Tree Conservation Report for the Proposed Development of Site 2 of the National Capital Business Park at 4120 Russell Road, Ottawa, Ontario

Revised Report

March 4, 2021

Submitted to:
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Project Number: AVE 866.3

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List of Acronyms and Abbreviations

CRZ – critical root zone
KAL – Kilgour & Associates Ltd.
MMF – Basic Project Mitigation Measures Form
NCBP – National Capital Business Park
NCC – National Capital Commission
RVCA – Rideau Valley Conservation Authority
TCR – Tree Conservation Report

1.0 INTRODUCTION

Kilgour & Associates Ltd. (KAL) was retained by AVENUE31 to provide a Tree Conservation Report (TCR) for the proposed development of Site 2 of the National Capital Business Park (NCBP) on lands owned by the National Capital Commission (NCC) at 4120 Russell Road in Ottawa, Ontario (Figure 1). This report identifies and describes trees on Site 2 in advance of proposed tree removal and topsoil stripping to facilitate future development of the site. This TCR has been prepared following the City of Ottawa's guidelines (2020a).

In the City of Ottawa, a TCR is required for all Plans of Subdivision, Site Plan Control Applications, Common Elements Condominium Applications, and Vacant Land Condominium Applications where there is a tree of 10 cm in diameter at breast height (DBH) or greater on the site and/or if there is a tree on an adjacent site that has a critical root zone (CRZ) extending onto the development site. A "tree" is defined as any species of woody perennial plant, including its root system, which has reached or can reach a minimum height of at least 450 cm at physiological maturity. The CRZ is calculated as DBH x 10 cm.

The removal of trees on Site 2 cannot occur until written approval is granted from the NCC. Site 3 is also subject to the City of Ottawa's Tree Protection By-law (No. 2020-340). The approved TCR and associated Basic Project Mitigation Measures Form (MMF) are required for the approval of tree removal on Site 2. A copy of this TCR must be available on-site during tree removal, grading, construction, or any other site alteration activities.

2.0 PROPERTY INFORMATION

Site 2 is approximately 6.3 ha and is zoned as IH – Heavy Industrial Zone. This zoning designation is intended for industrial development with a wide range of uses. Land cover on Site 2 is dominated by fallow fields with trees limited to a small (~0.6 ha) cluster near the centre of the site and hedgerows along the western and southern edges of the site.

Site 2 is bordered by: heavy industrial lands to the north and west, Site 1 of the NCBP to the east, and a City of Ottawa-owned stormwater management pond to the south. A right of way runs along the northern and western edges of Site 2. This right of way is the future location of Last Mile Drive which will connect Russell Road to Hunt Club Road and is associated with the development of Site 1 of the NCBP.

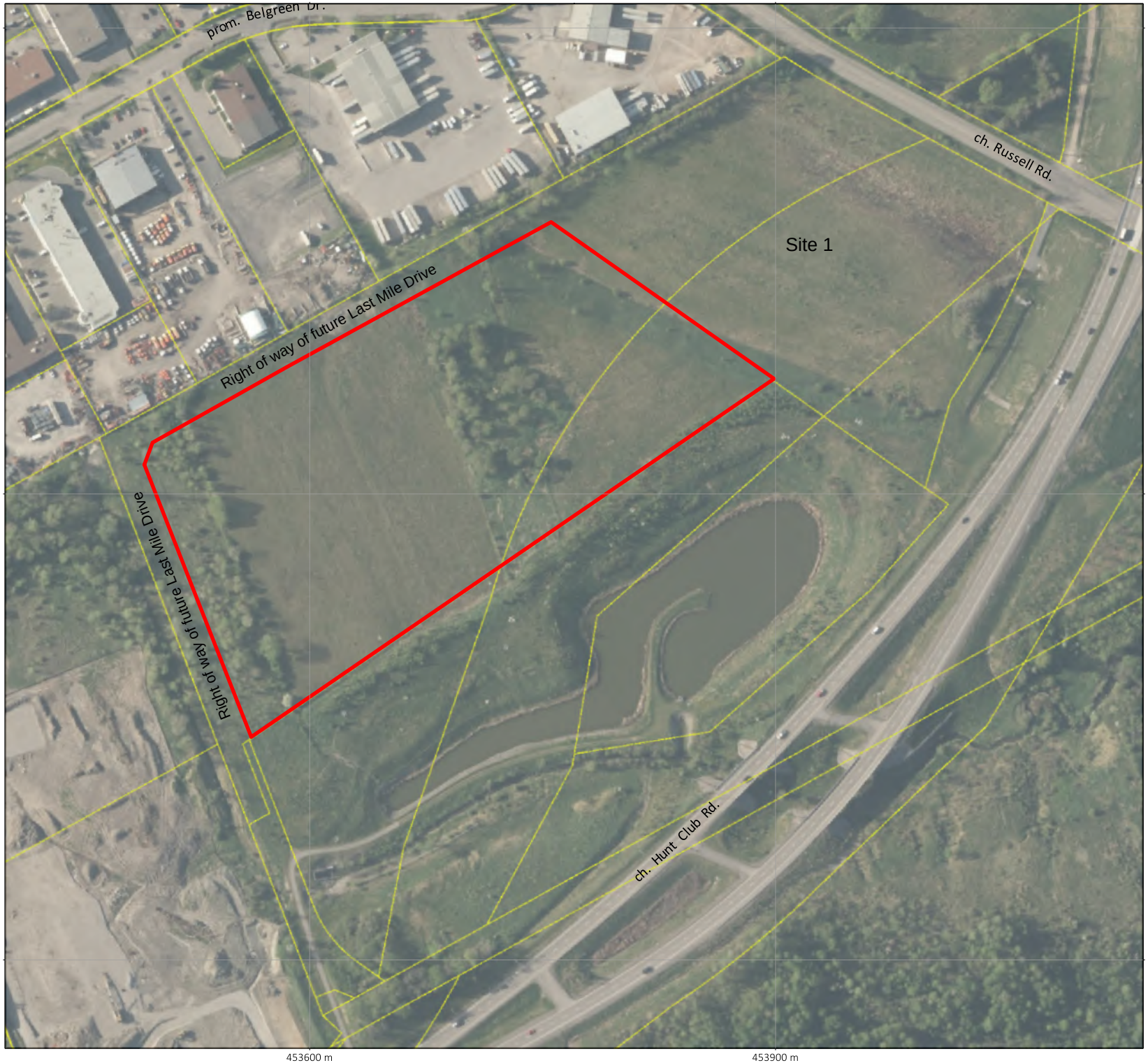

Figure 1 Map showing location context for Site 2 of the National Capital Business Park

