Bill Teron Park Expansion and Future Development Lands

Environmental Impact Statement and
Tree Conservation Report

FINAL REPORT

February 21, 2020

Project No.:160925020

Prepared for:

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1.0 INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

Stantec Consulting Ltd. (Stantec) was retained by the City of Ottawa (the City) to prepare a combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) to support the City's Corporate Real Estate Office's (CREO) environmental investigations for the City owned property at 6301 Campeau Drive, Kanata, Ontario, within the City of Ottawa (the Site).

Major development (e.g., residential or commercial) of the existing Bill Teron Park and proposed park expansion lands are currently not being proposed by the City; however, it is anticipated that routine maintenance activities (e.g., hazard tree removal, light bulb changing) and pedestrian trail construction may occur. The future development lands are proposed to be sold by the City to prospective developers and are anticipated to be developed into residential and/or commercial buildings, similar to the developments surrounding the Site.

This report is intended to address the requirements of a Detailed EIS under the City of Ottawa's *Environmental Impact Statement Guidelines* (2015) for the proposed development activities within the Site, which includes the existing Bill Teron Park, proposed park expansion area and future development lands, as well as adjacent lands within 120 metres (m) of the Site; herein referred to collectively as the Study Area. The potential for significant wildlife habitat and other features which form the City's natural heritage system will be considered during the development of the EIS. The requirements for the TCR will be incorporated into the EIS, per the City's *Tree Conservation Report Guidelines* (2019a) and *Environmental Impact Statement Guidelines*.

1.2 STUDY AREA DESCRIPTION

A majority of the 21-hectare (ha) Study Area is defined by shallow soils and exposed bedrock at surface, similar to the landscapes of the South March Highlands north of the Study Area. These conditions have influenced the development of a combination of sparse and semi-open existing vegetation communities, specifically those located in the northern and western portions of the Study Area. The southeastern portion of the Study Area is defined by south facing slopes and deeper soils which supports a mature deciduous woodlot.

Aquatic features observed within the Study Area consists of a 0.5 ha, open-water, shallow pond located within the existing Bill Teron Park and a very small (approximately 65 m^2) shallow pond within the proposed park expansion area. Both isolated aquatic features are perched atop the bedrock outcrop landform in the western portion of the Study Area and are assumed to receive inputs from precipitation and surface run-off as there are no watercourses within the Study Area.

BILL TERON PARK EXPANSION AND FUTURE DEVELOPMENT LANDS

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The existing Bill Teron Park has a small gravel vehicle parking lot and an asphalt pedestrian pathway with lighting standards that connects Campeau Drive and Kanata Avenue which are maintained by the City. Given the Study Area is surrounded by urban development, there are several on-going anthropogenic activities occurring including pedal bike trails/jumps, recreational walking trails and temporary structures throughout Study Area.

2.0 ENVIRONMENTAL POLICY CONTEXT

This report has been prepared to address policies and guidelines from legislation relevant to municipal development within the City of Ottawa, including the City of Ottawa's *Official Plan* (Ottawa, 2003; including amendments to date), as well as provincial policies including the *Provincial Policy Statement*, the *Conservation Authorities Act* and the *Endangered Species Act, 2007*. Additionally, the report also addresses federal policies, where applicable, related to the *Fisheries Act*, *Migratory Birds Convention Act, 1994*, and the *Species at Risk Act*

The policy documents discussed below were used to scope the field and impact assessments, assess the natural heritage features and functions of the Study Area, as well as to determine natural heritage constraints within the Study Area.

2.1 MUNICIPAL POLICY

2.1.1 City of Ottawa Official Plan

The City of Ottawa *Official Plan* (OP) was adopted by Council on in May 2003. Schedules A, B, K, and L of the Plan designate the Natural Heritage System Features and Areas, which generally include features that are protected by the Provincial Policy Statement such as Significant Wetlands and Woodlands, and other habitat features (City of Ottawa, 2003; including amendments to date).

Section 3.2.1 of the OP prohibits development or site alteration within Significant Wetlands. According to Section 3.2.1, "*development and site alterations will not be permitted within 120m of the boundary of a Significant Wetland unless an environmental impact statement demonstrates that there will be no negative impacts (as defined by Section 4.7.8) on the wetland or its ecological function*."

Section 3.2.2 of the OP prohibits development or site alteration within Natural Environment Areas. According to Section 3.2.2, development and site alterations is also prohibited within 120 m of a Natural Environment Area "*unless an environmental impact statement demonstrates that there will be no negative impacts as defined in Section 4.7.8 on the natural features within the area or their ecological functions.*"

According to Section 4.7.3, "*development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements. Development applications near or adjacent to water bodies that provide fish habitat will be required to demonstrate that the proposed development will not have a negative impact on fish habitat.*"

Section 4.7.4 of the OP prohibits development and site alteration in significant habitat of endangered and threatened species. According to Section 4.7.4, *"development and site alteration will not be permitted within 120 m of the boundary of identified significant habitat of endangered and threatened species unless the ecological function of the adjacent lands has been evaluated and the environmental impact statement demonstrates that there will be no negative impact (as defined in Section 4.7.8) on the significant habitat of endangered and threatened species or on its ecological functions."*

Schedule B – Urban Policy Plan of the City's OP identifies the existing Bill Teron Park as a Major Open Space (O1), while the remainder of the Study Area is identified as a Mixed-Use Centre (MC(x)) and falls within the Kanata Town Centre Secondary Plan. As per the City's draft *Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment* (2016), new significant woodlands will not be identified in urban areas where the natural heritage system was identified through Secondary Plans.

2.2 PROVINCIAL POLICY

2.2.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) was issued under Section 3 of the *Planning Act* and came into effect on May 22, 1996; and revised in 2005 and 2014 (Ministry of Municipal Affairs and Housing , 2014). Decisions made by planning authorities shall be consistent with the policy statements issued under the *Planning Act*, such as the PPS, which includes policies on development and land use patterns, resources and public health and safety. Section 2.1 of the PPS deals with Natural Heritage Features in various ecoregions including Ecoregion 6E, which encompasses the Study Area.

According to Section 2.1.4 of the PPS, development and site alteration is not permitted in the following features in Ecoregion 6E:

- Significant Wetlands
- Significant Coastal Wetlands

According to Section 2.1.5 of the PPS, development and site alteration is not permitted in the following features in Ecoregion 6E, *"unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions:"*

- Significant Woodlands
- Significant Valleylands
- Significant Wildlife Habitat
- Significant Areas of Natural and Scientific Interest (ANSI)

Sections 2.1.6 and 2.1.7 of the PPS state that development and site alteration is not permitted in the following features, "*except in accordance with provincial and federal requirements*:"

- Habitat of endangered or threatened species
- Fish habitat

According to Section 2.1.8, *"development and site alteration shall not be permitted on adjacent lands to the natural heritage features identified in 2.1.4, 2.1.5, and 2.1.6, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions."*

2.2.2 Conservation Authorities Act

The *Conservation Authorities Act* is the enabling legislation that provides the legal basis for the creation of conservation authorities ("CAs") in Ontario. Generally, the *Conservation Authorities Act* directs CAs to perform a number of critical functions regarding watershed planning and management including the prevention, elimination, or reduction of loss of life and property from flood hazards and erosion hazards, as well as the conservation and restoration of natural resources. Section 28 of the *Conservation Authorities Act* empowers CAs to make regulations in the area under its jurisdiction, including the prohibition, regulation or permitting for development if the control of flooding, erosion, or the conservation of land may be affected by the development.

Pursuant to *Ontario Regulation 153/06, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses,* prior permission is required from the Mississippi Valley Conservation Authority (MVCA) for development within a floodplain, valleylands, wetland, or other hazardous land. Permission is also required from the MVCA for alteration to a river, creek, stream or watercourse or interference with the hydrological function of a wetland. Generally, development, alterations to shorelines and watercourses and interference with wetlands are subject to the regulation (MVCA, 2019).

Development and/or site alteration within the jurisdiction of the MVCA and in, on or adjacent to natural heritage features must be in accordance with the policies and guidelines in Sections 3.2, 3.3, and 4.1 of the MVCA's *Development, Interference with Wetland and Alteration to Shorelines and Watercourses: Regulation Policies* (MVCA, 2019), and must be to the satisfaction of the Authority.

2.2.3 Endangered Species Act, 2007

The *Ontario Endangered Species Act, 2007* (ESA) protects habitat and individuals of wildlife species designated as threatened, endangered, or extirpated in Ontario. Provincial species at risk are identified and assessed by the Committee on the Status of Species at Risk in Ontario (COSSARO).

The ESA protects species listed by COSSARO as threatened, endangered, or extirpated in Ontario and their habitats by prohibiting anyone from killing, harming, harassing or possessing protected species, as well as prohibiting any damage or destruction to the habitat of the listed species. All listed species are provided with general habitat protection under the ESA aimed at protecting areas that species depend on to carry out their life processes, such as reproduction, rearing, hibernation, migration or feeding. Some species have had detailed habitat regulations passed that go beyond the general habitat protection to define specifically the extent and character of protected habitats.

Activities that may impact a protected species or its habitat require the prior issuance of a Permit from the Ministry of Environment, Climate and Parks (MECP), unless the activities are exempted under Regulation. *Ontario Regulation 242/08* identifies activities that are exempt from the permitting requirements of the ESA subject to rigorous controls outside the permit process, including registration of the activity and preparation of mitigation. Activities that are not exempt under *O. Reg. 242.08* require a complete permit application process.

2.3 FEDERAL POLICY

2.3.1 Species at Risk Act

The *Species at Risk Act* (SARA) prohibits the killing, harming, harassing, capturing, or taking of an individual of a species that is listed as an extirpated, endangered or threatened species in Schedule 1 of the Act. It also prohibits the damage or destruction of the habitat of a species that is listed as endangered or threatened; or extirpated species provided that a recovery strategy has recommended the reintroduction of the extirpated species into the wild in Canada.

2.3.2 Migratory Birds Convention Act

The federal *Migratory Birds Convention Act, 1994* (MBCA) protects migratory birds and their nests (S.4). Published in Part 1 of the Canada Gazette on June 1, 2019, proposed updates to the MBCA Regulations were released. Proposed prohibitions under the Regulations are as follows:

- Section 5 (1) – A person who does not hold a permit authorizing one or more of the following activities or who is not otherwise authorized by these Regulations to carry out that activity must not:

    a) Capture, kill, take, injury or harass a migratory bird
    b) Destroy, take or disturb an egg; or
    c) Damage, destroy, remove or disturb a nest, nest shelter, eider duck shelter or duck box

Proposed exemptions under the Regulations are as follows:

- Section 5 (2) – However, the following may be damaged, destroyed, removed or disturbed without a permit:

    a) A nest shelter, eider duck shelter or duck box that does not contain a live bird or viable egg
    b) A nest that was built by a species that does not appear in a Table to Schedule 1 if that nest does not contain a live bird or a viable egg; and
    c) A nest that was built by a species that appears in a Table to Schedule 1 if the following conditions are met:
        i. The person who damages, destroys, removes or disturbs that nest provided written notice to the Minister a number of months beforehand that corresponds to the number of months set out in column 4 of the relevant Table to that schedule for the species, and
        ii. The nest has not been used by migratory birds since the notice was received by the Minister

2.3.3 Fisheries Act

The *Fisheries Act* protects fish and fish habitats (S.34) within Canadian waters. Under the recently amended fish and fish habitat protection provisions of the *Fisheries Act*, any works, undertaking or activity of project must incorporate measures to avoid causing the death of fish and the harmful alteration, disruption or destruction (HADD) of fish habitat. To assist proponents with determining if their project will comply with the fish and fish habitat provisions, DFO has outlined several measures to protect fish and fish habitat (DFO, 2019a) as well as several standards and codes of practices (DFO, 2019b). If it is

determined that a project can't completely implement the measures to protect fish and fish habitat and if the standards and codes of practice don't apply or are considered non-applicable to the project, then it is recommended that the proponent request a review of the project by DFO. If it has been determined that a project can't avoid and/or mitigate impacts that will cause death of fish, a HADD to fish habitat and/or aquatic species at risk protected under the *Species at Risk Act*, an Authorization under the *Fisheries Act* may be required (DFO, 2019c).

2.4 LITERATURE REVIEW

As part of this Detailed EIS, the following background documentation and related information sources were reviewed to identify natural heritage features and constraints in the Study Area:

- Ontario's Natural Heritage Information Centre (NHIC, 2019)
- Land Information Ontario (LIO, 2019)
- City of Ottawa's Official Plan (Ottawa, 2014)
- Agricultural Information Atlas (Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), 2019)
- geoOttawa Portal (City of Ottawa, 2019b)
- Satellite imagery (Google Earth Pro, 2019)
- MVCA's Regulation Mapping Public Browser (MVCA, 2019)

Natural heritage information gathered during the literature review was used to identify potentially significant natural heritage features in the Study Area.

A list of species at risk species (SAR)—designated under the federal SARA and/or Ontario's ESA as endangered, threatened or special concern—with potential to occur in the Study Area was developed by reviewing the following sources:

- Ontario's NHIC (NHIC, 2019)
- Fisheries and Oceans Canada (DFO) Species at Risk Mapping (DFO, 2019)
- Atlas of Breeding Birds of Ontario (OBBA) (Cadman et al., 2007)
- eBird Canada (ebird, 2019)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019)
- Ontario Butterfly Atlas Online (Toronto Entomologists' Association, 2019)
- Atlas of the Mammals of Ontario (Dobbyn, Atlas of Mammals of Ontario, 1994)

Some of the sources above provide data at a scale as large as 10 x 10 km. Results were therefore screened to assess their relevance to the Study Area and species were removed from consideration if no suitable habitat was observed in the Study Area (e.g., open-country, grassland species).

2.5 AGENCY CONSULTATION

Agency consultation has moved to a proponent driven process for many of the provincial agencies (i.e., MECP) as proponents are directed to review the background documentation and related information sources outlined above.

Municipal agencies have also placed relevant data regarding natural heritage features and constraints on publicly accessible geoportals or web viewers and encourage proponents to complete their own background data reviews. The following agency sources were consulted:

- geoOttawa Web Portal (City of Ottawa, 2019b)
- MVCA's Regulation Mapping Public Browser (MVCA, 2019)

Additionally, the City's Planning, Infrastructure and Economic Development department provided Stantec with two previous butternut (*Juglans cinerea*) health assessment reports completed by Muncaster Environmental Planning (2007) and IFS Associates (2019) within the Study Area.

3.0 FIELD INVESTIGATIONS

To support the City's environmental investigation and EIS report, Stantec developed and initiated a field program in 2019 to identify and classify the existing site conditions (e.g., vegetation communities, SAR habitat) as well as confirming the natural heritage features in the Study Area that were identified through the literature review process. With the exception of the SAR Bat Maternity Roost Survey Assessment completed during leaf-off conditions in November 2019, Stantec's field program was completed in conjunction with both the wildlife active and vegetation growing seasons; which is typically between April and October in any given year.

Table 1 provides a summary of dates and environmental conditions during Stantec's 2019 field program.

Table 1: Dates and Environmental Conditions of Stantec's 2019 Field Program within the Study Area

Purpose of Investigation	Date	Start/End Time (24 hour)	Weather Conditions	Biologist
• General/SWH Wildlife Habitat Assessment • Blanding's Turtle Survey #1 • Aquatic Features Identification	May 07, 2019	1030 – 1430	Temperature: 16 – 20°C Wind (Beaufort scale): 0 – 2, W Cloud Cover: 0% Precipitation: None 24/hr. Precipitation: None	Josh Mansell
• General/SWH Wildlife Habitat Assessment • Breeding Amphibian Survey #1	May 11, 2019	2000 – 2230	Temperature: 13 – 14°C Wind (Beaufort scale): 0 Cloud Cover: 10 – 20% Precipitation: None 24/hr. Precipitation: ~1 – 3 mm	Josh Mansell
• General/SWH Wildlife Habitat Assessment • Blanding's Turtle Survey #2	May 22, 2019	1030 – 1400	Temperature: 18 – 22°C Wind (Beaufort scale): 0 Cloud Cover: 20% Precipitation: None 24/hr. Precipitation: None	Josh Mansell
• General/SWH Wildlife Habitat Assessment • Breeding Amphibian Survey #2	May 27, 2019	2030 – 2300	Temperature: 14 – 15°C Wind (Beaufort scale): 1, NW Cloud Cover: 30 – 40% Precipitation: None 24/hr. Precipitation: None	Josh Mansell
• General/SWH Wildlife Habitat Assessment • Blanding's Turtle Survey #3 • Fish Habitat Assessment	May 29, 2019	0930 - 1430	Temperature: 16°C Wind (Beaufort scale): 1, NW Cloud Cover: 30% Precipitation: None 24/hr. Precipitation: ~15 mm	Josh Mansell

Table 1: Dates and Environmental Conditions of Stantec's 2019 Field Program within the Study Area

Purpose of Investigation	Date	Start/End Time (24 hour)	Weather Conditions	Biologist
• General/SWH Wildlife Habitat Assessment • Blanding's Turtle Survey #4 • Breeding Bird Survey #1	June 06, 2019	0530 - 0930	Temperature: 9 – 21°C Wind (Beaufort scale): 0 – 2, W Cloud Cover: 10 – 50% Precipitation: None 24/hr. Precipitation: ~1 mm	Josh Mansell
• General/SWH Wildlife Habitat Assessment • Blanding's Turtle Survey #5 • Butternut Search	June 12, 2019	1030 – 1500	Temperature: 22 – 25°C Wind (Beaufort scale): 1 – 2, S Cloud Cover: 10 – 30% Precipitation: None 24/hr. Precipitation: ~5 mm	Josh Mansell
• Breeding Amphibian Survey #3	June 25, 2019	2100 – 2400	Temperature: 19 – 22°C Wind (Beaufort scale): 1 – 2, W Cloud Cover: 10 – 30% Precipitation: None 24/hr. Precipitation: ~5 mm	Josh Mansell
• Breeding Bird Survey #2 • Butternut Search	June 27, 2019	0500 – 1330	Temperature: 18 – 27°C Wind (Beaufort scale): 0 – 1, W Cloud Cover: 0 – 10% Precipitation: None 24/hr. Precipitation: None	Josh Mansell
• Ecological Land Classification • Butternut Search	August 20, 2019	0700 – 1500	Temperature: 24 – 28°C Wind (Beaufort scale): 0 – 1, S Cloud Cover: 0% Precipitation: None 24/hr. Precipitation: None	Josh Mansell
• General/SWH Wildlife Habitat Assessment • Butternut Health Assessment • Tree Inventory	August 22, 2019	0800 – 1500	Temperature: 24 – 29°C Wind (Beaufort scale): 1 – 2, SW Cloud Cover: n/a Precipitation: None 24/hr. Precipitation: None	Josh Mansell
• General/SWH Wildlife Habitat Assessment • Butternut Health Assessment	September 13, 2019	0900 – 1400	Temperature: 14 – 20°C Wind (Beaufort scale): 2 – 3, W Cloud Cover: 20 – 60% Precipitation: None 24/hr. Precipitation: n/a	Josh Mansell

Table 1: Dates and Environmental Conditions of Stantec's 2019 Field Program within the Study Area

Purpose of Investigation	Date	Start/End Time (24 hour)	Weather Conditions	Biologist
• Bat Maternity Roost Assessment	November 20, 2019	0830 – 1230	Temperature: -1°C Wind (Beaufort scale): 0 Cloud Cover: 80% Precipitation: None 24/hr. Precipitation: None	Josh Mansell

3.1 ECOLOGICAL LAND CLASSIFICATION

Initial characterization of existing vegetation communities was completed by interpreting available aerial imagery. Vegetation was identified, and communities were verified and assessed in the field within the Study Area following a meandering transect. Community characterizations (ecosites and vegetation types) were based on the Ontario Ecological Land Classification (ELC) system (Lee et. al., 2008).

