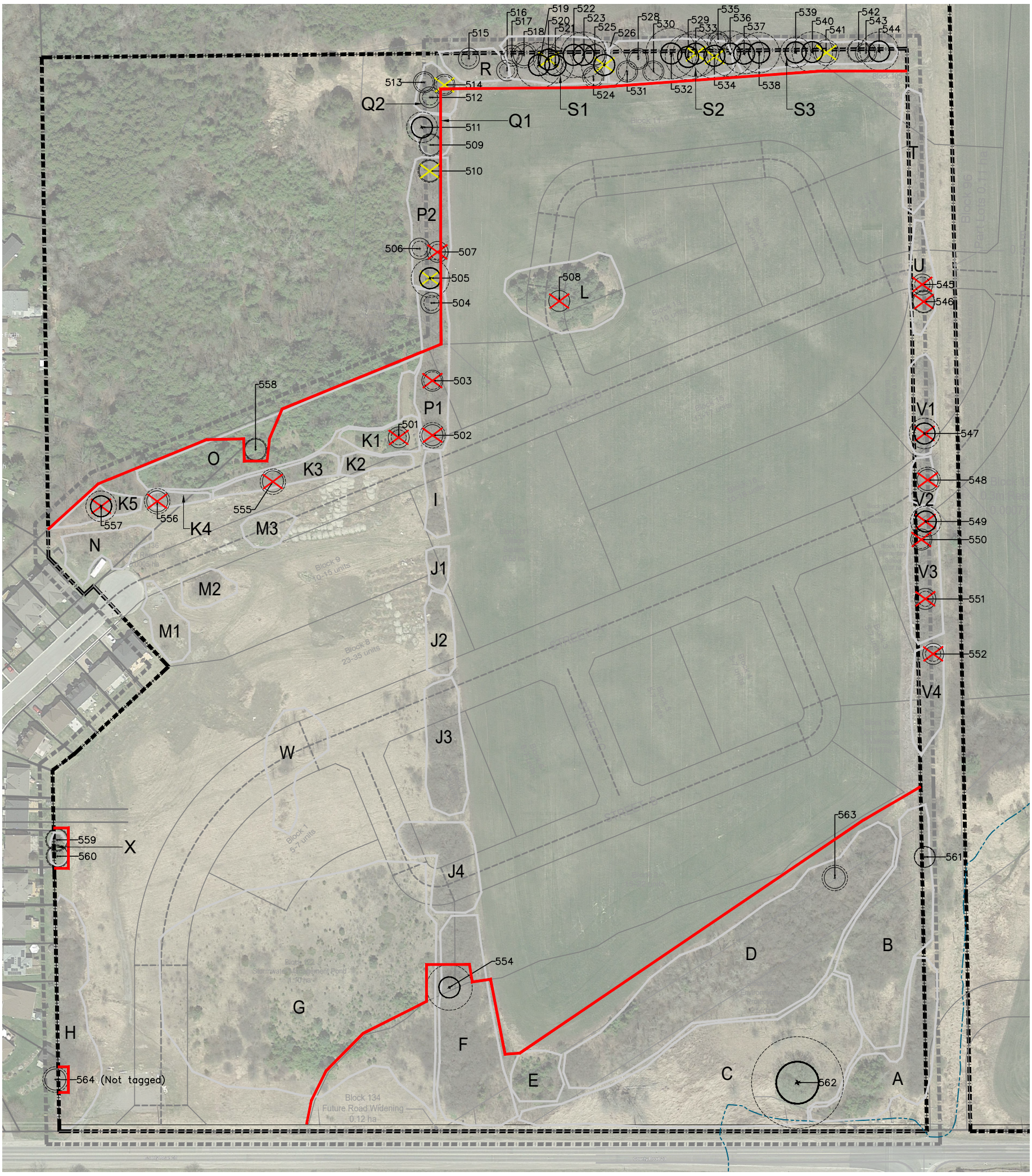
3) Grading: Grade changes within the TPZ should be avoided so as to prevent the damage or destruction of roots. Approximately 90% of tree roots are found within the top 30-45cm of soil. With this in mind, reducing the grade will remove a significant percentage of tree roots. On the other hand, the addition of as little as 5cm of soil to the ground above the roots can severely limit the ability of roots to obtain necessary oxygen for respiration and can cause root death. In the event that the root zone is compacted within the TPZ, the soil within the root zone may need to be vertically mulched or experience radial trenching so as to reintroduce oxygen into the root zone.

4) Pruning: The existing trees that are to be preserved should be pruned by an arborist certified by the ISA. Pruning should focus on crown cleaning, defined as the removal of dead wood, broken branches, and crossing and interfering limbs.

5) Root Pruning: In the event that construction does breach the boundary of any tree protection zone, pruning to the roots or canopy may need to occur prior to construction proceeding in order to decrease the likelihood of a pest or pathogen outbreak.

6) Fertilization: This intervention may also assist trees in the recovery from construction impacts should construction activities breach the TPZs.