Site 2

Property Line

N

0 100 m

Project: AVE 866.1
Created By: Nicholas Schulz
Checked By: Katie Black
Universal Transverse Mercator - Zone 18 (N)
Printed on: 2021-01-21

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2.1 Property Owner and Applicant Contact Information

Table 1 Organization, role, contact person, phone number, and email address for property owner and applicant

Organization	Role	Contact Person	Phone Number	Email Address
National Capital Commission	Property owner	Bill Leonard	(613) 239-5678 x5728	Bill.Leonard@ncc-ccn.ca
National Capital Commission	Property owner	Jennifer Halsall	(613) 239-5678 x5589	Jennifer.Halsall@ncc-ccn.ca
AVENUE31 and National Capital Business Park Inc.	Developer and project entity, respectively (Applicant)	Michel Pilon	(613) 850-3132	mpilon@ave31.com

Table Notes: AVENUE31 has leased the land from the National Capital Commission.

2.2 Arborist Contact Information and Qualifications

Table 2 Organization, role, contact person, phone number, and email address for arborists

Organization	Role	Contact Person	Phone Number	Email Address
KAL	Biologist	Katherine Black	(613) 260-5555	kblack@kilgourassociates.com
KAL	Biologist	Anthony Francis	(613) 260-5555	afrancis@kilgourassociates.com

Katherine Black has over six years of comprehensive field experience in biology and has worked in a variety of field settings, including undisturbed natural environments, construction sites, and greenhouses. Ms. Black's background is predominantly in vegetation ecology; she has performed vegetation surveys in a variety of natural and disturbed environments, including wetland, tundra, field, and forest environments. Since joining KAL in 2019, Ms. Black has contributed to numerous Environmental Impact Statements and TCRs. Ms. Black is also a certified Butternut Health Assessor (BHA #731).

Anthony Francis, Ph.D. is a Senior Ecologist with 20 years' consulting experience to both government agencies and private industry. He has worked on a diversity of projects relating to species at risk, invasive species, terrestrial and aquatic habitat, environmental effects monitoring and mitigation, and fate/effects of

contaminants. Within each of these subject areas, Dr. Francis has completed projects addressing specific site concerns and broader policy initiatives. Dr. Francis's academic background is in spatial ecology with a focus on tree species diversity. As a Senior Ecologist at KAL, he regularly completes Tree Conservation Reports, Environmental Impact Statements, Integrated Environmental Reviews for land development projects throughout Ottawa and Eastern Ontario. He is also a certified Butternut Health Assessor (BHA #104).

2.3 Additional Applications

As part of the NCC's Federal Land Use, Design, and Transaction Approval (FLUDTA) process, a Master Concept Plan for the NCBP was completed in May 2020 which included recommended urban design and sustainability guidelines. Guiding principles included maintaining a welcoming gateway to the National Capital Region, creating and maintaining economic opportunity, and respecting the natural environment. The proposed development of the NCBP is also undergoing the Site Plan Control process with the City of Ottawa and review by Rideau Valley Conservation Authority (RVCA). An Environmental Impact Statement (EIS; Kilgour & Associates Ltd. (KAL), 2020) was also completed for the entire NCBP. Main conclusions and recommendations were integrated into the design of the NCBP. Each individual site within the NCBP (i.e., Site 1, Site 2, and Site 3) will require a separate EIS and TCR through the Site Plan Control process.

An EIS, TCR, and MMF were prepared by KAL for Site 1 of the NCBP (the site directly adjacent to Site 2) on behalf of the proponent and approved by the NCC in October 2020. A MMF was also prepared by KAL on behalf of the NCC for the demolition of houses and agricultural structures on Site 3 (4055 Russell Road) which was approved through a FLUDTA by the NCC in November 2020. The City of Ottawa provided a tree permit (D06-01-20-0060) to NCBP Inc. granting tree removal on Site 1 and Last Mile Drive on October 14, 2020. As such, the development of Site 2 is consistent with planning applications previously approved by the NCC and other authorities on the project.

3.0 EXISTING CONDITIONS

3.1 Tree Inventory

A detailed inventory of the trees on Site 2 was performed on June 25 and July 10, 2020 following guidelines set forth by the City of Ottawa (2020a). All trees with a diameter at breast height (DBH) ≥ 10 cm having potential to be removed under the proposed development were identified, enumerated, mapped, their DBH measured, and their general health and condition documented (Appendix A, Figure 2). In general, 197 trees with DBH ≥ 10 cm from 18 species were identified on Site 2, with >75% of trees dominated by Manitoba Maple (*Acer negundo*), Trembling Aspen (*Populus tremuloides*), and American Elm (*Ulmus americana*; Table 3).