Stantec completed vegetation community characterizations (ELC) on August 20, 2019; and were timed in order to maximize observations of species during their respective flowering periods (i.e., late spring/early summer and mid/late summer). Dominant vegetation species within community were recorded on ELC data cards (see **Appendix B**). Common names and scientific nomenclature of the species observed follow the provincial *Ontario Species List - Vascular Plants*. Provincial significance of vegetation communities and plant species was based on the rankings assigned by the NHIC.

See **Table 1** for ELC survey dates and environmental conditions.

3.2 AQUATIC FEATURES IDENTIFICATION SURVEY

After reviewing available background data and publicly available information sources, it was determined that a pond within the existing Bill Teron Park is identified as both a waterbody and unevaluated wetland (LIO, 2019). Furthermore, an additional unevaluated wetland was identified along the northern boundary of the Study Area within an area of low topographical relief.

To confirm the presence and extent of the pond and unevaluated wetlands, as well as to identify additional aquatic features that may not be mapped or are not large enough to be observed on aerial imagery, a survey was conducted on foot by completing meandering transects across the Study Area. This survey was completed during leaf-off conditions which allows for relatively unobstructed views of the landscape as well as at the tail-end of the spring freshet when thawing conditions were still present allowing for intermittent features, if present, to be observed.

See **Table 1** for aquatic feature identification survey dates and environmental conditions.

3.3 BREEDING AMPHIBIAN SURVEY

Bird Studies Canada's (BSC) Ontario *Marsh Monitoring Program* (MMP) survey protocol (BSC, 2003), an industry standard protocol, was used within the Study Area to identify breeding anurans (frogs and toads) and their associated habitat. During the survey, observers approach each potential breeding habitat feature on foot and record the level of calling (call code) anuran species heard within a three-minute period.

The amphibian call codes record four levels of calling:

- 0 – No calls heard
- 1 – Individuals can be counted, and calls are not overlapping
- 2 – Numbers of some individuals can generally be estimated or counted, others overlapping
- 3 – Full chorus, calls continuous and overlapping, and individuals not distinguishable

In accordance with the MMP protocol, surveys begin at least one-half hour after sunset and are completed before midnight. Appropriate survey conditions consist of winds less than 19 km/hr (Beaufort 3) and minimum night-time air temperatures of at least 8˚C for the first survey (April 15 to 30), 13˚C for the second survey (May 15 to 31), and 21°C for the third (June 15 to 30). However, surveys can be conducted at lower temperatures if there is strong calling activity observed within the general location of the Study Area.

Stantec completed breeding amphibian surveys on May 11, May 27, and June 25, 2019 focusing on habitats features in the Study Area. Though the first survey (May 11) was completed outside of the recommended window of April 15 to 30, the early calling species of spring peeper (*Pseudacris crucifer*), western chorus frog (*Pseudacris triseriata*), and wood frog (*Lithobates sylvaticus*) were still observed calling within the general location of the Study Area (pers. observation by report author) as of May 11, 2019. As such, it was determined by Stantec that the May 11 survey period was sufficient to capture calls of the early calling species that may be present in the Study Area.

A total of five breeding amphibian stations were established within the Study Area. Two were established to focus on the pond within the existing Bill Teron Park (BTP19UJM001-002) and one station was placed at a small, isolated pond within the proposed Bill Teron Park expansion area located in the centre of the Study Area (BTP19UJM003). Two stations were established in the eastern portion of the Study Area, adjacent to the proposed future development lands, to provide ample coverage to the Study Area (BTP19UJM004-005), although aquatic features (seasonal or permanent) were not observed in this area.

See **Table 1** for breeding amphibian survey dates and environmental conditions.

3.4 BLANDING'S TURTLE VISUAL ENCOUNTER SURVEY

The Blanding's turtle visual encounter surveys followed the methodology outlined in the MNRF's *Survey Protocol for Blanding's turtle (Emydoidea blandingii) in Ontario* (2015). This protocol calls for five visits from early to late spring, when turtles bask for longer periods after overwintering and visibility is greatest due to leaf-off conditions. As the pond within the existing Bill Teron Park was the only aquatic feature identified as potential turtle habitat during Stantec's background review, the Blanding's turtle visual encounter survey focused on this feature shown on **Figure 3 and Figure 7, Appendix A**.

The Blanding's turtle visual encounter survey used both random point count surveys at relatively open, accessible areas of the pond as well as slowly wading along the perimeter of the pond to access areas that are not visible from the point count locations. During both survey methods, binoculars were used to scan and view the shoreline and potential basking features (e.g., partially submerged logs) within the pond.

Visual encounter surveys for Blanding's turtle are typically timed to coincide with the period when they are relatively easy to observe basking, in the spring after ice-off but before water temperatures become warm. The MNRF (2015) protocol recommends completing visual encounter surveys over five visits between ice-off and June 15. Stantec completed five Blanding's turtle visual encounter surveys at the pond within the Study Area on May 7, May 22, May 29, June 6, and June 12, 2019.

See **Table 1** for Blanding's turtle visual encounter survey dates and environmental conditions.

3.5 SAR BAT MATERNITY ROOST HABITAT SUITABILITY ASSESSMENT

Trees on, or within 50 m of, the future development lands were assessed during leaf-off conditions on November 20, 2019 to identify trees that meet the criteria to support potential maternal roosts of SAR bats (e.g., cavities, loose bark). Suitable habitat feature criteria for identifying candidate maternity roosts are outlined in in Appendix A: Methods for Evaluating Bat Significant Wildlife Habitat of the MNRF's *Bat and Bat Habitats: Guidelines for Wind Power Project* (2011). Within the MNRF's (2011) protocol, the following criteria are identified to determine potentially suitable candidate maternity roosts within a vegetation community or site:

- Use ELC to determine the presence of mixedwood forests (FOM) or deciduous forests (FOD) ecosites
- Within mixedwood forests or deciduous forests, the best candidate snag trees are selected according to the following criteria (in order of importance):
  - tallest snag/ cavity tree
  - exhibits cavities or crevices most often originating as cracks, scars, knot holes or woodpecker cavities
  - has the largest diameter breast height;
  - is within the highest density of snags/ cavity trees (e.g. clusters of snags)
  - has a large amount of loose, peeling bark
  - cavity or crevice is high in snag/ cavity tree (>10m)

- tree species that provide good cavity habitat (e.g. white pine, maple, aspen, ash, oak);
- canopy is more open (to determine canopy cover, determine the percentage of the ground covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of trees)
- exhibits early stages of decay (decay Class 1-3)

As outlined in the MNRF's (2011) protocol, the above criteria to determine potentially suitable candidate maternity roosts is based on an ecosite/vegetation community (e.g., FOD) approach. However, the purpose of Stantec's SAR bat maternity roost habitat suitability assessment was to determine potentially suitable candidate trees on, or within 50 m of, the future development lands that may be impacted by development activities and therefore an ecosite approach was not taken for the Study Area. This deviation from the MNRF's (2011) protocol was proposed by Stantec as being suitable to address proposed impacts within, or adjacent to, the future development lands to potentially suitable candidate trees. Development that includes land clearing activities is currently not being proposed for the existing Bill Teron Park or the proposed park expansion area, and therefore no impacts to potentially suitable candidate trees are anticipated.

Binoculars were used during this survey to confirm the presence of the best candidate snag trees following the criteria above.

When present, the location of potentially suitable maternity roost trees, identified by the criteria above, determined to be on, or within 50 m of, the future development lands were recorded on a handheld global positioning device (GPS).

See **Table 1** for SAR bat maternity roost habitat suitability assessment dates and environmental conditions.

3.6 BREEDING BIRD SURVEY

Two breeding bird surveys within the Study Area were completed by Stantec during the breeding bird season on June 6 and 27, 2019 using a standard 10-minute, point-count approach with an unlimited radius, except where adjacent count circles overlap. These methods are consistent with previously approved methods by the Canadian Wildlife Service (CWS). All birds heard or seen, with the assistance of binoculars, during the ten-minute "count" were recorded. The highest level of breeding evidence observed (e.g., carrying food, nest with young), as defined in the *Ontario Breeding Bird Atlas* (Cadman et al., 2007), was recorded at each survey station for each species encountered. The total number of individuals of each species was recorded in order to develop an understanding of population dynamics in the proposed Study Area.

A total of six breeding bird survey stations were established in the Study Area and were placed to provide adequate coverage of the entire Study Area. Three of the survey stations were located within the Oak-Red Maple-Pine Non-Calcareous Treed Rock Barren (RBTB2-3) vegetation community within the Study Area (BTP19BBJM001-002, 006), two survey stations were established in the Dry-Fresh Sugar Maple (FODM5-4) community (BTP19BBJM003, 005) and a single station focused on the Fresh-Moist White Spruce (FOMM10-2) community (BTP19BBJM004).

As the pond within the existing Bill Teron Park was not considered to provide suitable nesting habitat for marsh birds (e.g., least bittern (*Ixobrychus exilis*)), based on previous field visits, a breeding bird station was not established within the pond. Stantec determined that the surrounding survey stations (BTP19BBJM001-003) were sufficient enough to capture breeding bird activity within, and adjacent to, the pond.

See **Table 1** for breeding bird survey dates and environmental conditions.

3.7 BUTTERNUT SEARCH AND BUTTERNUT HEALTH ASSESSMENT

Stantec completed a dedicated search for butternut trees within the Study Area by meandering on foot through areas of potentially suitable habitat on June 12, June 27, and August 20, 2019. Additionally, Stantec searched for butternut concurrently during previous and subsequent wildlife and vegetation surveys within the Study Area during the Stantec's 2019 field program. Where permission to enter lands not owned by the City within the Study Area was not provided, the areas were searched from publicly accessible lands using binoculars.

As completed by a Forest Gene Conservation Association (FGCA) trained and MECP approved certified butternut health assessor for Ontario (BHA #520), the butternut health assessment of the trees found during the butternut search followed the guidance contained within the MNRF's *Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the Endangered Species Act, 2007* (2014). The butternut health assessor is responsible for determining and including the following for each tree within a butternut health assessment report:

- Class of butternut tree (Category 1, 2 or 3)
- Whether the tree is putative hybrid
- Whether the tree is believed to be naturally occurring or cultivated

See **Table 1** for butternut search and butternut health assessment survey dates and environmental conditions.

3.8 TREE INVENTORY

To complete the Tree Conservation Report (TCR) in accordance with the City of Ottawa's Tree Conservation Report Guidelines (City of Ottawa, 2015c) a tree inventory was completed on foot during August 22, 2019 within the proposed park expansion area. As the entirety of the park expansion area is predominantly wooded or forested, Stantec conducted a tree inventory by sampling five 10 m x 10 m randomly selected plots within the two treed ELC communities within the proposed park expansion area.

Three tree inventory plots (BTPTS001-002 & 004) were within the RBTB2-3 community and two plots (BTPTS003-004) were within the sugar maple dominated community of FODM5-4. Within each plot, tree and/or shrub species that exceeded 10 centimetres (cm) diameter at breast height (DBH) were recorded and assessed. Trees were identified to species and general notes related to age classification, condition, and health were recorded.

3.9 FISH AND FISH HABITAT ASSESSMENT

A fish and fish habitat assessment was completed by Stantec on May 29, 2019 within Study Area. The assessment characterized potential fish habitat within the existing Bill Teron Park pond based on the presence/absence of key aquatic habitat features (e.g., spawning habitats, thermal inputs).

Due to the shallow nature of the isolated pond, the identification of fish and fish habitat within the pond was completed by wading through the pond using polarized glasses and binoculars. Additionally, the presence of fish within the pond was also assessed concurrently with the breeding amphibian and Blanding's turtle visual encounter surveys during Stantec's 2019 field program.

3.10 GENERAL WILDLIFE HABITAT ASSESSMENT

General wildlife habitat assessments were completed in the Study Area concurrently during each of the surveys above. These assessments focused on the identification of wildlife habitat features, specifically Significant Wildlife Habitat (SWH) features as outlined in the MNRF's Criteria Schedules for Ecoregion 6E (MNRF, 2015). When encountered, these features were identified, recorded and assessed for significance. All wildlife species were observed by sight, sound and/or through distinctive signs (e.g. tracks, scat).

Wildlife habitat suitability assessments were also completed for ESA protected species that may occur in the area, including species identified in the NHIC database and Ontario wildlife atlases during the literature review process.

See **Table 1** for general wildlife habitat assessment survey dates and environmental conditions.

3.11 SIGNIFICANT WILDLIFE HABITAT ASSESSMENT

To provide a comprehensive approach to identifying and evaluating SWH in the Study Area, significance has been determined based on guidance provided in the *Natural Heritage Reference Manual* (NHRM) (MNRF, 2010) and criteria from the *Significant Wildlife Habitat EcoRegion 6E Criterion Schedule* (MNRF, 2015) with support from the *Significant Wildlife Habitat Technical Guide* (SWHTG) (MNRF, 2000) as appropriate. The NHRM divides wildlife habitat into four broad categories:

1. Habitats of seasonal concentrations of animals
2. Rare vegetation communities or specialized habitats for wildlife
3. Habitats of species of conservation concern (excluding endangered and threatened species)
4. Animal movement corridors

See **Table 1** for Significant Wildlife Habitat assessment survey dates and environmental conditions.

4.0 EXISTING ECOLOGICAL CONDITIONS

4.1 BACKGROUND DATA COLLECTION

4.1.1 Geology and Topography

Regional physiography is influenced by the historic Ottawa River valley and varies from clay plain to sand plain with extensive drumlins to the south (Chapman and Putnam, 1984). The surficial geology of the Study Area consists primarily of Precambrian bedrock (**Figure 2, Appendix A**) that is exposed in many areas (**Photo 1-4, Appendix C**) with a small pocket of organic deposits underlying the deciduous woodland community in the southeast portion of the Study Area. Additionally, shield derived silty-sandy till deposits are identified within the Study Area north and west of the Site and coarse-textured glaciomarine deposits are shown in the southwest corner of the Study Area (Ontario Geological Survey, 2019).

The Site topography is variable and is defined by the Precambrian bedrock. In areas where bedrock is exposed at the surface, elevation within the Site reaches a maximum of 114 meters above sea level (masl) with the lowest portion of the Site observed in the southeast corner at 98 masl (**Figure 2, Appendix A**). Overall the Site is comparatively higher in elevation than the surrounding landscape, including lands outside of the Site but still contained within the Study Area.

4.1.2 Landscape Ecology

The Study Area is situated in the Kemptville Ecodistrict (6E-12) within the Lake Simcoe-Rideau Ecoregion. Over one third (37%) of this ecodistrict is under natural forest cover and an additional 22% of land cover is wetland, primarily swamp. Land use in Ecodistrict 6E-12 is predominantly agricultural (60%); secondary uses are conservation land (6%), settlement or other developed lands (3%), and aggregate extraction (0.8%) (Henson and Brodribb, 2005).

The Study Area is located in the Upper St. Lawrence section of the Great Lakes-St. Lawrence Forest Region, characterized by predominantly deciduous forests, dominated by sugar maple, American beech, red maple, yellow birch, basswood, white ash, largetooth aspen, red oak, and bur oak. Other tree species occurring in the Upper St. Lawrence section include white oak, green ash, grey birch, rock elm, blue-beech, and bitternut hickory. White elm is typically prominent in contemporary settled landscapes. Less frequent species in this section include butternut, eastern cottonwood, slippery elm, black maple, silver maple, and black ash. Coniferous trees such as eastern hemlock, white spruce, and balsam fir occur frequently on shallow, acidic, or eroding materials. Eastern white pine, red pine, black spruce, and eastern white cedar may be found where soil conditions are favorable (Rowe, 1972).

Schedule B – Urban Policy Plan of the City's OP identifies the existing Bill Teron Park as a Major Open Space, while the remainder of the Study Area is identified as a Mixed-Use Centre. The existing Bill Teron Park is a relatively naturalized area within a developed, suburban landscape and is relatively isolated

from other natural features (e.g. Significant Wetlands) other than the golf course north of the Study Area that may provide a semi-natural linkage to natural areas, including the South March Highlands.