In all cases, the aforementioned treatments should be conducted by an arborist certified by the International Society of Arboriculture.



LEGEND

- Existing Tree
- Existing Tree, Diameter Over 60 cm
- Tree ID Number (555)
- N — Patch Area No.
- Patch Area Boundary
- Property Lines
- Tree Inventory Boundary (6 m Offset From Property Lines, Block 126 not included)
- Tree Protection Zone
- Proposed Tree Protection Fencing
- Watercourse
- Tree to be Removed
- Tree to be Removed, Candidate for Habitat Stump

project north

project title

RONDEAU DEVELOPMENT PHASE 1 (COBOURG)

project no. 1613

sheet title

DRAFT TREE INVENTORY, PRESERVATION AND REMOVALS PLAN

The Planning Partnership
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scale 1:500

date 2019.02.08

drawn KS checked MOH

issued for: ARBORIST REPORT

IMAGE GALLERY

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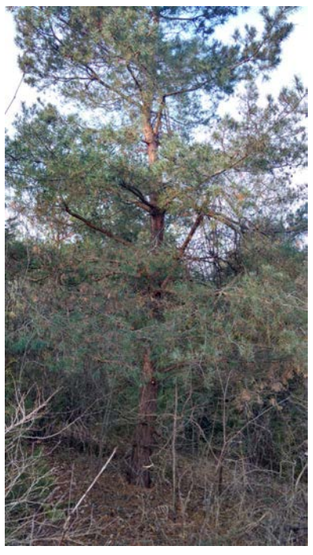

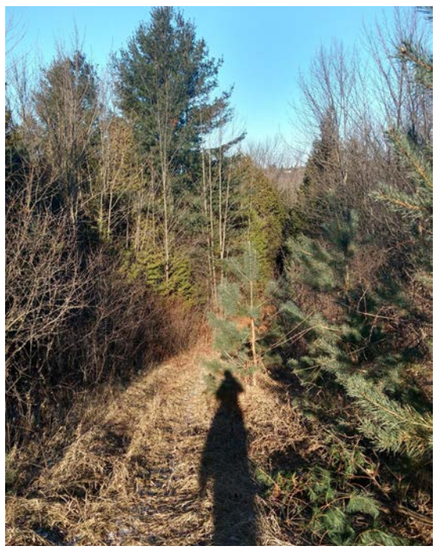

IMAGES 1-6 – BLOCK K: MIXED CONIFEROUS/DECIDOUS FOREST EDGE AND REGENERATING MEADOW

For Location Refer to Tree Plan, For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 7 – TREE 555 VIEW

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 8 – TREE 556 VIEW

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 9 – BLOCK K, LOOKING NORTHWEST

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 10 – BLOCK K, LOOKING NORTHWEST
(LARGE OAK, OUTSIDE BOUNDARY)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGES 11/12 – BLOCK N

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGES 13/14 – BLOCK M

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 15 – BLOCKS I/J1 LOOKING EAST

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 16 – BLOCK G LOOKING SOUTHEAST

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 17 – BLOCK J4 LOOKING EAST

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 18 – BLOCK J3, LOOKING NORTH
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 19 – BLOCK J4, LOOKING SOUTH
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 20 – BLOCK J4, LOOKING WEST
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 21 – BLOCK G LOOKING SOUTHEAST (TREE 554)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 22 – BLOCK F LOOKING SOUTHEAST (TREE 554)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 23 – BLOCK F/J LOOKING WEST (TREE 554)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 24 – BLOCK C LOOKING SOUTH
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 25 – BLOCK H LOOKING SOUTH
(TREE 264 IN BACKGROUND)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 26 – BLOCK H LOOKING NORTH

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 27 – BLOCK P1 LOOKING WEST(TREE 502)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 28 – BLOCK P1 LOOKING WEST (TREE 503)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 29 – BLOCK P1 LOOKING NORTH

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 30 – BLOCK P2 LOOKING WEST
(TREE 505)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 31 – BLOCK P2 LOOKING WEST
(TREE 507)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 32 – BLOCK P2 LOOKING WEST
(TREE 507)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 33 – BLOCK O1 LOOKING WEST
(TREE 509)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 34 – BLOCK P2 LOOKING WEST
(TREE 513)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 35 – BLOCK O2 LOOKING WEST
(TREE 512)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 36 – BLOCK O2 LOOKING WEST

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 37 – BLOCK R LOOKING NORTH

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 38 – BLOCK R LOOKING NORTH (TREE 516)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 39 – BLOCK S1 LOOKING NORTH
(TREES 518, 519, 520)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 40 – TREE 519

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 41 – TREE 520
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 42 – BLOCK S1 LOOKING NORTH (TREES 521 & 522)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 43 – TREE 521 (520 IIN BACKGROUND)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 44 – TREE 522
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 45 – BLOCK S1 LOOKING NORTH (TREE 523 & 524)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 46 – TREE 523
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 47 – BLOCK S1 LOOKING NORTH (TREE 525 & 526)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 48 & 49 – TREE 526