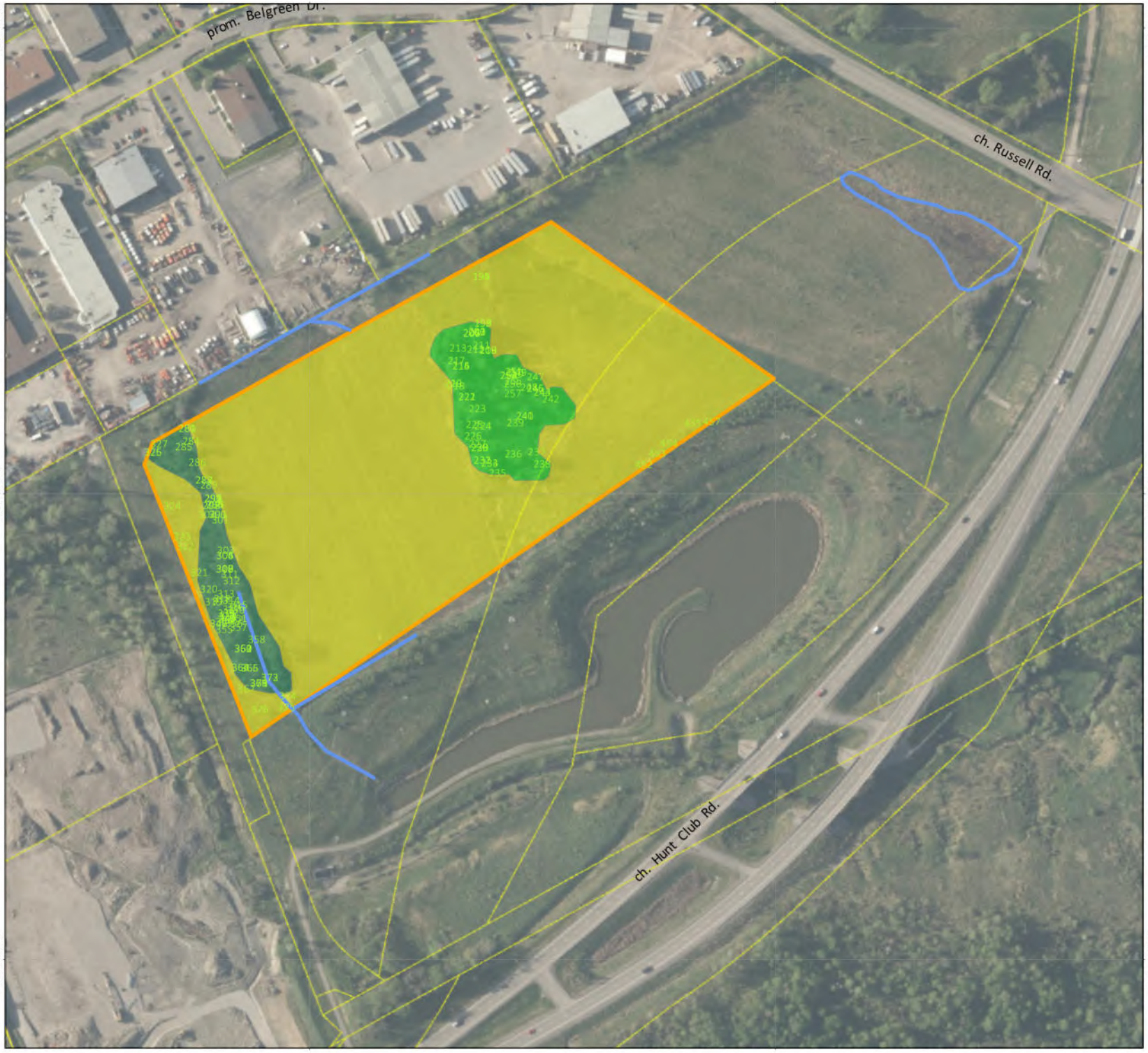

Figure 2 Map showing existing vegetation and surface water features on Site 2 of the National Capital Business Park

Site 2

Property Line

ELC

CUM1-1

FODM4-5

THDM3-1

\# Tree

N

0 100 m

Project: AVE 866.3 - Site 2
Universal Transverse Mercator - Zone 18 (N)
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Table 3 Tree species count and percent composition for Site 2 of the National Capital Business Park

Species Common Name	Species Taxonomic Name	Count	Percent Composition (%)
American Elm	*Ulmus americana*	30	15.2
Balsam Poplar	*Populus balsamifera*	2	1.0
Basswood	*Tilia americana*	9	4.6
Blue Spruce	*Picea pungens*	6	3.0
Bur Oak	*Quercus macrocarpa*	6	3.0
Common Apple	*Malus* sp.	1	0.5
Crack Willow	*Salix fragilis*	1	0.5
European Buckthorn	*Rhamnus frangula*	1	0.5
Green Ash	*Fraxinus pennsylvanica*	1	0.5
Manitoba Maple	*Acer negundo*	84	42.6
River Birch	*Betula nigra*	1	0.5
Siberian Elm	*Ulmus pumila*	3	1.5
Silver Maple	*Acer saccharinum*	3	1.5
Snag	N/A	2	1.0
Sugar Maple	*Acer saccharum*	10	5.1
Tamarack	*Larix laricina*	1	0.5
Trembling Aspen	*Populus tremuloides*	35	17.8
White Willow	*Salix alba*	1	0.5
SUM		**197**	**100.0**

3.1.1 Ecological Significance of Trees on Site

Site 2 does not contain any federally or provincially significant tree species (i.e., those listed under Schedule 1 of the *Species at Risk Act*, the *Endangered Species Act*, or those tracked on the Natural Heritage Information Centre (MNRF, 2021)). Site 2 contains three Siberian Elms (*Ulmus pumila*), a species that is considered regionally significant (rare) in the Ottawa area (Brunton, 2005). White Willow (*Salix alba*) was identified on Site 2 and is considered uncommon to the area (Brunton, 2005). However, both Siberian Elm and White Willow are non-native and considered invasive by the Toronto and Region Conservation Authority (http://www.trca.on.ca/dotAsset/36890.pdf).