4.1.3 Surface Hydrology

A description of surface hydrological features in the Study Area is provided below in Section 4.2.2 and shown on **Figure 3, Appendix A**.

4.1.4 Species at Risk and Provincially Rare Species

A search of the NHIC's database identified the following four 1 x 1 km squares as occurring in the Study Area: 18TVR2718, 18TVR2719, 18TVR2817 and 18TVR2719. Butternut (endangered) and Blanding's turtle (threatened), both protected under the ESA, were identified. Furthermore, an unidentified Restricted Species was identified by NHIC; Restricted Species are typically sensitive species that are subject to the illegal trade market (e.g., American ginseng (*Panax quinquefolius*), spotted turtle (*Clemmys guttata*)).

Further desktop background review resulted in a total of 13 species provincially listed as threatened or endangered, summarized in **Table 2,** that have been previously documented as historically occurring or have the potential to occur within the Study Area.

Table 2: Provincially Listed Threatened or Endangered Species with Potential to Occur within the Study Area

Species	Status	
	Ontario ESA	Federal SARA, Schedule 1
Plants		
Butternut (*Juglans cinerea*) [1]	Endangered	Endangered
Reptiles		
Blanding's turtle (*Emydoidea blandingii*) [1,2]	Threatened	Threatened
Birds		
Common nighthawk (Chordeiles minor) [3]	Special Concern	Threatened
Eastern whip-poor-will (Antrostomus vociferus) [4]	Threatened	Threatened
Red-headed woodpecker (Melanerpes erythrocephalus) [3]	Special Concern	Threatened
Bank swallow (*Riparia riparia*) [3,4]	Threatened	Threatened
Barn swallow (*Hirundo rustica*) [3,4]	Threatened	Threatened
Bobolink (*Dolichonyx oryzivorus*) [3,4]	Threatened	Threatened
Eastern meadowlark (*Sturnella magna*) [3,4]	Threatened	Threatened
Mammals		
Eastern small-footed myotis (*Myotis leibii*) [5]	Endangered	No Status
Little brown myotis (*Myotis lucifungus*) [5]	Endangered	Endangered
Northern myotis (*Myotis septentrionalis*) [5]	Endangered	Endangered
Tri-colored bat (*Perimyotis subflavus*) [5]	Endangered	Endangered
Other		
Restricted Species [1]	n/a	n/a

[1] NHIC
[2] Ontario Reptile and Amphibian Atlas (Ontario Nature, 2018)
[3] eBird Canada (eBird, 2018)
[4] Ontario Breeding Bird Atlas (Cadman et. al., 2007)
[5] Atlas of the Mammals of Ontario (Dobbyn, Atlas of Mammals of Ontario, 1994)

4.1.5 Natural Heritage Features

Using the provincial Land Information Ontario (LIO) (2019) database, the following natural heritage features identified in the Study Area included a waterbody (pond) as well as unevaluated wetland associated with waterbody and an area of low topographical relief. Additionally, the Study Area is predominantly covered by woodland with open, clear patches void of treed vegetation.

4.2 FIELD INVESTIGATIONS

4.2.1 Ecological Land Classification

Vegetation communities located within the Study Area were delineated into ELC units (**Figure 4, Appendix A**). Five naturally occurring community types were identified on the Study Area. Descriptions of these communities are found in **Table 3** below. Adjacent land uses (e.g., transportation) and anthropogenically influenced communities within the Study Area (e.g., golf course) were identified by air photo interpretation and confirmed during a roadside reconnaissance and are not described further in **Table 3**.

Table 3: Ecological Land Classification Vegetation Types

ELC TYPE	Community Description
Rock Barren (RB)	
Treed Rock Barren (RBT)	
Oak-Red Maple-Pine Non-Calcareous Tree Rock Barren Type (RBTB2-3)	This community is defined by a shallow, granite bedrock cap located throughout the northern and western portions of the Study Area. In many areas, bedrock is exposed creating open habitats void of vegetation. Vegetation within this community was observed to be relatively small and stunted due to the lack of mineral soil. There are rare occurrences of trees >10 m in height, white pine (*Pinus strobus*), black cherry (*Prunus serotina*), and trembling aspen (*Populus tremuloides*), while white pine, red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), black cherry, and American elm (*Ulmus americana*) were observed to be occasional throughout the whole feature. The shrub layer was observed to be well-developed with an abundance of Tartarian honeysuckle (*Lonicera tartarica*) and staghorn sumac (*Rhus typhina*), and occasional occurrences of Virginia creeper (*Parthenocissus quinquefolia*) and creeping juniper (*Juniperus horizontalis*). The herbaceous layer was observed to be a mixture of non-native, pioneer species (i.e., bird's-foot trefoil (*Lotus corniculatus*), redtop (*Agrostis gigantea*)) as well as species indicative of shallow bedrock habitats (i.e., pale corydalis (*Corydalis sempervirens*), wild columbine (*Aquilgia canadensis*)). Unidentified lichens and both *Acrocarpus* and *Pleurocarpus* moss species were abundant to occasional in the areas growing on exposed bedrock surfaces (**Photo 3-4, Appendix C**). Pedestrian walking trails and camping activities (e.g. tents, fire pits) were observed throughout the feature.
Woodland (WO)	
Deciduous Woodland (WOD)	
Dry-Fresh Deciduous Woodland Ecosite (WODM4)	All of the species observed in this community occur in one or all of the vegetation communities observed within the Study Area. Many of the species are considered to be pioneer and/or non-native species that are a result of previous disturbances. This community is located on the slopes in both the western and eastern limits of the Study Area. A variety of white spruce, trembling poplar, American elm and green ash are occasional throughout the feature with a European buckthorn (*Rhamnus cathartica*) and glossy buckthorn (*Frangula alnus*) dominated understorey (**Photo 5, Appendix C**).

Table 3: Ecological Land Classification Vegetation Types

ELC TYPE	Community Description
Forest (FO)	
Mixed Forest (FOM)	
Fresh-Moist White Spruce-Hardwood Mixed Forest Type (FOMM10-2)	This FOMM10-2 community sits in an area of low topographical relief surrounded by the higher bedrock dominated RBTB2-3 community along Campeau Drive. Large diameter white spruce (*Picea glauca*) is the dominant tree species with white pine and trembling poplar occurring occasionally throughout the community. Non-native, invasive European buckthorn and glossy buckthorn were observed to be abundant and occasional, respectively. Other shrub species include riverbank grape (*Vitis riparia*) and Virginia creeper. The thick tree and shrub canopy layer are inhibiting the herbaceous layer with the following species still being observed: drooping wood sedge (*Carex arctata*), fringed polygana (*Polygaloides paucifolia*) and marginal wood fern (*Dryopteris marginalis*) (**Photo 6-7, Appendix C**).
Deciduous Forest (FOD)	
Dry-Fresh Sugar Maple-Ironwood Deciduous Forest Type (FODM5-4)	Located along south facing slopes in the southeast corner of the Study, this community is dominated by sugar maple (*Acer saccharum*) in all layers, including several large diameter super-canopy specimens. Several other super-canopy species include basswood (*Tilia americana*) and white pine with some specimens reaching >90 cm diameter at breast height (DBH). Ironwood (*Ostrya virginiana*) is the dominant smaller diameter tree in the understorey amongst the sugar maple saplings. Shrubs are limited under the maple understorey with choke cherry (*Prunus virginiana*), European buckthorn, Virginia creeper and glossy buckthorn. White trillium (*Trillium grandiflorum*), drooping wood sedge, Pennsylvania sedge (*Carex pennsylvanica*), Canada mayflower (M*aianthemum canadense*) and bearded shorthusk (*Brachyelytrum erectum*) were all observed in this community (**Photo 8-9, Appendix C**). Recreational biking trails and jumps were observed throughout the feature.
Shallow Water (SA)	
Submerged Shallow Aquatic (SAS)	
Stonewort Submerged Shallow Aquatic Type (SAS_1-3)	This shallow (≤2 m) pond is isolated and located within the RBTB2-3 community and is also defined by the shallow and exposed bedrock. Stonewort (*Chara* sp.) is the dominant vegetation within the open water areas of the feature but is considered sporadic throughout. Limited emergent vegetation is located in several areas of the pond where mineral deposits occur including soft-stemmed bulrush (*Schoenoplectus tabernaemontani*), fowl manna grass (*Glyceria striata*), *Juncus* sp. and water plantain (*Alisma subcordatum*). No floating vegetation occurs within this aquatic community. White pines dot the shoreline of the pond and provide limited cover to the feature (**Photo 10-13, Appendix C**).
Floating-leaved Shallow Aquatic (SAF)	
Duckweed Floating-leaved Shallow Aquatic Type (SAF_1-3)	The SAF_1-3 community, also located in the RBTB2-3 community, is a small (8 x 8 m) isolated, shallow (≤2 m) pond that is dominated by floating duckweed (Lemna sp.) (**Photo 14, Appendix C**).

A total of 60 species of vascular plants was recorded in the Study Area during ELC, butternut, and tree inventory surveys. Of these 60, 51 species (85%) are considered to be native and 8 species (13%) are considered non-native.

Of the 60 species, one native species, butternut, has an S-rank of S2? indicating the species is imperiled in Ontario. Five observed native species (8%) observed in the Study Area have an S-rank of S4 (or some variation) indicating they are common in Ontario but not rare and apparently secure in Ontario. These species are green ash (S4), rough avens (*Geum laciniatum*) (S4), American beech (*Fagus grandifolia*) (S4), bearded shorthusk (S4) and Virginia creeper (S4?).

Conservation status ranks estimate risk of that species becoming extinct or extirpated. They help identify priorities for inventory, protection and management. NHIC assigns subnational ranks (S-Ranks) for species and plant communities in Ontario using the best available information and considering factors such as abundance, distribution, population trends and threats.

Conservation status ranks do not have any legal standing in Ontario. They are independent of status designated under the federal SARA and the provincial ESA. Definitions for the S-Ranks of species observed above in the Study Area are provided below:

- **SNA** – Not a tracked species in Ontario
- **S2** – Imperiled in Ontario. These species are often susceptible to extirpation.
- **S4** – Considered to be common in Ontario. It denotes that a species is apparently secure, with over 100 occurrences in the province
- **S5** – Indicates that a species is widespread in Ontario, it is demonstrably secure in the province

The only vascular plant species observed within the Study Area with a co-efficient of conservatism (CC) value of 9 or 10, which is an indicator of floristic quality, was creeping juniper (S5) with a CC value of 10.

The endangered butternut tree is the only vegetation species protected under the ESA observed within the Study Area.

See **Figure 4, Appendix A** for ELC communities within the Study Area. A complete list of plant species recorded in the Study Area is provided in **Appendix D**.

4.2.2 Aquatic Features Identification Survey

The pond (SAS_1-3) located within the existing Bill Teron Park was the only mapped open-water feature within the Study Area and was confirmed in the field by Stantec in 2019 (**Photo 10-13, Appendix C**). This shallow (≤2 m) pond is isolated and found within the RBTB2-3 vegetation community and is also defined by shallow and exposed bedrock. Additionally, a small (8 x 8 m) pond was also observed within the RBTB2-3 community east of the pond above and is also isolated and shallow (≤2 m) (**Photo 14, Appendix C**).

Unevaluated wetlands are shown as being associated with the pond (SAS_1-3) as well as the FOMM10-2 vegetation community in the northern portion of the Study Area along Campeau Drive, within a future development land parcel. Within the FOMM10-2 community, characteristics of wetlands following the principles outlined in the Ontario Wetland Evaluation System (OWES) Southern Manual 3rd. Ed. (MNRF, 2014) were not identified (e.g. wetland obligate vegetation species, surface water, groundwater inputs, etc.).

There is also an unevaluated wetland being shown within the Study Area at the intersection of Lord Byng Way and Maritime Way, however, this wetland was not observed as the site has been developed (LIO, 2019). Conversely, the City provides a more up-to-date wetland mapping layer within the City's limits which do not show any wetlands (i.e. significant or unevaluated) within the Study Area (City of Ottawa, 2019b).

There are no watercourses or municipal drains located in the Study Area.

See **Figure 3, Appendix A** for aquatic features within the Study Area.

4.2.3 Breeding Amphibian Survey

Breeding amphibian habitat was only observed in the pond (SAS_1-3) community within the existing Bill Teron Park. Of the five breeding amphibian survey stations, only three stations recorded breeding amphibian activity (BTP19UJM001-002, 005). During breeding amphibian survey #1 and #2, only spring peeper (*Pseudacris crucifer*) were recorded calling from both stations and American toad (*Anaxyrus americanus*) was recorded from the same pond during breeding amphibian survey #3. Additionally, a single gray treefrog (*Hyla versicolor*) was observed calling from the adjacent FODM5-4 community at survey station BTP19UJM005.

Though not recorded calling during Stantec's breeding amphibian surveys, two American bullfrog (*Lithobates catesbeianus*) individuals were observed basking in the north arm of the pond (SAS_1-3) within the existing Bill Teron Park (**Photo 15-16, Appendix C**). This species begins calling in June and into July and are typically captured during the last of the three breeding amphibian surveys following BSC's Marsh Monitoring Protocol.

Table 4 below summarizes the breeding amphibian observations within the Study Area.

Table 4: Highest Breeding Amphibian Activity Observed within the Study Area

Survey Station	Species Observed	Call Code	Amphibian Survey No.
BTP19UJM001	Spring Peeper	2-10	Survey #1
BTP19UJM002	Spring Peeper	3	Survey #1
	American Toad	1-3	Survey #3
BTP19UJM005	Gray Treefrog	1-1	Survey #3

All of these species observed and recorded during Stantec's breeding amphibian survey are ranked as S5 (common and secure in the province). No provincially rare, endangered, threatened, or special concern species were observed within the Study Area.

Though not recorded during Stantec's breeding amphibian survey, the American bullfrog is ranked as S4 (uncommon and apparently secure in the province).

No amphibian species protected under the federal SARA (Schedule 1) and/or the provincial ESA were observed in the Study Area during Stantec's breeding amphibian surveys.

See **Figure 6, Appendix A** for breeding amphibian survey locations and observations in the Study Area.

4.2.4 Blanding's Turtle Visual Encounter Survey

No Blanding's turtles were observed in the Study Area over the five visual encounter surveys between May 7, 2019 and June 12, 2019. Furthermore, no observations and/or suspected Blanding's turtle sign (e.g., mortality, depredated nest) were observed in the Study Area during any of the subsequent survey efforts.

Based on the habitat descriptions described in MNRF's *Survey Protocol for Blanding's turtle (Emydoidea blandingii) in Ontario* (2015), the pond (SAS_1-3) within the existing Bill Teron Park is not considered to provide suitable habitat attributes for overwintering based on the lack of soft, organic substrates and shallow (≤2 m) water depths. Furthermore, the small, isolated pond (SAF_1-3) east of the existing Bill Teron Park, located within the proposed park expansion area, is also not considered to provide suitable overwintering characteristics.

Because of the proximity of the March Highlands Blanding's turtle population north of the Study Area, there is potential for transient individuals to use the pond for summer inactivity and/or thermoregulation. The closest known Blanding's turtle occurrences to the Study Area include Beaver Pond west of Walden Drive (18T 427876E, 5020250N) and the Carp River at Richardson Side Road (18T 426313E, 5018179N), which are both approximately 2 km away from the Study Area.

See **Figure 7, Appendix A** for the Blanding's turtle survey locations in the Study Area.

4.2.5 SAR Bat Maternity Roost Habitat Suitability Assessment

During the SAR bat maternity roost habitat suitability surveys 12 trees meeting the necessary criteria, described above in Section 2.6.5, were identified within the Study Area. All 12 trees were identified within the sugar maple dominated FODM5-4 vegetation community in the southeast portion of the Study Area (**Photo 17, Appendix C**). Sugar maple (45%), white pine (45%) and American beech (10%) were the trees identified as potential SAR bat maternity roosts.

The WODM4 and FOMM10-2 vegetation communities within the Study Area are considered to be younger communities and RBTB2-3 is a stunted community with limited trees ≥25 cm DBH. Therefore, no potentially suitable SAR bat maternity roosts were observed.

No SAR bat species protected under the federal SARA (Schedule 1) and/or the provincial ESA were observed in the Study Area during Stantec's SAR bat maternity roost habitat suitability surveys.

See **Figure 8, Appendix A** for potential SAR bat maternity roosts in the Study Area.

4.2.6 Breeding Birds

In total, 34 species of bird were recorded in the Study Area during Stantec's 2019 breeding bird surveys. Thirty-one (91%) of these species are considered to be breeding within the Study Area. Twenty-nine of these 31 species (94%) observed are ranked S5 (common and secure in the province) or S4 (apparently secure in the province; uncommon but not rare), with the exception of black-crowned night heron (*Nycticorax nycticorax*) (S3B, S3N (considered vulnerable in the province)) and European starling (*Sturnus vulgaris*), which is an introduced species and ranked SNA.

No bird species protected under the federal SARA (Schedule 1) and/or the provincial ESA were observed in the Study Area during Stantec's breeding bird surveys.

See **Figure 9, Appendix A** for breeding bird survey locations in the Study Area. See **Appendix C** for a complete list of bird species observed during Stantec's 2019 breeding bird surveys.

4.2.7 Butternut Search and Butternut Health Assessment

A total of 51 butternut trees were assessed within the Study Area in Stantec's butternut health assessment report (BTP001). The following is a summary of the butternut trees assessed as either Category 1, 2 or 3:

- Category 1 – 23
- Category 2 – 22
- Category 3 – 6

As there was no indication or field marking of the butternut trees previously assessed by Muncaster (2007) and several of the larger DBH trees had died and fallen over, it was difficult to determine which trees were part of the 2007 assessment and therefore overlap within Stantec's BHA report (BTP001) is not identified. However, there was some overlap with the IFS (2019) report as BTPBN018 (Category 2) and BTPBN019 (Category 1) were previously assessed and identified as Tree #1 and Tree #2, respectively, by IFS. Both reports provided the same category for both trees.