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 50 – BLOCK S2 LOOKING NORTH (TREES 528-531)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 51 – BLOCK S2 LOOKING NORTH
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 52 – BLOCK S2 LOOKING NORTH (TREE 532)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 53 – BLOCK S2 LOOKING NORTH (TREE 529, 533)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 54 – BLOCK S2 LOOKING NORTH (TREE 529)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 55 – BLOCK S2 LOOKING NORTH (TREE 533)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

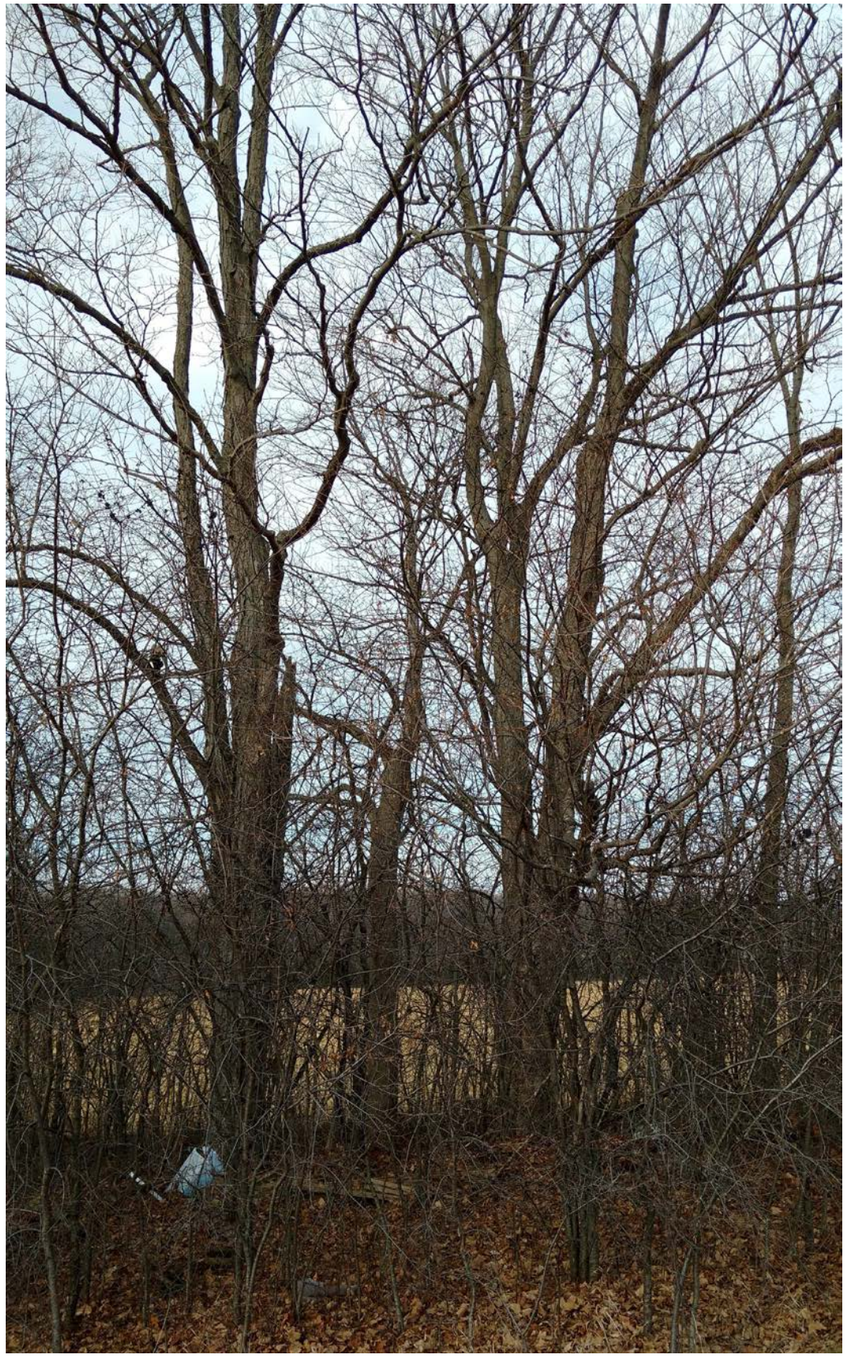

IMAGE 56 – BLOCK S2 LOOKING NORTH
(TREES 534, 535, 536)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 57 – BLOCK S3 LOOKING NORTH (TREE 537)

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 58 – BLOCK S3 LOOKING NORTH (TREE 538)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 59 – BLOCK S3 LOOKING NORTH (TREE 539)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 60 – BLOCK S3 LOOKING NORTH (TREE 540)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 61 – BLOCK S3 LOOKING NORTH (TREE 541)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 62 – BLOCK S3 LOOKING NORTH (TREE 542)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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IMAGE 63 – BLOCK S3 LOOKING NORTH (TREES 543 & 544)
For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

IMAGE 64 – BLOCK T LOOKING EAST

For Location Refer to Tree Plan
For Species and Comments Refer to Tree Inventory & Analysis

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