Ecological functions of the trees on Site 2 include:

- Providing terrestrial habitat for wildlife such as common mammals and birds.
- Providing a vegetated buffer between natural features of the site and adjacent developed areas, including providing functions such as:
    - Regulation of relative humidity and other microclimatic variables.
    - Sequestration of carbon.

- Removal of pollutants.
- Wind-shielding.
- Shading and reduction of urban heat island effects.

3.2 Other Natural Environment Elements

3.2.1 Surface Water Features

Site 2 contains the following surface water features (Figure 2):

- A small swale within the southern end of the tree hedgerow along the western edge of the site. This surface water feature drains south into the stormwater management pond south of the site. This swale contained very shallow (<10 cm) standing water during the spring freshet and then dried shortly after.
- A small swale along the southwestern edge of the site that drains into the above swale. This swale similarly did not contain surface water after the spring freshet.
- A shallow depression in the centre of the site (surrounded by a cluster of mainly Manitoba Maples) resulting from a building foundation that was once here. This feature held water in the spring and summer but was not connected to other drainage features.

3.2.2 Steep Slopes

The existing ground surface across Site 2 is generally level at approximate geodetic elevation of 79 m, with the exception of a slope along the eastern edge of the site that drops down to approximate geodetic elevation of 72 m (Paterson Group, 2020).

3.2.3 Valued Woodlots

Site 2 does not contain any woodlots designated as Urban Natural Features or Natural Environment Areas, areas evaluated in the Urban Natural Areas Environmental Evaluation Study (UNAEES), or other areas that meet the criteria used in the UNAEES (Brunton and Muncaster, 2005).

3.2.4 Significant Woodlands

Site 2 does not contain any significant woodlands per *Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment* (City of Ottawa, 2018).

3.2.5 Greenspace Linkages

Site 2 does not contain any greenspace linkages identified in the Greenspace Master Plan (City of Ottawa, 2016) or as may occur in the larger landscape.

3.2.6 Distinctive Trees

Nineteen distinctive trees (DBH ≥ 30 cm) were identified on Site 2 (Appendix A).

3.2.7 Unique Ecological Features

Site 2 does not contain unique ecological features (e.g., riparian woodlots or rare communities). None of the treed communities on the site exist as natural forests or woodlands but instead are a result of hedgerows that have filled in and naturalized over time.

3.2.8 Species at Risk

No known legally protected habitats or critical habitats for species at risk (SAR) occur on Site 2 based on vegetation, bird, amphibian, and turtle surveys performed by KAL in 2019 and 2020, and based on KAL's extensive background review of the site. Two Barn Swallows (*Hirundo rustica;* Threatened under the *Species at Risk Act*) were observed foraging over fields on Site 2 by KAL in 2019 and 2020. No impacts are anticipated to this species as no Barn Swallow nests were found directly on the site or in the vicinity. An Eastern Meadowlark (*Sturnella magna*; Threatened under the *Species at Risk Act*) was observed along the western edge of Site 2 by KAL in 2020. Given that this species was only observed once during two years of field surveys and it did not exhibit breeding or nesting behaviour, its presence was assumed to be transient. Potential impacts to at-risk bird species (and other bird species) would be mitigated by conducting vegetation clearing outside of the breeding and nesting season.

4.0 PROPOSED DEVELOPMENT

The proposed NCBP is a business and industrial park intended to service the warehousing, data communications centres, distribution, and employment needs of the National Capital Region by providing over 100,000 m^2 of new build-to-suit office, warehouse, and industrial space on approximately 40 ha of urban land spanning 4120 and 4055 Russell Road. The NCBP will be composed of three phases (i.e., Site 1, Site 2, and Site 3) and developments planned and designed as a cohesive industrial park through urban design, landscape architecture, and architecture.

Building plans for Site 2 have not yet been finalized, but will likely include two warehouse buildings with office space and parking areas (Figure 3). Vegetation removal and topsoil stripping are proposed to occur in 2021 prior to April 1 to avoid disturbing the site during sensitive times for wildlife (i.e., breeding season). Clearing of trees and topsoil stripping at Site 2 are proposed to occur in conjunction with the same site preparation works at Site 1 and within the right of way of Last Mile Drive (tree clearing has already been approved for Site 1 and Last Mile Drive by the NCC and the City of Ottawa). Earthworks and site servicing for Site 2 are expected to start in the summer or fall of 2021 and would be completed in parallel with works for Site 1 to support earth balancing and re-use of materials at the two sites.

The project is expected to require the removal of all trees on Site 2 to accommodate grading and earthworks balancing, including 188 live trees and nine dead trees (Figure 3; Appendix A).

Figure 3 Map showing the proposed development of Site 2 of the National Capital Business Park

Site 2
Property Line

Site Trees
Retained
Removed

Site Plan
Site 2
Site 1

N

0 100 m

Project: AVE 866.1
Created By: Nicholas Schulz
Checked By: Katie Black
Universal Transverse Mercator - Zone 18 (N)
Printed on: 2021-01-21

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5.0 MITIGATION MEASURES

5.1 Site Preparation and Construction

The following mitigation measures must be applied during site preparation and construction:

- Tree removal on Site 2 should be limited to that which is necessary to accommodate construction.
- Tree and vegetation clearing will not take place during sensitive times of the year for wildlife (breeding season; early spring throughout summer) unless mitigation measures are implemented and/or the habitat has been inspected by a qualified Biologist.
    - The *Migratory Birds Convention Act*, 1994 protects the nests and young of migratory breeding birds in Canada. The NCC recognizes April 1 to August 31 as the breeding bird period for the Ottawa area (KAL (K. Black) personal communication with the NCC (T. Zukerman), February 5, 2020). Combining the breeding bird window with the bat roosting season (May to September; MNRF, 2015), no clearing of vegetation shall occur between April 1 and September 30 inclusive to prevent impacts to both birds and bats, unless a qualified Biologist has determined that no nesting/roosting is occurring within 24 hours prior to the clearing.
- To minimize impacts to remaining trees during development:
    - Erect a fence beyond the critical root zone (CRZ; equivalent to ten times the diameter of trunk) of retained trees. The fence should be highly visible (orange construction fence) and paired with erosion and sediment control fencing. Pruning of branches is recommended in areas of potential conflict with construction equipment;
    - Do not place any material or equipment within the CRZ of trees unless otherwise approved by the General Manager;
    - Do not attach any signs, notices, or posters to any trees unless otherwise approved by the General Manager;
    - Do not raise or lower the existing grade within the CRZ of trees unless otherwise approved by the General Manager;
    - Do not extend any hard surface or significantly change landscaping within the CRZ of trees unless otherwise approved by the General Manager;
    - Do not damage the root system, trunk, or branches of any remaining trees unless otherwise approved by the General Manager;
    - Use tunneling or boring when digging within the CRZ of a tree; and
    - Ensure that exhaust fumes from equipment are not directed towards any tree's canopy.

5.2 Planting Recommendations

To offset vegetation loss, native tree and shrub species must be planted. Plantings will follow compensation requests of the NCC based on the number of trees to be removed:

- Total number of trees to be removed: 197
- Total number of dead trees: 9 (1:1 compensation with seedlings and shrubs = 9)
- Total number of live trees between 10 and 29 cm: 169 (2:1 compensation with potted stock = 338)
- Total number of distinctive trees: 19 (3:1 compensation with caliper-size deciduous and coniferous trees = 57)

Based on the above compensation requests, the proponent will aim to implement the plantings indicated in Table 4. The combination of these plantings (e.g., seedlings, potted stock, caliper trees, and shrubs) is intended to mimic the structure and composition of a natural woodland when plantings reach maturity.

Table 4 Number and type of plantings to offset vegetation loss

Type of planting	Quantity
Seedlings	0
Potted stock (variety)	338
Deciduous caliper (50 mm) stock	50
Coniferous 1.5-2 m height	7
Shrubs (variety)	9
TOTAL	404

If all the compensation plantings cannot be implemented on Site 2, they may be planted in other areas within the broader NCBP or on other lands owned by the NCC. The NCC will also accept a “cash in lieu” rate of $488 per caliper planting for trees that cannot be planted on site.

Landscaping and planting plans must be submitted to the NCC for review and approval. Tree planting should also follow the guidelines provided in *Tree Planting in Sensitive Marine Clay Soils* (City of Ottawa, 2017) where sensitive marine clay soils are present by using trees with low water demand and planting trees at a distance equivalent to the full mature height of a tree from a building or foundation structure. Trees and shrubs should be planted along the hill slope along the eastern edge of Site 2 to stabilize the slope and improve infiltration.

The following tree and shrub species are recommended for planting for Site 2 and should be used to direct the development of the landscape plan. The following species are appropriate given site conditions and are native and non-invasive: Alternate-leaf Dogwood (*Cornus alternifolia*), Balsam Poplar, Basswood, Bitternut Hickory (*Carya cordiformis*), Black Cherry (*Prunus serotina*), Black Walnut (*Juglans nigra*), Bur Oak (*Quercus macrocarpa*), Chokecherry (*Prunus virginiana*), Eastern White Cedar (*Thuja occidentalis*), Eastern White Pine (*Pinus strobus*), Flowering Dogwood (*Cornus florida*), Hawthorns (*Crataegus* sp.), Ironwood (*Ostrya virginiana*), Largetooth Aspen (*Populus grandidentata*), Peachleaf Willow (*Salix amygdaloides*), Red Maple (*Acer rubrum*), Red Oak (*Quercus rubra*), Serviceberries (*Amelanchier* spp.), Silver Maple (*Acer saccharinum*), Sugar Maple (*Acer saccharum*), Tamarack (*Larix laricina*), Trembling

Aspen, White Birch (*Betula papyrifera*), White Oak (*Quercus alba*), White Spruce (*Picea glauca*), and Yellow Birch (*Betula alleghaniensis*).

A two-year maintenance regime for plantings will include watering at least once per month during the growing season, weeding, installing tree protection against rodents, mulching, adding soil if required, staking large deciduous trees, and installing winter tree protection for large coniferous trees. For plantings to occur off-site, planted areas will be fenced to protect against deer browsing.

6.0 CLOSURE

This report was prepared for exclusive use by AVENUE31 and may be distributed only by AVENUE31. Questions relating to the data and interpretation can be addressed to the undersigned.

Respectfully submitted,

KILGOUR & ASSOCIATES LTD.

Katherine Black, MSc
Project Manager and Lead Biologist

Anthony Francis, PhD
Project Director

Ed Malindzak, MSc
Senior Review

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Appendix A Tree inventory table for Site 2 of the National Capital Business Park