The complete butternut health assessment report (BTP001) is provided in **Appendix E**. See **Figure 5, Appendix A** for butternut locations in the Study Area.

4.2.8 Tree Inventory

Table 5 below provides a summary of the tree inventory results within the proposed park expansion area of the Study Area. The summary is sorted by the two ELC communities (RBTB2-3 & FODM5-4) within the proposed park expansion area to show the relative species abundance, average size and general health of each vegetation community.

Note that tree inventory plot BTPTS001, located within the RBTB2-3 vegetation community, did not have any trees ≥10 cm DBH within the 10 x 10 m plot (**Photo 18, Appendix C**). The lack of trees in this plot is characteristic of the sparsely treed RBTB2-3 community. Stunted specimens of bur oak (*Quercus macrocarpa*) and green ash were observed with Tartarian honeysuckle and creeping juniper shrubs.

Table 5: Tree Inventory Summary by ELC Community within Proposed Park Expansion Area

ELC Community	Species Inventoried (% of community composition)	Average DBH of Species (cm)	Species General Health			Notes
			Good (%)	Fair (%)	Dead (%)	
RBTB2-3	White Pine (80%)	41	75	25	0	Specimens are stunted (e.g., large DBH, relatively short) within community
	Green Ash (20%)	14	0	0	100	Emerald ash borer (*Agrilus planipennis*) infested
FODM5-4	Ironwood (64%)	19	14	86	0	Dominant species within the understorey of the community
	Sugar Maple (18%)	64	100	0	0	Typical of other sugar maple within community
	White Pine (9%)	89	100	0	0	DBH typical of other white pine within community
	Green Ash (9%)	13	0	0	100	Emerald ash borer infested

The tree inventory field data sheets and field data summary table are provided in **Appendix F**. See **Figure 10, Appendix A** for tree inventory survey locations in the Study Area.

4.2.9 Fish and Fish Habitat Assessment

No observations of fish or key fish habitat features were observed in the Study Area. The shallow pond (SAS_1-3) within the existing Bill Teron Park is completely isolated and does not provide suitable overwintering fish habitat as it is assumed to freeze to the bottom within any given year.

The nearest confirmed fish habitat identified is the Carp River Municipal Drain located in excess of 120 m southwest of the Study Area (OMAFRA, 2019). The Carp River Municipal Drain is classified by the Department of Fisheries and Oceans Canada (DFO), under the *Fisheries Act*, as a Class E municipal drain, which is considered to have permanent flow with spring spawning sensitive fish species (e.g. top predators).

4.2.10 General Wildlife Habitat Assessment

4.2.10.1 Mammals

During Stantec's 2019 field program, observations of mammals were recorded as incidental observations in the Study Area. The following seven mammal species were observed: red squirrel (*Tamiasciurus hudsonicus*), eastern gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), and white-tailed deer (*Odocoileus virginianus*). All of these mammal species are ranked S5 (common and secure in the province).

No mammal species protected under the federal SARA (Schedule 1) and/or the provincial ESA were observed in the Study Area during Stantec's 2019 field program.

4.2.10.2 Reptiles

Two common snake species, eastern gartersnake (*Thamnophis sirtalis*), S5, and redbelly snake (*Storeria occipitomaculata*), S5, were incidentally observed – both within the existing Bill Teron Park area. Additionally, a maximum of five midland painted turtles (*Chrysemys picta marginata*), S5, were observed basking at any given time within the SAS_1-3 pond within the existing Bill Teron Park (**Photo 22, Appendix C**).

No reptile species protected under the federal SARA (Schedule 1) and/or the provincial ESA were observed in the Study Area during Stantec's 2019 field program.

See **Figure 7, Appendix A** for reptile observations in the Study Area.

5.0 NATURAL HERITAGE FEATURES ASSESSMENT

5.1 SIGNIFICANT WOODLANDS

The NHRM provides guidance with respect to the following woodland characteristics that indicate provincial significance:

- Woodland size
- Ecological functions including interior habitat, proximity, linkages, water protection and diversity
- Woodlands that provide uncommon features
- Woodland economic and social values

Schedule B – Urban Policy Plan of the City's OP identifies the existing Bill Teron Park as Major Open Space (O1), while the remainder of the Study Area is identified as a Mixed-Use Centre (MC(x)) and falls within the Kanata Town Centre Secondary Plan. The following sections provide a framework for the evaluation of significant woodlands as it relates to the woodland communities (i.e. WODM5, FODM5-4) in the existing Bill Teron Park (Major Open Space).

An evaluation of significance on woodlands within the remainder of the Site is not contained within this EIS as per the City's draft *Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment (2016)*. New significant woodlands will not be identified in urban areas where the natural heritage system was previously identified through Secondary Plans such as the Kanata Town Centre.

No woodland communities occur within 120 of the existing Bill Teron Park, proposed park expansion area and the future development lands.

5.1.1 Woodland Size

The existing Bill Teron Park is located within the Urban Area, as identified in *Schedule B – Urban Policy Plan* of the City of Ottawa's Official Plan (OP). Furthermore, *Schedule B – Urban Policy Plan* identifies the existing Bill Teron Park area as Major Open Space. The policies in Section 2.4.2 of the City's OP defines significant woodland in the Urban Area as *"any area 0.8 hectares (ha) in size or larger, supporting woodland 40 years of age and older at the time of evaluation."*

Both the WODM4 and FODM5-4 vegetation communities along the southern boundary of the existing Bill Teron Park are considered to be 40 years of age and older based on the review of available aerial imagery dating back to 1976 (City of Ottawa, 2019b). Furthermore, the combined size (2.33 ha) of both woodland communities may be considered as significant.

Though the RBTB2-3 community may not be defined as a woodland community as per ELC classification, the community is also not considered to be of 40 years of age and older based on historical aerial imagery.

5.1.2 Ecological Functions

5.1.2.1 Woodland Interior

Woodlands of a size and shape that create habitat more than 100 m from the perimeter often provide habitat for species whose productivity depends on larger sizes and reduced disturbance; referred to as interior species.

Based on the above criteria, contiguous woodland communities in the existing Bill Teron Park do not meet the above criteria and therefore woodland interior habitat does not occur in the Study Area.

5.1.2.2 Proximity to Other Woodlands or Other Habitats

The NHRM indicates that woodlands should be considered significant if a portion of it is located within a specified distance (e.g., 30 m) of a significant natural feature (e.g., significant wetland) likely receiving ecological benefit from the woodland, and the entire woodland meets the minimum area threshold.

The closest significant natural feature, Kisell Drain Wetland Complex Significant Wetland, is located approximately 2 km north of the Study Area. As such, it has been determined, based on the above criteria, that the contiguous woodland communities in the existing Bill Teron Park are not considered to be in proximity to other significant woodlands and/or other significant habitats.

5.1.2.3 Linkages

The NHRM indicates that woodlands should be considered significant if they are located within a defined natural heritage system or provide a connecting link between two other significant features (e.g. significant wetland) and the entire woodland meets the minimum area thresholds.

The contiguous woodland communities in the existing Bill Teron Park do not connect two other significant features. As such, it has been determined, based on the above criteria, that the contiguous woodland communities in the existing Bill Teron Park do not provide a linkage between two significant features (e.g. woodlands and/or wetlands).

5.1.2.4 Water Protection

The NHRM indicates that woodlands should be considered significant if they are located within a sensitive or threatened watershed or a specified distance of a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area thresholds.

The woodland communities in the existing Bill Teron Park have not been identified to be located in, or in proximity to (e.g., 50 m), sensitive water features. However, the pond (SAS_1-3) within the existing Bill Teron Park may be considered as a sensitive aquatic feature based the features' anticipated inability to buffer against pollutants (isolated) as well as providing suitable habitat for significant wildlife species such as American bullfrog and midland painted turtle. As such, it has been determined that the contiguous woodland communities surrounding the pond may be considered to provide a function of water protection.

5.1.2.5 Woodland Diversity

The NHRM indicates that woodlands should be considered significant if they have a naturally occurring composition of native forest species that have declined significantly south and east of the Canadian Shield or have a high native diversity through a combination of composition and terrain and meets the minimum area thresholds.

The woodland communities in the existing Bill Teron Park are not considered to contain a naturally occurring composition of native forest species in decline (e.g., generally on deep-soiled uplands and fertile level plains where such locations have been largely cleared for other uses). As such, it has been determined, based on the above criteria, that the contiguous woodland communities in the existing Bill Teron Park do not provide a function of woodland diversity.

5.1.3 Uncommon Characteristics

The NHRM indicates that woodlands should be considered significant if they have the following: a unique species composition; a vegetation community with a provincial ranking of S1, S2 or S3; habitat of a rare, uncommon or restricted woodland plant species; or, characteristics of older woodlands.

Each vegetation community and plant species has been ranked by the NHIC to set protection priorities for rare species and natural communities. None of the terrestrial vegetation communities, including wooded communities, in the Study Area have an S-rank of S1 – S3. Butternut (S2?), located in all terrestrial vegetation communities, is the only species in the existing Bill Teron Park and overall Study Area with an S-rank of S1 – S3. As such, the contiguous woodland communities (FODM5-4), based on the above criteria, may be considered as having uncommon characteristics.

5.1.4 Economic and Social Functional Values

The contiguous woodland communities in the existing Bill Teron Park are not anticipated to provide economic value.

The existing Bill Teron Park is currently providing the public with a variety of recreational and communal opportunities such as birdwatching, dog walking and bike trails. Given the context of the Study Area within the greater urban landscape, the contiguous woodland communities are considered to provide social values.

5.1.5 Determination of Significance

Based on the above evaluation of significance, the contiguous woodland communities in the Study Area meet several of the criteria to be considered as significant woodland:

- Ecological Function (Water Protection)
- Uncommon Characteristics (SAR Habitat)
- Social Values (Recreation)

5.2 SIGNIFICANT VALLEYLANDS

There are no significant valleylands in the Study Area area as outlined on *Schedule K – Environmental Constraints* in the City of Ottawa's OP.

5.3 SIGNIFICANT WETLANDS

There are no significant wetlands in the Study Area.

5.4 SIGNIFICANT WILDLIFE HABITAT

The NHRM divides wildlife habitat into four broad categories:

1. Habitats of seasonal concentrations of animals
2. Rare vegetation communities or specialized habitats for wildlife
3. Habitats of species of conservation concern (excluding endangered and threatened species)
4. Animal movement corridors

This section discusses these categories of significant wildlife habitat relative to the Study Area.

5.4.1 Seasonal Concentration Areas

During Stantec's 2019 Blanding's turtle occurrence encounter surveys, a maximum of five midland painted turtles (MPTU) were observed basking on multiple days (May 22 – 4 MTPU, May 29 – 5 MTPU, June 6 – 3 MTPU) in several locations within the pond community (SAS_1-3) in the existing Bill Teron Park area. This observation meets the habitat criteria for turtle wintering significant wildlife habitat as outlined in the MNRF's Ecoregion 6E schedule (2015). Additionally, individuals of varying sizes were observed suggesting multiple generations and a healthy population.

5.4.2 Rare Vegetation Communities or Specialized Habitats for Wildlife

There are no rare vegetation communities in the Study Area.

Though not observed aurally during Stantec's 2019 breeding amphibian surveys, the observation of two American bullfrog individuals in the pond community (SAS_1-3) may be considered significant wildlife habitat for amphibian breeding habitat (wetland).

5.4.3 Habitats of Species of Conservation Concern (Excluding Endangered and Threatened Species)

5.4.3.1 Plants

Besides the provincially endangered butternut tree, a review of the NHIC database, available background documentation as well as vegetation field data did not identify any additional records of plant species of conservation concern ranked S1-S3 within 1 km of the Study Area.

5.4.3.2 Birds

A single black-crowned night heron (S3B, S3N) was observed flying out of the pond (SAS_1-3) community within the existing Bill Teron Park area during Stantec's 2019 breeding bird surveys. This colonial nesting species was only observed once during Stantec's field program and, furthermore, no in-active or active heron nests were observed within the Study Area and therefore it is assumed that this species is not breeding within the Study Area. With the observations of various adult frog species, including an abundance of tadpoles throughout, the pond is potentially providing feeding opportunities for the black-crowned night heron.

5.4.3.3 Reptiles

The Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019) identified snapping turtle as occurring within square 18TVR21. No provincially significant reptile species were observed in the Study Area during any of the surveys completed as part of Stantec's 2019 field program.

5.4.3.4 Insects

Monarch (*Danaus plexippus*) (S4B, S2N) was identified as potentially occurring within the Study Area by the Ontario Butterfly Atlas Online (Toronto Entomologists' Association, 2019). Though uncommon within the RBTB2-3 community in the Study Area, several common milkweed (*Asclepias syriaca*) stems were observed, however, no observations of monarch were made during Stantec's 2019 field program.

5.4.4 Animal Movement Corridors

The NHRM defines animal movement corridors as habitats that link two or more habitats that are critical to the maintenance of a population of a particular species or group of species. As such, the emphasis is on the linkage function between habitats, as opposed to the habitats themselves.

With regards to amphibian movement corridors associated with the amphibian breeding habitat (wetland) identified in Section 4.4.1, the defining criteria to confirm SWH was not observed for both aquatic (15 m vegetation on both sides) and woodland (200 m wide) movement habitat. By applying the above definition and taking into consideration the lack of suitable movement habitat, there are no animal movement corridors in the Study Area as it does not link two (or more) critical habitats.

5.4.5 Determination of Significance

Based on this evaluation, the following features should be considered as significant wildlife habitat in the Study Area for the provision of amphibian breeding habitat (wetland):

- The shallow, isolated pond (SAS_1-3) within the existing Bill Teron Park

5.5 AREAS OF NATURAL AND SCIENTIFIC INTEREST

There are no Areas of Natural and Scientific Interest (ANSI) within the Study Area.

5.6 SPECIES AT RISK (THREATENED AND ENDANGERED SPECIES)

Under the PPS (Ministry of Municipal Affairs and Housing, 2014), development and site alteration are prohibited in significant habitat[1] of threatened and endangered species.

Habitat for the endangered butternut (S2?) was found throughout the following terrestrial vegetation communities: WODM4, RBTB2-3 & FOMM10-2. A total of 51 butternut trees were observed throughout the Study Area.

Based on a review of the habitat requirements for these species, as prescribed in the SWHTG (MNR, 2000), and the available habitats in the Study Area, it was determined that potential habitat was not present in the Study Area for:

- Bank swallow (due to the absence of suitable nesting habitat)
- Barn swallow (due to the absence of suitable nesting habitat)
- Eastern whip-poor-will (due to the absence of suitable deciduous forest communities ≥ 100 ha)
- Bobolink (due to the absence of suitable grassland habitat)
- Eastern meadowlark (due to the absence of suitable grassland habitat)

5.7 SUMMARY OF NATURAL HERITAGE FEATURES

Table 6 provides a summary of the natural heritage features within the Study Area.

[1] Under the PPS (2014), significant habitat for endangered and threatened species means the habitat, as approved by MNRF, that is necessary for the maintenance, survival and/or the recovery of naturally occurring or reintroduced populations of endangered or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle.

Table 6: Natural Heritage Features Associated with the Proposed Study Area

Natural Heritage Features	Present within the Site	Present within 120 m of the Site (Study Area)
Habitat of endangered and threatened species	Y	N
Significant Wetlands	N	N
Fish habitat	N	N
Significant Wildlife Habitat		
• seasonal concentration areas	Y	N
• rare vegetation communities or specialized habitats	Y	N
• habitats of species of conservation concern	Y	N
• animal movement corridors	N	N
Significant Woodlands		
• woodland size	N	N
• ecological functions	Y	N
• uncommon characteristics	Y	N
• economic and social functional values	Y	N
Significant Valleylands	N	N
Areas of Natural & Scientific Interest	N	N

There are three identified natural heritage features occurring within the Study Area:

1. Habitat for Threatened and Endangered species (butternut) was observed throughout all of the terrestrial vegetation communities within the Study Area

2. Significant wildlife habitat:

    a. Seasonal concentration area for overwintering midland painted turtles
    b. Specialized wetland breeding habitat for American bullfrog
    c. Habitat for species of conservation concern (black-crowned night heron) was observed during Stantec's breeding bird surveys within the SAS_1-3 pond community

3. Significant woodlands:

    a. Ecological function – water protection function for the SAS_1-3 aquatic community
    b. Uncommon Characteristics – SAR habitat for the endangered butternut tree
    c. Social Values – a variety of recreational opportunities for the public

6.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

Currently, proposed development within the Study Area, specifically within the existing Bill Teron Park and the proposed park expansion area, is conceptual and detailed designs are not available to date. The City has identified that routine maintenance activities (e.g., hazard tree removal, light bulb changing) and pedestrian trail construction may occur throughout the park areas. Ultimately, the existing Bill Teron Park and the proposed park expansion area will remain as wooded areas and will continue to provide the same natural heritage features and functions identified above.

Development of the future development lands is anticipated but the activities will not be managed by the City as the intention is to sell these parcels of land to prospective commercial and/or residential developers. Without a conceptual or detailed design outlining the proposed development of the future development lands, it is anticipated that the lands will be cleared of vegetation to facilitate any proposed development. Anticipated land/vegetation clearing activities will have potential impacts to the natural heritage features and functions identified above.

This EIS and TCR was developed in support the City's CREO environmental investigations due diligence exercise and was not intended to review a specific design within the Study Area.

7.0 POTENTIAL ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

The environmental effects identified as being of potential concern as a result of the proposed development are identified and discussed in this section. Potential direct and indirect impacts, as well as long-term impacts, have been considered separately.

The impact assessment and recommendations for mitigation were developed in consideration of the policies that pertain to the significant natural heritage features identified within the Study Area; specifically, within the future development lands.

7.1 DIRECT IMPACTS

Direct impacts are discussed below, including loss to vegetation cover, wildlife habitat and habitats of the endangered butternut tree as a result of the anticipated development impacts.

7.1.1 Vegetation Cover

Based on the proposed activities within the existing Bill Teron Park and proposed park expansion area, the removal of vegetation cover within these areas is not anticipated.

In order to facilitate the potential development within the future development lands, large areas of vegetation removal are anticipated within the following naturalized vegetation communities in the Study Area:

- Oak-Red Maple-Pine Non-Calcareous Tree Rock Barren Type (RBTB2-3)
- Dry-Fresh Deciduous Woodland Ecosite (WODM4)
- Fresh-Moist White Spruce-Hardwood Mixed Forest Type (FOMM10-2)
- Dry-Fresh Sugar Maple-Ironwood Deciduous Forest Type (FODM5-4)

7.1.2 Species at Risk

Potential development activities within the Study Area, specifically within the future development lands, have the potential to impact currently present SAR (e.g. butternut) as well as SAR species that have been identified above as potentially occurring, based on field observations and habitat characteristics, within the Study Area. The SAR species identified above in **Table 7** have been screened for relevance to the Study Area and are carried forward below. A summary of potential interactions with SAR that have the potential to occur is provided below in **Table 7**.

Table 7: Potential SAR Interactions within the Study Area

Species	Potential Interactions
Butternut	A total of 51 butternut trees were observed within all terrestrial vegetation communities (RBTB2-3, WODM4, FOMM10-2, FODM5-4) in the Study Area. A majority of the butternut trees are located within the future development lands; specifically, the parcel located at the corner of Cordillera Street and Campeau Drive (20 trees). The potential activities proposed to occur within the existing Bill Teron Park and proposed park expansion area are not anticipated to be impacted as it is expected that any butternut trees (0 – 25 m) and/or their habitat (25 – 50 m) will be protected by the City. As discussed above, anticipated land/vegetation clearing are expected to occur within the future development lands by the prospective developer(s). Land/vegetation clearing activities are anticipated to either directly impact butternut trees (i.e., remove) or their habitat (i.e., harm).
Blanding's turtle	Potential thermoregulation and/or summer inactivity habitat was observed in the pond (SAS_1-3) within the existing Bill Teron Park for Blanding's turtle. No activities are anticipated within this feature; direct impacts to individuals are not anticipated, if present.
Eastern small-footed myotis Little brown myotis Northern myotis Tri-colored bat	Twelve potentially suitable SAR bat maternity roost trees were identified within the sugar maple dominated FODM5-4 vegetation community in the southeast portion of the Study Area. Land/vegetation clearing activities within this community has the potential to directly impact individuals, if present.

7.1.3 Significant Woodlands

Outlined in the City's draft *Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment (2016)*, new significant woodlands will not be identified in urban areas where the natural heritage system was previously identified through Secondary Plans such as the Kanata Town Centre.

As such, the discussion of direct impacts on significant woodlands within the Study Area focused on the WODM4 and FODM5-4 vegetation communities contained within the existing Bill Teron Park. Under the PPS, development within significant woodlands is not allowed unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. As development within the existing Bill Teron Park or the proposed park expansion area are currently not proposed, direct impacts to significant woodlands within the Study Area are not anticipated.

7.1.4 Significant Wildlife Habitat

Much of the identified and candidate significant wildlife habitat within the Study Area is associated with the pond (SAS_1-3) and the adjacent woodland habitats, which are located in the existing Bill Teron Park. These habitats and features are not anticipated to be impacted by development activities.

Due to the presence of the butternut trees (Uncommon Characteristics) within the FODM5-4 community, significant wildlife habitat is considered to occur within the two future development lands in the southern area of the Study Area along Kanata Avenue. Anticipated land/vegetation clearing activities within these future development lands are expected to impact butternut trees as well as the significant wildlife habitat feature.

7.1.5 Migratory Birds

The MBCA protects migratory birds and their active nests from damage and disruption, including nests in natural vegetation or on anthropogenic structures. Proposed activities within the Study Area, specifically anticipated land/vegetation clearing activities within the future development lands, have the potential to disturb breeding birds and damage active nests of protected species. Measures to avoid contravention of the MBCA during maintenance activities within the Bill Teron Park and proposed park expansion area and land/vegetation clearing activities in the future development lands are provided in **Section 7.4.4**.

7.2 INDIRECT IMPACTS

Potential indirect effects may occur as a result of activities including sensory disturbance to SAR (e.g. SAR bats), if present. Currently, there are existing sensory disturbances in the general area (e.g. commercial and residential development) and the incremental increase in disturbance(s) as a result of the anticipated site activities within the future development lands are considered low to medium in magnitude but are not expected to be significant.

Potential indirect impacts that are relevant to the Study Area are outlined below.

- Disturbance and damage of vegetation adjacent to the future development lands. Heavy machinery may damage trees and shrubs within development lands. This impact can be mitigated by clearly delineating any construction areas in the Study Area.
- Disturbance and damage of vegetation through dust deposition on vegetation can be mitigated by the use of dust suppressants to reduce or eliminate dust, if necessary.
- Disturbance and damage to wildlife features adjacent to the future development lands. Heavy machinery may damage wildlife habitat features (e.g., active bird nest(s)) This impact can be mitigated by clearly delineating any construction areas and/or required wildlife buffers in the Study Area.

7.3 LONG-TERM DEVELOPMENT IMPACTS

With a majority of the significant wildlife habitat and significant woodlands occurring within the existing Bill Teron Park, long-term impacts to these features are not anticipated as development within the existing park and the proposed park expansion area is currently not being proposed.

The anticipated land/vegetation clearing activities within the future development lands have the potential for long-term impacts to the local population of butternut trees, if removed. With the existing and on-going development within the general location of the Study Area, it is assumed that the local butternut

population has been impacted significantly. Though butternut canker, caused by a fungus (*Ophiognomonia clavigignenti-juglandacearum*), was observed; the density of butternut trees observed within the Study Area, specifically 6 Category 3 trees, is considered to be significant to the local landscape.

7.4 MITIGATION

Due diligence for the natural heritage features within the Study Area should include general mitigation measures and best management practices to reduce or eliminate potential negative effects. These general mitigation measures and best management practices should be applied to the proposed maintenance activities within the existing Bill Teron Park and proposed park expansion area and the anticipated land/vegetation clearing activities associated with the future development lands.

7.4.1 Erosion and Sediment Control

The potential indirect impacts associated with anticipated land/vegetation clearing activities are primarily from construction activities. Most of the potential impacts are common to various types of construction and can be controlled using standard mitigation measures for erosion and sediment control. The primary principles associated with sedimentation and erosion protection measures are to:

- Minimize the duration of soil exposure
- Retain existing vegetation, where feasible
- Encourage re-vegetation
- Divert runoff away from exposed soils
- Keep runoff velocities low
- Trap sediment as close to the source as possible

To address these principles, mitigation measures recommended for implementation during construction are described below.

- Minimize the access and temporary workspace to the extent possible to limit destabilization of soils near the work area.
- Silt fencing and/or barriers such as sediment logs (i.e., SiltSoxx™) could be used along all work zones where there is potential for sedimentation into a waterbody (pond), or inadvertent encroachment of construction vehicles into trees or natural areas.
- Dust could be controlled by using water instead of chemical suppressants in dust-sensitive areas such as the mapped natural heritage features.
- No equipment should be permitted to enter natural areas beyond the barrier fencing.
- All exposed soil areas should be stabilized (native seed mixes; sourced locally if possible) and re-vegetated, through the placement of seed and mulching or seed and an erosion control blanket, promptly upon completion of construction activities.
- Equipment should be re-fueled 30 m away from sensitive natural features (e.g. waterbodies) to avoid potential impacts if an accidental spill occurs.

- In addition to any specified requirements, additional silt fence and/or silt logs should be available on site, prior to grading operations, to provide a contingency supply in the event of an emergency.
- Sediment and erosion controls should be monitored regularly and properly maintained as required. Controls are to be removed only after the soils of the construction area have been stabilized and adequately protected or until cover is re-established.
- The limits of construction adjacent to natural features to be retained will be fenced prior to construction and monitored during construction (along with sediment and erosion control measures) to make sure that the limits are maintained with respect to vehicular traffic and soil or equipment stockpiling.
- The Contractor should be required to restore disturbance to any natural features affected by construction to pre-construction conditions.

7.4.2 Avoidance of Wildlife

The following mitigation measures are recommended to avoid impacts to wildlife during Project construction.

- A visual search of the work area should be conducted by construction contractors before work commences each day, particularly for the period when most wildlife is active (generally April 1 to October 31). Visual inspections will locate and avoid snakes, turtles and other ground dwelling wildlife such as small mammals. Visual searches will include inspection of machinery and equipment left in the work area overnight prior to starting equipment.
- If wildlife is encountered, work at that location should stop, and the animal(s) should be permitted reasonable time to leave the work area on their own.
- Any observations of species at risk or species of conservation concern should be reported to MECP within 48 hours. Species at risk should not be handled, harassed, or moved in any way, unless they are in immediate danger.

7.4.3 Species at Risk

The most current species at risk information available for the Study Area has been reviewed and reported in this EIS (**Table 2**). However, federal and provincial lists of SAR are periodically updated to reflect changes in species status and occurrence data for these species is also subject to change. This information should be reviewed immediately prior to the commencement of on-site activities to confirm that any newly listed species at risk are adequately addressed.

Prior to any site alterations, the following mitigation measures are recommended:

- Implement a worker awareness program for construction staff that includes species at risk identification and habitat characteristics
- Conduct a daily pre-construction search of the work area to identify presence of species at risk
- If threatened or endangered species are seen in or near the work area, stop work immediately
  - Take photographs if possible, but do not interact with the animal
  - Contact MECP

7.4.4 Migratory Birds

The MBCA provides legal protection of migratory birds and their nests in Canada. The loss of migratory bird nests, eggs and or nestlings due to tree cutting or other vegetation clearing can be avoided by limiting clearing of vegetation to outside of the general nesting period for forest nesting migratory birds in this region (C3) as identified by Environment and Climate Change Canada (ECCC) (i.e., between April 8 and August 31) (ECCC, 2019). If work must be performed within this window, a survey for active nests or breeding should be conducted by a qualified biologist before work commences and additional mitigation measures (e.g., implementation of avoidance distances during construction) implemented, if required.

7.4.5 Reptiles

There is a low potential for turtle species at risk (i.e., Blanding's turtle) to be present within the Study Area during construction activities within the future development lands. A search of the construction area(s) should be conducted by construction contractors before work commences each day. Visual searches should include inspection of machinery and equipment, prior to starting equipment, particularly during the peak wildlife activity period from April 15 to November 1. If reptiles are encountered, they should be permitted reasonable time to move from the area.

7.5 HABITATS OF SPECIES AT RISK

Anticipated land/vegetation clearing activities within the future development lands are anticipated to impact butternut trees (kill) and/or their habitat (harm). The butternut health assessment in **Appendix D** provides a description of the assessment and the potential permitting requirements under the ESA if impacts to a butternut tree(s) and/or their habitat cannot be avoided.

During Stantec's SAR bat maternity roost habitat suitability surveys, twelve potentially suitable SAR bat maternity roost trees were identified within the sugar maple dominated FODM5-4 vegetation community in the southeast portion of the Study Area. Land/vegetation clearing activities within this community has the potential to directly impact individuals, if present.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Though potential SAR bat maternity roosts were identified throughout the FODM5-4 community, the presence of SAR bats using this feature have not been substantiated. To support the City's environmental investigation and gain a better understanding of SAR bat usage within the Study Area, specifically within the future development lands, a SAR bat acoustic survey is recommended prior to land/vegetation clearing activities within the FODM5-4 vegetation community.

This EIS provides an assessment of the potential impacts on the natural heritage features and functions that may result from the proposed maintenance activities within the existing Bill Teron Park and proposed park expansion area and the anticipated land/vegetation clearing activities associated within the future development lands. The key natural heritage features and functions identified within the Study Area which may be impacted by this development include the following:

- Vegetation removal - damage or loss of vegetation during site alteration activities
- Vegetation removal – kill, harm, harassment of provincially endangered butternut trees
- The loss of migratory bird nests, eggs and or nestlings due to vegetation removal

If required, consultation with MECP is recommended to determine permitting requirements for removal of live butternut trees and SAR bats under the ESA.

Potential significant wildlife habitat, significant woodlands and the habitat of endangered or threatened species were identified above within the existing Bill Teron Park; however, development is currently not proposed within the park and the proposed park expansion area and therefore these features are not anticipated to be impacted.

Furthermore, the habitat of endangered or threatened species (i.e. butternut) was observed throughout the future development lands. It is anticipated that land/vegetation clearing activities will take place within these lands as such impacts to butternut trees (0-25 m) and/or their habitat (25 – 50 m) are expected. Table 3 within the Butternut Health Assessment report (#BTPBN001) (**Appendix C**) provides guidance and importation information for persons planning activities that may affect butternut trees.

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APPENDIX A:
FIGURES

Stantec

Legend

- Study Area (120 m)
- Site Boundary
- Bill Teron Park
- Future Development Lands
- Park Expansion Area

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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3. Orthoimagery © City of Ottawa, 2019. Imagery Date, 2017.

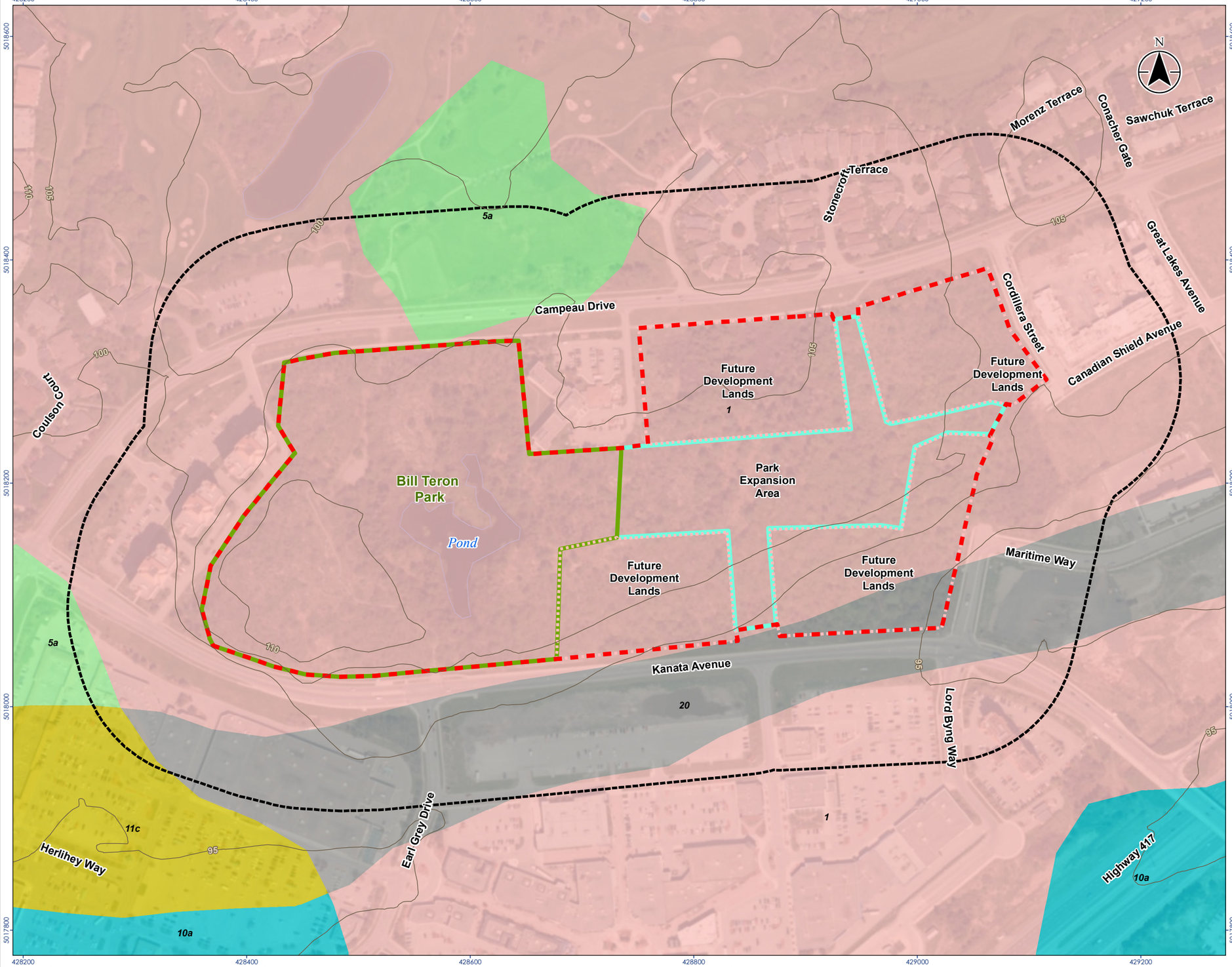
Project Location
Ottawa, ON

160925020 REVA
Prepared by DH on 2019-12-02
Technical Review by JM on 2019-12-02

Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
1

Title
Bill Teron Park Expansion Area and Future Development Site Plan



Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- Topographic Contour (5 m Intervals, masl)
- Waterbody

Surficial Geology (MENDM, MRD128)

- 20: Organic deposits
- 11c: Coarse-textured glaciomarine deposits (Foreshore-basinal deposits)
- 10a: Fine-textured glaciomarine deposits (Massive-well laminated)
- 5a: Shield-derived silty to sandy till
- 1: Precambrian bedrock

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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Project Location
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Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
2

Title
Surficial Geology

Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- Waterbody
- Wetland- Not Evaluated Per OWES (MNRF)