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
409	American Elm	*Ulmus americana*	1	2	21	Healthy	Removed
410	American Elm	*Ulmus americana*	1	1	13.9	Healthy	Removed
411	American Elm	*Ulmus americana*	1	1	18	Healthy	Removed
412	Manitoba Maple	*Acer negundo*	1	3	14.8	Healthy	Removed
413	Manitoba Maple	*Acer negundo*	1	1	10	Healthy	Removed
414	Manitoba Maple	*Acer negundo*	1	1	11	Healthy	Removed
415	Blue Spruce	*Picea pungens*	1	1	37	Healthy	Removed
416	Blue Spruce	*Picea pungens*	1	1	34	Healthy	Removed
417	Blue Spruce	*Picea pungens*	1	1	36.5	Healthy	Removed
418	Manitoba Maple	*Acer negundo*	1	1	11.8	Healthy	Removed
419	American Elm	*Ulmus americana*	1	3	19.7	Healthy	Removed
420	Manitoba Maple	*Acer negundo*	1	1	11.4	Healthy	Removed
421	American Elm	*Ulmus americana*	1	1	12.7	Healthy	Removed
422	Blue Spruce	*Picea pungens*	1	1	33.2	Signs of insect predation	Removed
423	Blue Spruce	*Picea pungens*	1	1	39.2	Signs of insect predation	Removed
424	Manitoba Maple	*Acer negundo*	1	1	17.1	Healthy	Removed
425	Manitoba Maple	*Acer negundo*	1	1	12.6	Healthy	Removed
426	Manitoba Maple	*Acer negundo*	1	9	19.4	Healthy	Removed
427	Manitoba Maple	*Acer negundo*	1	2	22	One stem is forked	Removed
428	Manitoba Maple	*Acer negundo*	1	5	70	Largest stem (=70 cm DBH) is dead; living stems are 17-18 cm DBH	Removed
429	Manitoba Maple	*Acer negundo*	1	1	24.7	Healthy	Removed
430	Manitoba Maple	*Acer negundo*	1	2	11.6	Healthy	Removed
431	Manitoba Maple	*Acer negundo*	1	1	13.9	Healthy	Removed
432	Blue Spruce	*Picea pungens*	1	1	39.1	Healthy	Removed
433	Manitoba Maple	*Acer negundo*	1	1	75.5	Crown dieback	Removed
434	Manitoba Maple	*Acer negundo*	1	8	20.5	Two stems are dead	Removed
435	European Buckthorn	*Rhamnus frangula*	1	1	13.5	Healthy	Removed
436	Manitoba Maple	*Acer negundo*	1	7	16.4	Healthy	Removed

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
437	Manitoba Maple	*Acer negundo*	1	4	14	Healthy	Removed
438	Manitoba Maple	*Acer negundo*	1	2	19.2	Minor branch dieback	Removed
439	Manitoba Maple	*Acer negundo*	1	6	14.5	Healthy	Removed
440	Manitoba Maple	*Acer negundo*	1	2	22.7	Healthy	Removed
441	Manitoba Maple	*Acer negundo*	1	4	21.4	Healthy	Removed
442	Manitoba Maple	*Acer negundo*	1	1	14.5	Healthy	Removed
443	Manitoba Maple	*Acer negundo*	1	7	14.3	Healthy	Removed
444	Manitoba Maple	*Acer negundo*	1	2	31.2	Healthy	Removed
445	Manitoba Maple	*Acer negundo*	1	6	19.3	Healthy	Removed
446	Manitoba Maple	*Acer negundo*	1	1	24.3	Healthy	Removed
447	Manitoba Maple	*Acer negundo*	1	2	20.2	One stem is forked	Removed
448	Manitoba Maple	*Acer negundo*	1	8	24.5	Two fallen stems	Removed
449	Manitoba Maple	*Acer negundo*	1	1	24	Healthy	Removed
450	Manitoba Maple	*Acer negundo*	1	2	21.3	Both stems are forked	Removed
451	Crack Willow	*Salix fragilis*	1	1	79.4	Healthy	Removed
452	Manitoba Maple	*Acer negundo*	1	1	30	Forked	Removed
453	Manitoba Maple	*Acer negundo*	1	5	23.5	Three stems are dead	Removed
454	Manitoba Maple	*Acer negundo*	1	6	18.4	Healthy	Removed
455	Manitoba Maple	*Acer negundo*	1	7	26.8	One fallen stem	Removed
456	Manitoba Maple	*Acer negundo*	1	2	24	Healthy	Removed
457	Manitoba Maple	*Acer negundo*	1	4	18.4	Healthy	Removed
458	Manitoba Maple	*Acer negundo*	1	4	22.6	Three stems are forked	Removed
459	Manitoba Maple	*Acer negundo*	1	3	18.4	Healthy	Removed
460	Manitoba Maple	*Acer negundo*	1	5	12.5	Healthy	Removed
461	Manitoba Maple	*Acer negundo*	1	1	31.5	Healthy	Removed
462	Manitoba Maple	*Acer negundo*	1	3	15.6	Healthy	Removed
463	Manitoba Maple	*Acer negundo*	1	2	11.1	Healthy	Removed
464	Manitoba Maple	*Acer negundo*	1	1	15.4	Healthy	Removed
465	Manitoba Maple	*Acer negundo*	1	1	11.1	Healthy	Removed
466	Manitoba Maple	*Acer negundo*	1	1	10.5	Healthy	Removed
467	Manitoba Maple	*Acer negundo*	1	1	16.6	Healthy	Removed

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
468	Manitoba Maple	*Acer negundo*	1	1	14.5	Healthy	Removed
469	Manitoba Maple	*Acer negundo*	1	2	10.2	Healthy	Removed
470	Manitoba Maple	*Acer negundo*	1	3	15.1	Healthy	Removed
471	Manitoba Maple	*Acer negundo*	1	1	14.9	Healthy	Removed
472	Manitoba Maple	*Acer negundo*	1	2	13.1	Healthy	Removed
473	Bur Oak	*Quercus macrocarpa*	1	1	26	Healthy	Removed
474	Bur Oak	*Quercus macrocarpa*	1	1	24.8	Healthy	Removed
475	Manitoba Maple	*Acer negundo*	1	6	33.5	Two dead stems; peeling bark; cavities	Removed
476	Manitoba Maple	*Acer negundo*	1	1	16.7	Healthy	Removed
477	Bur Oak	*Quercus macrocarpa*	1	1	19.4	Healthy	Removed
478	American Elm	*Ulmus americana*	1	1	20.5	Healthy	Removed
479	Basswood	*Tilia americana*	1	2	14.8	Healthy	Removed
480	American Elm	*Ulmus americana*	1	1	12	Healthy	Removed
481	Basswood	*Tilia americana*	1	1	18	Healthy	Removed
482	Bur Oak	*Quercus macrocarpa*	1	1	15.9	Healthy	Removed
483	Basswood	*Tilia americana*	1	1	17.5	Healthy	Removed
484	Basswood	*Tilia americana*	1	1	24.1	Healthy	Removed
485	Basswood	*Tilia americana*	1	1	12.1	Healthy	Removed
486	Bur Oak	*Quercus macrocarpa*	1	1	12.4	Healthy	Removed
487	American Elm	*Ulmus americana*	1	1	29.9	Healthy	Removed
488	Bur Oak	*Quercus macrocarpa*	1	1	13	Healthy	Removed
489	Basswood	*Tilia americana*	1	6	55.5	Two dead stems	Removed
490	Basswood	*Tilia americana*	1	2	22.8	Healthy	Removed
491	Basswood	*Tilia americana*	1	1	19.1	Healthy	Removed
492	Basswood	*Tilia americana*	1	2	34.4	Healthy	Removed
493	Manitoba Maple	*Acer negundo*	1	3	15.2	Some branch dieback	Removed