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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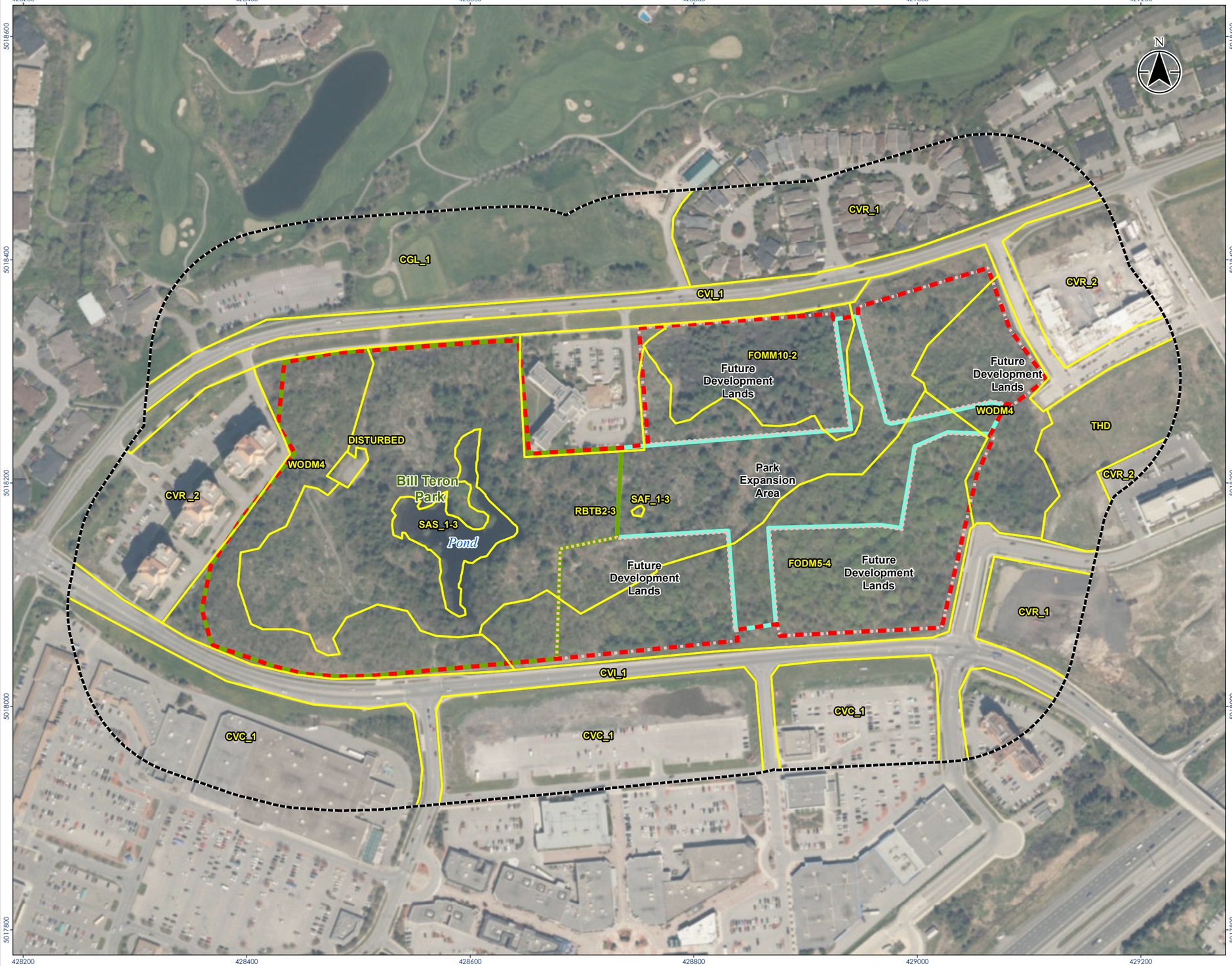
Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
3

Title
Surface Water and Wetlands



Stantec

Legend

- Study Area (120 m)
- ELC Community Boundary
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary

Ecological Land Classification

CGL_1- Golf Course
CVC_1- Business Sector
CVI_1- Transportation
CVR_1- Business Sector
CVR_1- Low Density Residential
CVR_2- High Density Residential
FODM5-4- Dry-Fresh Sugar Maple-Ironwood Deciduous Forest Type
FOMM10-2- Fresh - Moist White Spruce - Hardwood Mixed Forest Type
RBTB2-3- Oak – Red Maple – Pine Non-Calcareous Treed Rock Barren Type
SAF_1-3- Duckweed Floating-leaved Shallow Aquatic Type
SAS_1-3- Stonewort Submerged Shallow Aquatic Type
THD- Deciduous Thicket
WODM4- Dry - Fresh Deciduous Woodland Ecosite

0 50 100 metres
1:3,500 (At original document size of 11x17)

Notes

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Project Location
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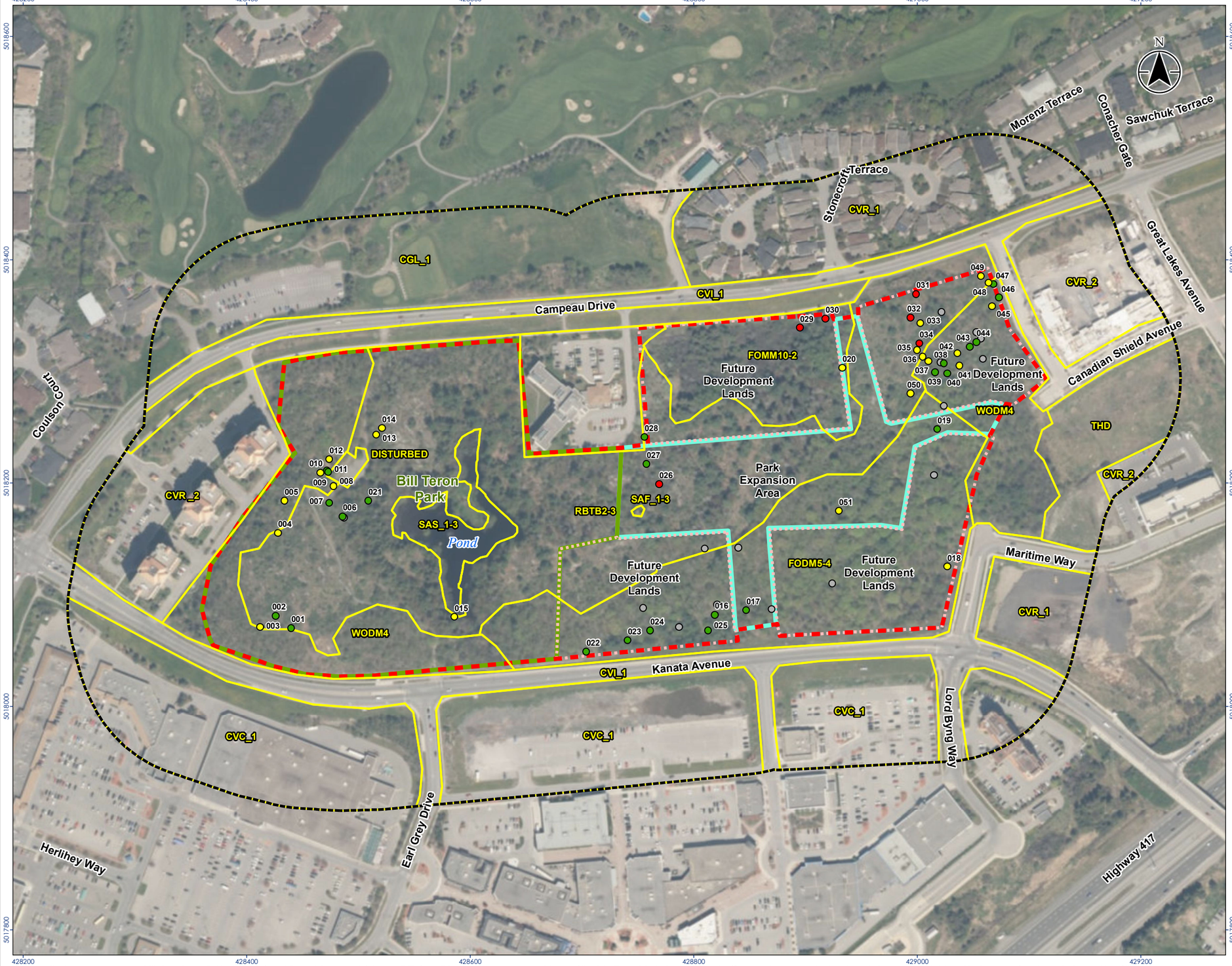
Technical Review by JM on 2019-12-02

Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
4

Title
Ecological Land Classification



Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- ELC Community Boundary

Butternut Health Assessment – Tree Category

- 1
- 2
- 3
- Dead

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
5

Title
Butternut Tree Locations

Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- Waterbody
- Amphibian Observation
- Amphibian Auditory Survey Station

BULL- American Bullfrog
SPPE- Spring Peeper

0 50 100 metres
1:3,500 (At original document size of 11x17)

Notes

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Client/Project
CITY OF OTTAWA
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OTTAWA, ON

Figure No.
6

Title
Breeding Amphibian Survey Locations and Observations

Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- Waterbody
- Midland Painted Turtle (MPTU) Observation
- Eastern Gartersnake (EGSN) Observation
- Northern Redbelly Snake (NRSN) Observation
- Blanding's Turtle Survey Location

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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Project Location
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Technical Review by JM on 2019-12-02

Client/Project
CITY OF OTTAWA
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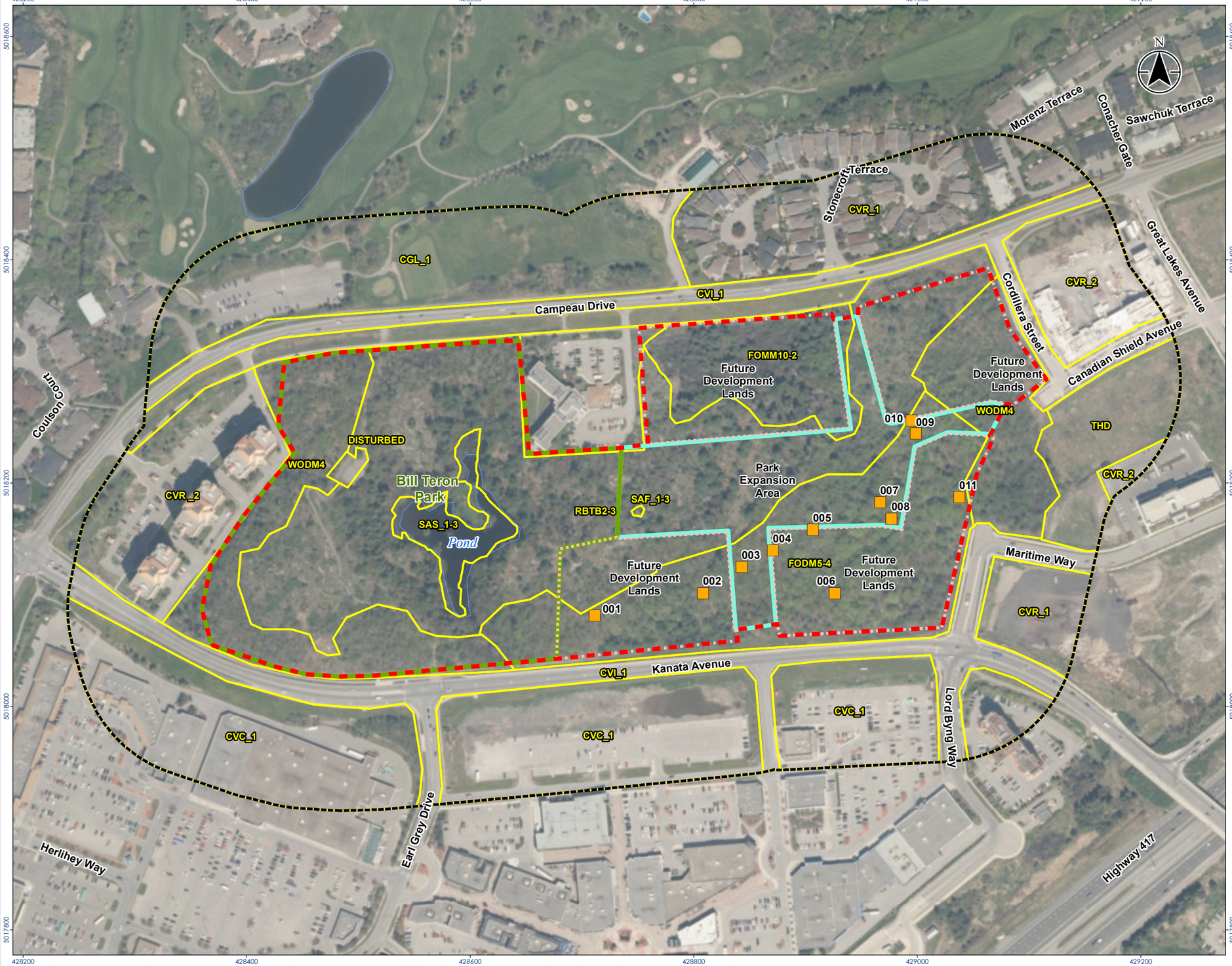
OTTAWA, ON

Figure No.
7

Title
Blanding's Turtle Survey and Reptile Observations



Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- Waterbody
- ELC Community Boundary
- SAR Bat Maternity Roost Habitat Feature

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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Project Location
Ottawa, ON

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Technical Review by JM on 2019-12-02

Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
8

Title
SAR Bat Maternity Roost Habitat Suitability Assessment

Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- Waterbody
- Breeding Bird Survey Location

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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Project Location
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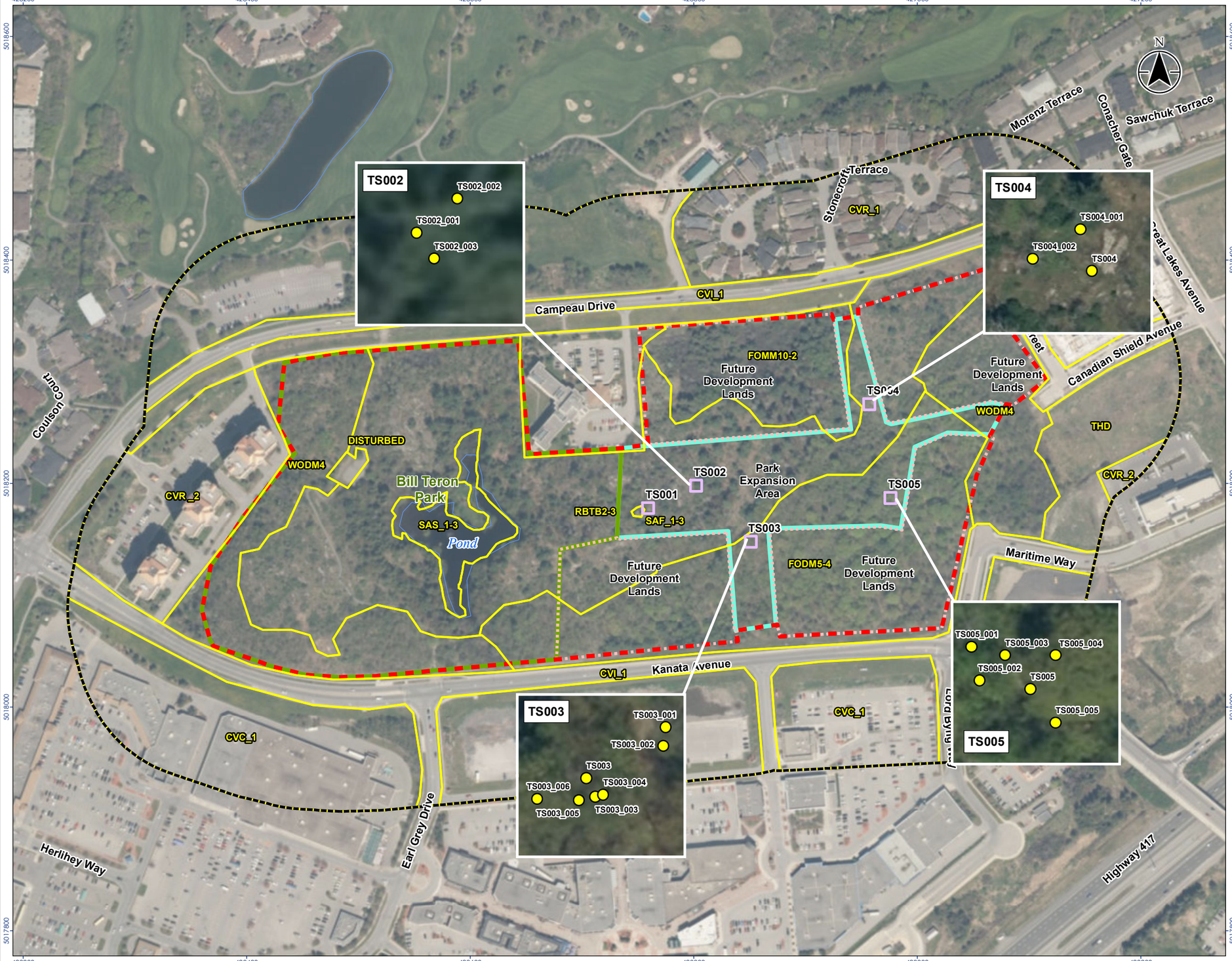
Technical Review by JM on 2019-12-02

Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
9

Title
Breeding Bird Survey Locations



Stantec

Legend

- Study Area (120 m)
- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Site Boundary
- Waterbody
- Tree Observation Point
- Tree Inventory Plot
- ELC Community Boundary

0 50 100 metres

1:3,500 (At original document size of 11x17)

Notes

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Project Location
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Prepared by DH on 2019-12-02
Technical Review by JM on 2019-12-02

Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
10

Title
Tree Inventory Locations and Observations

APPENDIX B:
ECOLOGICAL LAND CLASSIFICATION FIELD DATA CARDS

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE (project no./name): Bill Teron Park		POLYGON: FOD	
SURVEYOR(S): J Mansell	DATE: August 20/19		PHOTO No.:
START:	END:	ZONE & UTM: 18T 4926496E	

POLYGON DESCRIPTION

5095491N.

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
■ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	■ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	■ MINERAL SOIL	☐ RIVERINE	■ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND	Bike trails	☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☒ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	■ ROLL. UPLAND		☐ LICHEN	☐ SWAMP
		☐ CLIFF		☐ BRYOPHYTE	☐ FEN
		☐ TALUS		■ DECIDUOUS	☐ BOG
		☐ CREVICE / CAVE		☐ CONIFEROUS	☐ BARREN
		☐ ALVAR		☐ MIXED	☐ MEADOW
		☐ ROCKLAND			☐ PRAIRIE
		☐ BEACH / BAR			☐ THICKET
		☐ SAND DUNE			☐ SAVANNAH
		☐ BLUFF			☐ WOODLAND
					■ FOREST
					☐ PLANTATION

SITE	COVER
☐ OPEN WATER	☐ OPEN
☐ SHALLOW WATER	☐ SHRUB
■ SURFICIAL DEP.	■ TREED
☐ BEDROCK	

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESACH >> TIL AMER = PICGLAU
2	SUB-CANOPY	3	2	CSTURG > FRAPENN > FRAAM
3	UNDERSTOREY	6	4	Viburnum = CARPENN = CARARCT
4	GRD. LAYER	-	-	-

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	ACESACH dominant.							BA:	n/a
SIZE CLASS ANALYSIS:	O	<10	A	10 – 24	A	25 – 50	R	>50	
STANDING SNAGS:	N	<10	R	10 – 24	N	25 – 50	N	>50	
DEADFALL/LOGS:	A	<10	O	10 – 24	R	25 – 50	N	>50	

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	☒ MATURE	OLD GROWTH

SOIL ANALYSIS: n/a

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	Forest	CODE: FO
COMMUNITY SERIES:	Deciduous FO	CODE: FOD
ECOSITE:	Dry-Fresh Sugar Maple	CODE: FOD M5
VEGETATION TYPE:	Sugar Maple	CODE: FOD M5-1
INCLUSION	n/a	CODE: n/a
COMPLEX	n/a	CODE: n/a

Notes: (e.g. disturbance, surface water depths, etc.)

- Bike trails constructed throughout feature.
- Feature is a south facing slope.

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESACH	D	D	O		
TILAMER	O	R			
CSTURG		A			
FRAPENN		A			
PICGLAU	O				
THUOCCI		R			
FAGAMER.	R				
Choke Cherry			R	O	
Virginia Creeper				O	
Glossy Buckthorn			R		
Euro Buckthorn			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
Wild Typhlum				O	
CARARCT				O	
CARPENN				■	
Maple Dandelion				■	R
MAICANA				O	
Bearded Shorthead.				O	
Tall Enchanters				O	
Moss sp.					

Page 1 of 2

Print Name: J. Mansell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: (Field Notes QA/QC personnel)

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Wildlife Habitat Assessment Form

Project Number: 160925220 Polygon No.: FOD

Assessment Type: ☐-Visual; no access/☒-Entire; walk through feature/☐-Partial access *(indicate on map)*

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (last 24 hrs):
	26	0	0	0	0

NOTES & SPECIES OBSERVATIONS (list species and type of observation, indicate on map):

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Wildlife Habitat Type & Description	Site Assessment	Photo ID	Map ID	UTM Coordinates Zone	Easting	Northing
ALL SITES						
Bat Hibernacula: Caves, abandoned mines, underground foundations, karst features	Size of opening(s) Bedrock Type Depth of feature (if possible)					
Snake Hibernacula: Burrows, rock crevices, fissures that extend below the frost line (i.e. at least 1 m)	Number of access points Size of opening(s) Substrate					
Bank / Cliff Colonial Bird Nesting Habitat: Exposed soil banks, undisturbed, naturally eroding, steep slopes, cliff faces with evidence of nests or burrows	Size of burrow Number of burrows					
Stick Nests: Stick nests found in any forest/ woodland/swamp; includes heron colonies and bald eagle/ osprey/other raptor nests	Tree species Nest size					
WOODLANDS						
Vernal Pools: Permanent or semi-permanent pool or pond. Evidence of holding water in most years through late spring (i.e. late May) or into summer	Number of features Feature size (diameter) Water depth					
Seeps and Springs: Locations where groundwater comes to the surface in forests (see document for indicator species)	Sub/emergent veg present Shrubs/logs at edge present Water permanency					
WETLANDS						
Turtle Wintering Areas: Permanent water bodies, large wetlands, bogs, or fens with soft substrates and deep enough not to freeze solid	Feature size (diameter) Water depth Substrate of water body Water permanency					
Turtle Nesting Habitat: Exposed mineral soil (sand or gravel) areas adjacent (<100 m) to MAM/SA/BOO/ FEO (note if man-made)	Type of substrate Distance to wetland Size of feature					
Terrestrial Crayfish Habitat: Edges of shallow marshes and meadows (no minimum size) with crayfish chimneys	Number of chimneys					

None observed

Print Name: J. Mascell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: (Field Notes QA/QC personnel)

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE (project no./name): Bill Teron Park		POLYGON: Pond	
SURVEYOR(S): J Mansell	DATE: August 20/19		PHOTO No.:
START: 0700	END: 1300	ZONE & UTM: 1ST 492375E, 5087191N	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Slx Sp.		R			
BETPAP		R			
POPDELT		R			
ALNINCA		O			
Grass/Bulrush		A			

SPECIES CODE	LAYER 1	2	3	4	COLL.
Chara Sp.			A		
Sph-diamond					
Birch			O		
Canada Waterweed					
TYPLATI					
Cat-tail Grass					
Iris P.			O		
LYTSALI					
Juncus Sp.					
Cl. Hardwood					
Bonset					
Monkey flower					
Marsh St. John's					
Water Parsley					
Blue Vervain					

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☒ SUBMERGED	☒ POND
☒ AQUATIC	☒ PARENT MIN.\	☒ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
SITE	☐ CARB. BEDRK.	☐ TABLELAND	**COVER**	☐ LICHEN	☐ SWAMP
☐ OPEN WATER		☐ ROLL. UPLAND	☒ OPEN	☐ BRYOPHYTE	☐ FEN
☒ SHALLOW WATER		☐ CLIFF	☐ SHRUB	☐ DECIDUOUS	☐ BOG
☐ SURFICIAL DEP.		☐ TALUS	☐ TREED	☐ CONIFEROUS	☐ BARREN
☐ BEDROCK		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY	3	1	SALIX = BETPAP = POPDELT
3	UNDERSTOREY	4	1	FRAALNU > ALNINCA
4	GRD. LAYER	n/a	[illegible]	Chara Sp. > Canada Waterweed

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION: n/a — BA: n/a

SIZE CLASS ANALYSIS: n/a	<10	10 – 24	25 – 50	>50
STANDING SNAGS:	<10	10 – 24	25 – 50	>50
DEADFALL/LOGS:	<10	10 – 24	25 – 50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
				X	

SOIL ANALYSIS: n/a

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: ~~Open Aquatic~~ Shallow Water	CODE: ~~OA~~ SA	
COMMUNITY SERIES: Submerged SA	CODE: SAS	
ECOSITE: Submerged Shallow SAS	CODE: SAS-1	
VEGETATION TYPE: Stonewort SAS-1	CODE: SAS-1-3	
INCLUSION	n/a	CODE: n/a
COMPLEX	n/a	CODE: n/a

Notes: (e.g. disturbance, surface water depths, etc.)

- 3 MPTU
- m10 MALL → moulting pond. Feathers throughout.
- GRFR obs. → tadpoles + adults.

Page 1 of 2

Print Name: J. Mansell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: _____ (Field Notes QA/QC personnel)

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1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Wildlife Habitat Assessment Form

Project Number: 160925020 Polygon No.: Pond

Assessment Type: ☐-Visual; no access/☒-Entire; walk through feature/☐-Partial access *(indicate on map)*

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (last 24 hrs):
	24	0	0	0	0

NOTES & SPECIES OBSERVATIONS (list species and type of observation, indicate on map):

3 Basking MPTU COOR.
~20 MALL + mallard pair
GRFR

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Wildlife Habitat Type & Description	Site Assessment	Photo ID	Map ID	UTM Coordinates Zone	Easting	Northing
ALL SITES						
Bat Hibernacula: Caves, abandoned mines, underground foundations, karst features	Size of opening(s) Bedrock Type Depth of feature (if possible) — None observed					
Snake Hibernacula: Burrows, rock crevices, fissures that extend below the frost line (i.e. at least 1 m)	Number of access points Size of opening(s) Substrate					
Bank / Cliff Colonial Bird Nesting Habitat: Exposed soil banks, undisturbed, naturally eroding, steep slopes, cliff faces with evidence of nests or burrows	Size of burrow Number of burrows					
Stick Nests: Stick nests found in any forest/ woodland/swamp; includes heron colonies and bald eagle/ osprey/other raptor nests	Tree species Nest size					
WOODLANDS						
Vernal Pools: Permanent or semi-permanent pool or pond. Evidence of holding water in most years through late spring (i.e. late May) or into summer	Number of features Feature size (diameter) Water depth					
Seeps and Springs: Locations where groundwater comes to the surface in forests (see document for indicator species)	Sub/emergent veg present Shrubs/logs at edge present Water permanency					
WETLANDS						
Turtle Wintering Areas: Permanent water bodies, large wetlands, bogs, or fens with soft substrates and deep enough not to freeze solid	Feature size (diameter) Water depth Substrate of water body Water permanency — Midland Painted turtles are using feature to overwinter.					
Turtle Nesting Habitat: Exposed mineral soil (sand or gravel) areas adjacent (<100 m) to MAM/SA/BOO/ FEO (note if man-made)	Type of substrate Distance to wetland Size of feature — None observed					
Terrestrial Crayfish Habitat: Edges of shallow marshes and meadows (no minimum size) with crayfish chimneys	Number of chimneys — None observed					

* Bull observed in feature during previous 2019 surveys.

Print Name: J. Mansell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: (Field Notes QA/QC personnel)

REV: 2016-09-07

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE (project no./name): Bill Teron Park		POLYGON: RBT	
SURVEYOR(S): J. Mansell	DATE: August 3rd 2009		PHOTO No.:
START: -	END: -	ZONE & UTM: 18T 4086747E, 5461144N.	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
■ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	■ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	■ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	■ PARENT MIN.	☐ BOTTOMLAND	in trails	☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	■ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
SITE	☐ CARB. BEDRK.	■ TABLELAND	COVER	☐ LICHEN	☐ SWAMP
☐ OPEN WATER		☐ ROLL. UPLAND	■ OPEN 3	☐ BRYOPHYTE	☐ FEN
☐ SHALLOW WATER		☐ CLIFF	■ SHRUB 2	■ DECIDUOUS	☐ BOG
■ SURFICIAL DEP.		☐ TALUS	■ TREED 1	☐ CONIFEROUS	■ BARREN
■ BEDROCK		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			■ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	PINSTRO = PRUSERO = QUEREM
2	SUB-CANOPY	2	3	PINSTRO = ACERUBR = FRAPENN
3	UNDERSTOREY	3	3	LONICERA - RHUTYPH
4	GRD. LAYER	6	3	Field Hawkweed = DRYMARG

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION: PINSTRO, ACERUBR — BA: n/a.

SIZE CLASS ANALYSIS:	O	<10	O	10 – 24	R	25 – 50	N	>50
STANDING SNAGS:	N	<10	N	10 – 24	N	25 – 50	N	>50
DEADFALL/LOGS:	N	<10	R	10 – 24	N	25 – 50	N	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	X MID-AGE	X MATURE	OLD GROWTH

SOIL ANALYSIS: Bedrock -> n/a

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: Rock Barren	CODE: RB	
COMMUNITY SERIES: Treed RB	CODE: RBT	
ECOSITE: Non-Calcareous	CODE: RBT2	
VEGETATION TYPE: White Pine - Deciduous	CODE: RBT2-5	
INCLUSION: n/a	CODE: n/a	
COMPLEX: n/a	CODE: n/a	

Notes: (e.g. disturbance, surface water depths, etc.)

Feature is defined by bedrock outcrop.

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
PINSTRO	R	O			
ACERUBR		O			
FRAPENN		O	A		
OSTVIRG		R			
PRUSERO	R	O			
ULMAMER		R			
POPTREM	R	R			
QUEMAC		R			
Virginia Creeper		O			
SOLNIGR		O			
LONICERA		A			
RHUTYPH		A			

SPECIES CODE	LAYER 1	2	3	4	COLL.
Field Hawkweed			A		
Wild Columbine			O		
BETTRI			O		
CARART			O		
Common Mullein			O		
Cinquefoil sp.			R		
DRYMARG			A		
Common Polypody			R		
Rattlesnake Grass			O		
Wild Strawberry			R		
Poverty Oat Grass			O		
Canada Goldenrod			R		
Pale Corydalis			R		
Acrocarpous Moss				O	
Pincushion Pleurocarp Moss				A	

Page 1 of 2

Print Name: J. Mansell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: _____ (Field Notes QA/QC personnel)

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Tel: (519) 836-6050
Fax: (519) 836-2493

Wildlife Habitat Assessment Form

Project Number: 160935080 Polygon No.: PPST

Assessment Type: ☐-Visual; no access/☗-Entire; walk through feature/☐-Partial access *(indicate on map)*

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (last 24 hrs):
	25	1	10%	0	0

NOTES & SPECIES OBSERVATIONS (list species and type of observation, indicate on map):

/

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Wildlife Habitat Type & Description	Site Assessment	Photo ID	Map ID	UTM Coordinates Zone	Easting	Northing
ALL SITES						
Bat Hibernacula: Caves, abandoned mines, underground foundations, karst features	Size of opening(s) Bedrock Type Depth of feature (if possible) — None observed.					
Snake Hibernacula: Burrows, rock crevices, fissures that extend below the frost line (i.e. at least 1 m)	Number of access points — Potential hibernacula features. Size of opening(s) — Crevices throughout feature. Substrate	0000 0003 0005		18T	498781	5018916.
Bank / Cliff Colonial Bird Nesting Habitat: Exposed soil banks, undisturbed, naturally eroding, steep slopes, cliff faces with evidence of nests or burrows	Size of burrow Number of burrows — No snakes observed					
Stick Nests: Stick nests found in any forest/ woodland/swamp; includes heron colonies and bald eagle/ osprey/other raptor nests	Tree species Nest size — None observed					
WOODLANDS						
Vernal Pools: Permanent or semi-permanent pool or pond. Evidence of holding water in most years through late spring (i.e. late May) or into summer	Number of features Feature size (diameter) Water depth					
Seeps and Springs: Locations where groundwater comes to the surface in forests (see document for indicator species)	Sub/emergent veg present Shrubs/logs at edge present Water permanency					
WETLANDS						
Turtle Wintering Areas: Permanent water bodies, large wetlands, bogs, or fens with soft substrates and deep enough not to freeze solid	Feature size (diameter) Water depth Substrate of water body Water permanency					
Turtle Nesting Habitat: Exposed mineral soil (sand or gravel) areas adjacent (<100 m) to MAM/SA/BOO/ FEO (note if man-made)	Type of substrate Distance to wetland Size of feature					
Terrestrial Crayfish Habitat: Edges of shallow marshes and meadows (no minimum size) with crayfish chimneys	Number of chimneys					

Print Name: J. Mansell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: (Field Notes QA/QC personnel)

ELC

COMMUNITY DESCRIPTION & CLASSIFICATION

SITE (project no./name): Bill Teron Park		POLYGON: FOM	
SURVEYOR(S): J. Mansell	DATE: August 2nd/19		PHOTO No.:
START:	END:	ZONE & UTM: 18T 488857E	

POLYGON DESCRIPTION

5cm88cdN.

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
■ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	■ NATURAL	☐ PLANKTON	☐ LAKE
		☐ RIVERINE		☐ SUBMERGED	☐ POND
☐ WETLAND	■ MINERAL SOIL	☐ BOTTOMLAND	■ CULTURAL	☐ FLOATING-LVD.	☐ RIVER
		☐ TERRACE		☐ GRAMINOID	☐ STREAM
☐ AQUATIC	■ PARENT MIN.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
		■ TABLELAND		☐ LICHEN	☐ SWAMP
	☐ ACIDIC BEDRK.	■ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
	☐ BASIC BEDRK.	☐ TALUS		☐ CONIFEROUS	☐ BARREN
SITE		☐ CREVICE / CAVE	**COVER**	■ MIXED	☐ MEADOW
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR	☐ OPEN		☐ PRAIRIE
☐ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ THICKET
■ SURFICIAL DEP.		☐ BEACH / BAR	■ TREED		☐ SAVANNAH
☐ BEDROCK		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			■ FOREST
					☐ PLANTATION

Hydroelectric clearing

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	R	<10	A	10 – 24	O	25 – 50	N	>50
STANDING SNAGS:	N	<10	R	10 – 24	N	25 – 50	N	>50
DEADFALL/LOGS:	R	<10	R	10 – 24	R	25 – 50	N	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
		X	X		

SOIL ANALYSIS: n/a

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: Forest	CODE: FO	
COMMUNITY SERIES: Mixed FO	CODE: FOM	
ECOSITE: Fresh-Moist White Spruce	CODE: FOMM10	
VEGETATION TYPE: White Spruce	CODE: FOMM10-2	
INCLUSION: n/a	CODE: n/a	
COMPLEX: n/a	CODE: n/a	

Notes: (e.g. disturbance, surface water depths, etc.)

Previous clearing observed along Complex

Trail

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
PICGLA	A				
PICSTR	O				
POPTREM	O				
ACESACH	R				
ACERUB	R				
ACENEG	R				
Unique Creeper					
VITRIP		O			
PHACATH		A			
FRAALN		O			

SPECIES CODE	LAYER 1	2	3	4	COLL.
CARACU					
Winged Euonymus					
Bracken Moss					
DRYARG					
Enchanters					
Nightshade					
Fragrant Bedstraw					

Page 1 of 2

Print Name: J. Mansell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: (Field Notes QA/QC personnel)

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Fax: (519) 836-2493

Wildlife Habitat Assessment Form

Project Number: 160905000 Polygon No.: FOM2.