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
494	Green Ash	*Fraxinus pennsylvanica*	1	2	32.5	Dead crown; sloughing bark	Removed
495	Manitoba Maple	*Acer negundo*	1	1	13.5	Healthy	Removed
496	Manitoba Maple	*Acer negundo*	1	1	13.3	Forked	Removed
497	Manitoba Maple	*Acer negundo*	1	1	17.4	Healthy	Removed
498	Manitoba Maple	*Acer negundo*	1	2	14.4	Healthy	Removed
499	Manitoba Maple	*Acer negundo*	1	1	18.2	Signs of herbivory	Removed
500	Manitoba Maple	*Acer negundo*	1	1	15.9	Healthy	Removed
501	Manitoba Maple	*Acer negundo*	1	1	16.6	Healthy	Removed
502	Manitoba Maple	*Acer negundo*	1	3	14.8	Healthy	Removed
503	Manitoba Maple	*Acer negundo*	1	1	28.6	Forked	Removed
504	American Elm	*Ulmus americana*	1	1	14.1	Healthy	Removed
505	Manitoba Maple	*Acer negundo*	1	1	16.6	Healthy	Removed
506	Manitoba Maple	*Acer negundo*	1	1	34.5	Healthy	Removed
507	Manitoba Maple	*Acer negundo*	1	4	13.5	Healthy	Removed
508	Manitoba Maple	*Acer negundo*	1	3	12.4	Healthy	Removed
509	American Elm	*Ulmus americana*	1	1	11	Healthy	Removed
510	Manitoba Maple	*Acer negundo*	1	1	12.8	Healthy	Removed
511	Manitoba Maple	*Acer negundo*	1	2	13.4	Healthy	Removed
512	Manitoba Maple	*Acer negundo*	1	2	15.6	Healthy	Removed
513	Siberian Elm	*Ulmus pumila*	1	2	14	Healthy	Removed
514	American Elm	*Ulmus americana*	1	1	19.3	Forked	Removed
515	American Elm	*Ulmus americana*	1	1	11.5	Healthy	Removed
516	American Elm	*Ulmus americana*	1	1	17	Healthy	Removed
517	White Willow	*Salix alba*	1	1	33	Healthy	Removed
518	Manitoba Maple	*Acer negundo*	1	2	11.7	Healthy	Removed
519	Manitoba Maple	*Acer negundo*	1	3	13.3	Healthy	Removed
520	American Elm	*Ulmus americana*	1	1	19.9	Healthy	Removed
521	Manitoba Maple	*Acer negundo*	1	2	11.9	Healthy	Removed
522	Manitoba Maple	*Acer negundo*	1	1	12.5	Healthy	Removed
523	American Elm	*Ulmus americana*	1	1	11	Healthy	Removed
524	Manitoba Maple	*Acer negundo*	1	1	12.9	Healthy	Removed

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
525	American Elm	*Ulmus americana*	1	1	13	Healthy	Removed
526	Siberian Elm	*Ulmus pumila*	1	1	43	Healthy	Removed
527	Manitoba Maple	*Acer negundo*	1	1	15.5	Healthy	Removed
528	American Elm	*Ulmus americana*	1	1	11.3	Healthy	Removed
529	Manitoba Maple	*Acer negundo*	1	1	12.1	Healthy	Removed
530	Manitoba Maple	*Acer negundo*	1	1	25.4	Healthy	Removed
531	Manitoba Maple	*Acer negundo*	1	2	13.6	Healthy	Removed
532	Manitoba Maple	*Acer negundo*	1	2	20.5	Healthy	Removed
533	American Elm	*Ulmus americana*	1	1	17.9	Healthy	Removed
534	American Elm	*Ulmus americana*	1	1	61.9	Minimal branch dieback	Removed
535	Manitoba Maple	*Acer negundo*	1	3	23	Healthy	Removed
536	Manitoba Maple	*Acer negundo*	1	3	22.4	One stem is forked	Removed
537	Manitoba Maple	*Acer negundo*	1	1	19.3	Forked	Removed
538	Siberian Elm	*Ulmus pumila*	1	1	14.8	Healthy	Removed
539	Snag	N/A	1	1	22	Sloughing bark	Removed
540	Snag	N/A	1	1	25	Sloughing bark	Removed
541	Manitoba Maple	*Acer negundo*	1	1	27.6	Healthy	Removed
542	American Elm	*Ulmus americana*	1	1	18.5	Healthy	Removed
543	American Elm	*Ulmus americana*	1	1	14	Dead; peeling bark; no leaves	Removed
544	American Elm	*Ulmus americana*	1	1	18.2	Healthy	Removed
545	American Elm	*Ulmus americana*	1	1	14.2	Healthy	Removed
546	American Elm	*Ulmus americana*	1	1	15	Lower branch dieback; forked	Removed
547	American Elm	*Ulmus americana*	1	1	10.6	Healthy	Removed
548	American Elm	*Ulmus americana*	1	1	19.3	Lower branch dieback	Removed
549	American Elm	*Ulmus americana*	1	1	16.8	Healthy	Removed
550	Common Apple	*Malus* sp.	1	4	24	Healthy	Removed
551	American Elm	*Ulmus americana*	1	1	11	Healthy	Removed
552	American Elm	*Ulmus americana*	1	1	15.7	Healthy	Removed
553	Silver Maple	*Acer saccharinum*	1	1	16.1	Healthy; forked	Removed

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
554	Sugar Maple	*Acer saccharum*	1	1	12.3	Healthy; forked	Removed
555	Sugar Maple	*Acer saccharum*	1	1	9.7	Healthy	Removed
556	Sugar Maple	*Acer saccharum*	1	1	11.6	Healthy	Removed
557	Balsam Poplar	*Populus balsamifera*	1	1	18.9	Lower branch dieback	Removed
558	Sugar Maple	*Acer saccharum*	1	1	10.5	Healthy	Removed
559	Sugar Maple	*Acer saccharum*	1	1	10	Healthy	Removed
560	Sugar Maple	*Acer saccharum*	1	1	11	Healthy	Removed
561	Balsam Poplar	*Populus balsamifera*	1	1	14	Healthy	Removed
562	Silver Maple	*Acer saccharinum*	1	1	10.5	Healthy	Removed
563	Silver Maple	*Acer saccharinum*	1	1	12.7	Healthy	Removed
564	River Birch	*Betula nigra*	1	1	10.8	Healthy	Removed
565	Trembling Aspen	*Populus tremuloides*	1	1	16.7	Healthy	Removed
566	Trembling Aspen	*Populus tremuloides*	1	1	17	Healthy	Removed
567	Trembling Aspen	*Populus tremuloides*	1	1	12	Healthy	Removed
568	Trembling Aspen	*Populus tremuloides*	1	1	19.5	Healthy	Removed
569	Trembling Aspen	*Populus tremuloides*	1	1	19	Healthy	Removed
570	Trembling Aspen	*Populus tremuloides*	1	1	19	Lower branch dieback	Removed
571	Trembling Aspen	*Populus tremuloides*	1	1	19.5	Lower branch dieback	Removed
572	Trembling Aspen	*Populus tremuloides*	1	1	20	Lower branch dieback	Removed
573	Sugar Maple	*Acer saccharum*	1	1	10.5	Healthy	Removed
574	Trembling Aspen	*Populus tremuloides*	1	1	17	Lower branch dieback	Removed
575	Sugar Maple	*Acer saccharum*	1	1	12	Healthy	Removed
576	Sugar Maple	*Acer saccharum*	1	1	15	Healthy	Removed

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
577	American Elm	*Ulmus americana*	1	2	14	Healthy	Removed
578	Trembling Aspen	*Populus tremuloides*	1	1	14	Dead crown; lower epicormic branching	Removed
579	Trembling Aspen	*Populus tremuloides*	1	1	12	Dead crown; lower epicormic branching	Removed
580	Trembling Aspen	*Populus tremuloides*	1	1	12.5	Dead crown; lower epicormic branching	Removed
581	Trembling Aspen	*Populus tremuloides*	1	1	12.5	Dead crown; lower epicormic branching	Removed
582	Trembling Aspen	*Populus tremuloides*	1	1	16.1	Dead crown; lower epicormic branching	Removed
583	Trembling Aspen	*Populus tremuloides*	1	1	11.4	Healthy	Removed
584	Trembling Aspen	*Populus tremuloides*	1	1	12.6	Healthy	Removed
585	Trembling Aspen	*Populus tremuloides*	1	1	10.5	Healthy	Removed
586	Trembling Aspen	*Populus tremuloides*	1	1	17.5	Healthy	Removed
587	Trembling Aspen	*Populus tremuloides*	1	1	15.2	Healthy	Removed
588	Trembling Aspen	*Populus tremuloides*	1	1	15.1	Lower trunk is gurdled	Removed
589	Trembling Aspen	*Populus tremuloides*	1	1	14.4	Healthy	Removed
590	Trembling Aspen	*Populus tremuloides*	1	1	17	Healthy	Removed
591	Trembling Aspen	*Populus tremuloides*	1	1	14.1	Healthy	Removed
592	Trembling Aspen	*Populus tremuloides*	1	1	14.5	Healthy	Removed
593	Trembling Aspen	*Populus tremuloides*	1	1	12.3	Healthy	Removed
594	Trembling Aspen	*Populus tremuloides*	1	1	14.8	Healthy	Removed

Tree ID	Species Common Name	Species Taxonomic Name	Count	# Stems	DBH (cm)	General Health	Fate
595	Trembling Aspen	*Populus tremuloides*	1	1	16.7	Healthy	Removed
596	Trembling Aspen	*Populus tremuloides*	1	1	14.6	Healthy	Removed
597	Tamarack	*Larix laricina*	1	1	10.7	Healthy	Removed
598	Trembling Aspen	*Populus tremuloides*	1	1	12.5	Healthy	Removed
599	Trembling Aspen	*Populus tremuloides*	1	1	17	Healthy	Removed
600	Trembling Aspen	*Populus tremuloides*	1	1	14.4	Healthy	Removed
601	Trembling Aspen	*Populus tremuloides*	1	1	13.6	Healthy	Removed
602	Sugar maple	*Acer saccharum*	1	1	11.2	Healthy	Removed
603	Trembling Aspen	*Populus tremuloides*	1	1	14.9	Damaged trunk	Removed
604	Trembling Aspen	*Populus tremuloides*	1	1	11.5	Healthy	Removed
605	Trembling Aspen	*Populus tremuloides*	1	1	13	Healthy; forked	Removed