Assessment Type: ☐-Visual; no access/☑-Entire; walk through feature/☐-Partial access *(indicate on map)*

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (last 24 hrs):
	27	1	0	0	0

NOTES & SPECIES OBSERVATIONS (list species and type of observation, *indicate on map*):

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Wildlife Habitat Type & Description	Site Assessment	Photo ID	Map ID	UTM Coordinates		
				Zone	Easting	Northing
ALL SITES						
Bat Hibernacula: Caves, abandoned mines, underground foundations, karst features	Size of opening(s) Bedrock Type Depth of feature (if possible)					
Snake Hibernacula: Burrows, rock crevices, fissures that extend below the frost line (i.e. at least 1 m)	Number of access points Size of opening(s) Substrate					
Bank / Cliff Colonial Bird Nesting Habitat: Exposed soil banks, undisturbed, naturally eroding, steep slopes, cliff faces with evidence of nests or burrows	Size of burrow Number of burrows					
Stick Nests: Stick nests found in any forest/ woodland/swamp; includes heron colonies and bald eagle/ osprey/other raptor nests	Tree species Nest size					
WOODLANDS						
Vernal Pools: Permanent or semi-permanent pool or pond. Evidence of holding water in most years through late spring (i.e. late May) or into summer	Number of features Feature size (diameter) Water depth Sub/emergent veg present Shrubs/logs at edge present Water permanency					
Seeps and Springs: Locations where groundwater comes to the surface in forests (see document for indicator species)						
WETLANDS						
Turtle Wintering Areas: Permanent water bodies, large wetlands, bogs, or fens with soft substrates and deep enough not to freeze solid	Feature size (diameter) Water depth Substrate of water body Water permanency					
Turtle Nesting Habitat: Exposed mineral soil (sand or gravel) areas adjacent (<100 m) to MAM/SA/BOO/ FEO (note if man-made)	Type of substrate Distance to wetland Size of feature					
Terrestrial Crayfish Habitat: Edges of shallow marshes and meadows (no minimum size) with crayfish chimneys	Number of chimneys					

None observed

Print Name: J. Mascell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: (Field Notes QA/QC personnel)

APPENDIX C:
PHOTOGRAPHIC RECORD

Photo 1: Precambrian bedrock at surface in the existing Bill Teron Park area within the Study Area (May)

Photo 2: Precambrian bedrock at surface in the proposed park expansion area within the Study Area (May)

Photo 3: Typical conditions observed within the RBTB2-3 vegetation community – note bedrock at surface and stunted vegetation growth (May)

Photo 4: Typical conditions observed within the RBTB2-3 vegetation community – note patch vegetation growth (August)

Photo 5: Typical conditions observed within the WODM4 vegetation community – note feature has dense understorey layer (August)

Photo 6: Typical conditions observed within the FOMM10-2 vegetation community (September)

Photo 7: Typical conditions observed within the FOMM10-2 vegetation community (November)

Photo 8: Typical conditions observed within the FODM5-4 vegetation community – note south facing slope towards Campeau Drive (May)

Photo 9: Typical conditions observed within the FODM5-4 vegetation community – note recreational bike trails throughout (May)

Photo 10: Observed conditions of the pond (SAS_1-3) within the existing Bill Teron Park (May)

Photo 11: Observed conditions of the pond (SAS_1-3) within the existing Bill Teron Park (May)

Photo 12: Observed conditions of the pond (SAS_1-3) within the existing Bill Teron Park (May)

Photo 13: Observed conditions of the pond (SAS_1-3) within the existing Bill Teron Park (August)

Photo 14: Observed conditions of the small, isolated pond (SAF_1-3) observed in the proposed park expansion area (August)

Photo 15: An adult male American bullfrog observed within the pond (SAS_1-3) community within the existing Bill Teron Park (May)

Photo 16: A close-up of an adult male American bullfrog observed within the pond (SAS_1-3) community within the existing Bill Teron Park (May)

Photo 17: An identified potentially suitable SAR bat maternity roost feature within the FODM5-4 community (Tree 003)

Photo 18: Tree inventory plot TS001 – note the lack of trees ≥10 cm DBH

Photo 19: Tree inventory plot TS002

Photo 20: Tree inventory plot TS003

Photo 21: Tree inventory plot TS004

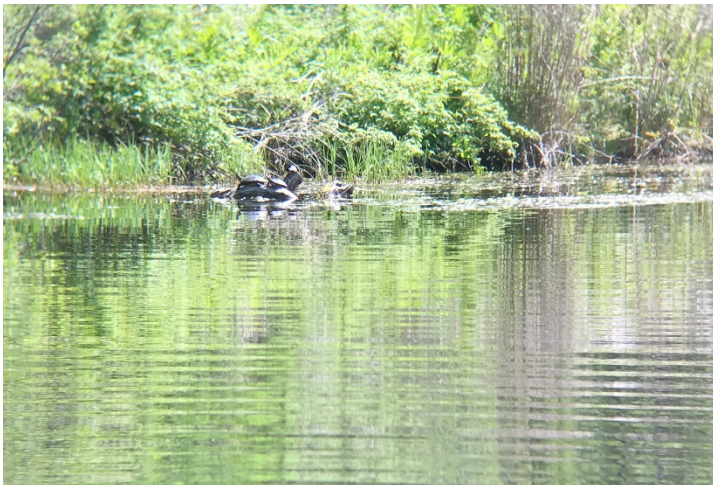

Photo 22: Basking midland painted turtles (4) in the pond (SAS_1-3) within the existing Bill Teron Park

APPENDIX D:
PLANT AND WILDLIFE SPECIES OBSERVED WITHIN THE STUDY AREA

SCIENTIFIC_NAME	ENGLISH_COMMON_NAME	PROVINCIALLY_TRACKED	S_RANK	G_RANK	N_RANK	EXOTIC_STATUS	COEFF_CONSERVATISM	COEFF_WETNESS
Dryopteris marginalis	Marginal Wood Fern	N	S5	G5	N5	N	5	3
Polypodium virginianum	Rock Polypody	N	S5	G5	N5	N	7	5
Picea glauca	White Spruce	N	S5	G5	N5	N	6	3
Pinus strobus	Eastern White Pine	N	S5	G5	N5	N	4	3
Juniperus horizontalis	Creeping Juniper	N	S5	G5	N5	N	10	3
Thuja occidentalis	Eastern White Cedar	N	S5	G5	N5	N	4	-3
Elodea canadensis	Canada Waterweed	N	S5	G5	N5	N	4	-5
Agrostis gigantea	Redtop	N	SNA	G4G5	NNA	N		-3
Brachyelytrum erectum	Southern Shorthusk	N	S4	G4G5	N3N5	N	7	3
Danthonia spicata	Poverty Oatgrass	N	S5	G5	N5	N	5	5
Glyceria striata	Fowl Mannagrass	N	S5	G5	N5	N	3	-5
Carex arctata	Drooping Woodland Sedge	N	S5	G5	N5	N	5	5
Carex pensylvanica	Pennsylvania Sedge	N	S5	G5	N5	N	5	5
Schoenoplectus tabernaemontani	Soft-stemmed Bulrush	N	S5	G5	N5	N	5	-5
Trillium grandiflorum	White Trillium	N	S5	G5	N5	N	5	3
Iris pseudacorus	Yellow Iris	N	SNA	GNR	NNA	N		-5
Populus deltoides ssp. deltoides	Eastern Cottonwood	N	S5	G5T5	NNR	N	4	0
Populus tremuloides	Trembling Aspen	N	S5	G5	N5	N	2	0
Salix discolor	Pussy Willow	N	S5	G5	N5	N	3	-3
Alnus incana ssp. rugosa	Speckled Alder	N	S5	G5T5	N5	N	6	-3
Betula papyrifera	Paper Birch	N	S5	G5	N5	N	2	3
Ostrya virginiana	Eastern Hop-hornbeam	N	S5	G5	N5	N	4	3
Fagus grandifolia	American Beech	N	S4	G5	N5	N	6	3
Quercus macrocarpa	Bur Oak	N	S5	G5	N5	N	5	3
Ulmus americana	American Elm	N	S5	G5	N5	N	3	-3
Actaea pachypoda	White Baneberry	N	S5	G5	NNR	N	6	5
Aquilegia canadensis	Red Columbine	N	S5	G5	NNR	N	5	3
Capnoides sempervirens	Pale Corydalis	N	S5	G5	N5	N	7	5
Fragaria virginiana	Wild Strawberry	N	S5	G5	N5	N	2	3
Geum laciniatum	Rough Avens	N	S4	G5	N5	N	4	-3
Prunus serotina	Black Cherry	N	S5	G5	N5	N	3	3
Prunus virginiana	Choke Cherry	N	S5	G5	NNR	N	2	3
Lotus corniculatus	Garden Bird's-foot Trefoil	N	SNA	GNR	NNA	N		3
Polygaloides paucifolia	Gay-wing Milkwort	N	S5	G5	NNR	N	6	3
Rhus typhina	Staghorn Sumac	N	S5	G5	N5	N	1	3
Acer negundo	Manitoba Maple	N	S5	G5	N5	N	0	0
Acer rubrum	Red Maple	N	S5	G5	N5	N	4	0
Acer saccharum	Sugar Maple	N	S5	G5	N5	N	4	3
Rhamnus cathartica	Common Buckthorn	N	SNA	GNR	NNA	N		0
Frangula alnus	Glossy Buckthorn	N	SNA	GNR	NNA	N		0
Parthenocissus quinquefolia	Virginia Creeper	N	S4?	G5	N4N5	N	6	3
Vitis riparia	Riverbank Grape	N	S5	G5	N5	N	0	0
Tilia americana	American Basswood	N	S5	G5	N5	N	4	3
Triadenum fraseri	Fraser's St. John's-wort	N	S5	G5	N5	N	7	-5
Lythrum salicaria	Purple Loosestrife	N	SNA	G5	NNA	N		-5
Circaea canadensis	Broad-leaved Enchanter's Nightshade	N	S5	G5	N5	N	2	3
Fraxinus pennsylvanica	Green Ash	N	S4	G5	N5	N	3	-3
Verbena hastata	Blue Vervain	N	S5	G5	NNR	N	4	-3
Lycopus americanus	American Water-horehound	N	S5	G5	N5	N	4	-5
Mimulus ringens	Square-stemmed Monkeyflower	N	S5	G5	N5	N	6	-5
Verbascum thapsus	Common Mullein	N	SNA	GNR	NNA	N		5
Galium triflorum	Three-flowered Bedstraw	N	S5	G5	NNR	N	4	3
Lonicera tatarica	Tatarian Honeysuckle	N	SNA	GNR	NNA	N		3
Pilosella caespitosa	Meadow Hawkweed	N	SNA	GNR	NNA	N		5
Eupatorium perfoliatum	Common Boneset	N	S5	G5	N5	N	2	-3
Solidago canadensis	Canada Goldenrod	N	S5	G5	N5	N	1	3
Alisma triviale	Northern Water-plantain	N	S5	G5	N5	N	1	-5
Dasiphora fruticosa	Shrubby Cinquefoil	N	S5	G5	N5	N	8	-3
Maianthemum canadense ssp. canadense	Wild Lily-of-the-valley	N	S5	G5T5	N5	N	5	3
Juglans cinerea	Butternut	Y	S2?	END	END	N	6	3

COMMON NAME	SCIENTIFIC NAME	ONTARIO STATUS	GLOBAL STATUS	SARO	SARA
AMPHIBIANS					
American Toad	*Anaxyrus americanus*	S5	G5		
Tetraploid Gray Treefrog	*Hyla versicolor*	S5	G5		
Spring Peeper	*Pseudacris crucifer*	S5	G5		
Bullfrog	*Lithobates catesbeiana*	S4	G5		
REPTILES					
Midland Painted Turtle	*Chrysemys picta marginata*	S5	G5T5		SC-NS
Eastern Gartersnake	*Thamnophis sirtalis*	S5	G5		
Redbelly Snake	*Storeria occipitomaculata*	S5	G5		
BIRDS					
Canada Goose	*Branta canadensis*	S5	G5		
Mallard	*Anas platyrhynchos*	S5	G5		
Ruby-throated Hummingbird	*Archilochus colubris*	S5B	G5		
Ring-billed Gull	*Larus delawarensis*	S5B,S4N	G5		
Green Heron	*Butorides virescens*	S4B	G5		
Black-crowned Night-Heron	*Nycticorax nycticorax*	S3B,S3N	G5		
Turkey Vulture	*Cathartes aura*	S5B	G5		
Downy Woodpecker	*Dryobates pubescens*	S5	G5		
Northern Flicker	*Colaptes auratus*	S4B	G5		
Pileated Woodpecker	*Dryocopus pileatus*	S5	G5		
Merlin	*Falco columbarius*	S5B	G5	NAR	NAR
Great Crested Flycatcher	*Myiarchus crinitus*	S4B	G5		
Red-eyed Vireo	*Vireo olivaceus*	S5B	G5		
Blue Jay	*Cyanocitta cristata*	S5	G5		
American Crow	*Corvus brachyrhynchos*	S5B	G5		
Common Raven	*Corvus corax*	S5	G5		
Black-capped Chickadee	*Poecile atricapillus*	S5	G5		
Red-breasted Nuthatch	*Sitta canadensis*	S5	G5		
White-breasted Nuthatch	*Sitta carolinensis*	S5	G5		
American Robin	*Turdus migratorius*	S5B	G5		
Gray Catbird	*Dumetella carolinensis*	S4B	G5		
European Starling	*Sturnus vulgaris*	SNA	G5		
Cedar Waxwing	*Bombycilla cedrorum*	S5B	G5		
American Goldfinch	*Spinus tristis*	S5B	G5		
Chipping Sparrow	*Spizella passerina*	S5B	G5		
Song Sparrow	*Melospiza melodia*	S5B	G5		
Red-winged Blackbird	*Agelaius phoeniceus*	S4	G5		
Common Grackle	*Quiscalus quiscula*	S5B	G5		
Tennessee Warbler	*Leiothlypis peregrina*	S5B	G5		
Common Yellowthroat	*Geothlypis trichas*	S5B	G5		
Chestnut-sided Warbler	*Setophaga pensylvanica*	S5B	G5		
Blackpoll Warbler	*Setophaga striata*	S4B	G5		
Northern Cardinal	*Cardinalis cardinalis*	S5	G5		
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	S4B	G5		
MAMMALS					
Eastern Cottontail	*Sylvilagus floridanus*	S5	G5		
Eastern Chipmunk	*Tamias striatus*	S5	G5		
Grey Squirrel	*Sciurus carolinensis*	S5	G5		
Red Squirrel	*Tamiasciurus hudsonicus*	S5	G5		
Coyote	*Canis latrans*	S5	G5		
Raccoon	*Procyon lotor*	S5	G5		
Striped Skunk	*Mephitis mephitis*	S5	G5		

APPENDIX E:
BUTTERNUT HEALTH ASSESSMENT REPORT

Stantec Consulting Ltd.
400 - 1331 Clyde Avenue, Ottawa ON K2C 3G4

November 22, 2019
File: 160925020

Attention: Mike Russett, Planner III/Project Manager
City of Ottawa, Parks and Facility Planning Services
Recreation, Cultural and Facility Services Department
613-580-2424 Ext. 15459
mike.russett@ottawa.ca

Dear Mr. Russett,

Reference: Butternut Health Assessment Report #BTP001 – City of Ottawa – Bill Teron Park Expansion and Future Development Lands (6301 Campeau Drive, Ottawa, Ontario)

This letter is in regard to my assessment of 51 butternut trees located on the City of Ottawa (the City) property located at 6301 Campeau Drive, Ottawa, Ontario (18T 428763E, 5018144N) to support the City's environmental investigation for the proposed expansion of Bill Teron Park and the potential sale of future development lands. Please read this letter carefully as it contains important information about the *Endangered Species Act, 2007* (ESA). Please note that the trees located at 6301 Campeau Drive, Ottawa, Ontario are currently not proposed to be killed, harmed or removed as part of the City's investigations and this Butternut Health Assessment (BHA) Report was completed as part of a due diligence excerice to understand the potential environmental constraints associated with the property.

The enclosed BHA report documents the results of the butternut health assessment that was conducted by the designated Butternut Health Assessor (BHA) identified below. If there are other butternut trees (of any size or age) at the site that may be affected by the activity and they are not identified in the enclosed BHA report, they too must be assessed by a designated BHA prior to them being killed, harmed or removed.

Butternut is listed as an endangered species on the *Species at Risk in Ontario List*, and as such, it is protected under the ESA from being killed, harmed or removed. If you are planning to undertake an activity that may affect butternut, you may be eligible to follow the requirements set out in section 23.7 of Ontario Regulation 242/08 under the ESA, or you may need to seek an authorization under the ESA (e.g., a permit).

Please visit e-laws at the link provided below for the legal requirements of eligible activities under section 23.7 of Ontario Regulation 242/08 and conditions that must be fulfilled. Information about butternut is also available at: http://www.ontario.ca/environment-and-energy/butternut-trees-your-property. Municipal by-laws and legislation other than the ESA may also be applicable to the removal or harming of trees.

If the enclosed BHA report does not identify which butternut tree(s) are proposed to be killed, harmed, or taken in Table 1 (i.e., if "unknown" is indicated in the second last column of Table 1), or, if the information in the last two columns of Table 1 has changed since the date this BHA report was produced, do not make any edits to the BHA report. Instead, please attach a cover letter that identifies which butternut trees are

Reference: Butternut Health Assessment Report #BTP001 – City of Ottawa – Bill Teron Park Expansion and Future Development Lands (6301 Campeau Drive, Ottawa, Ontario)

proposed to be killed, harmed, or taken (by referencing the tree identification numbers) when you submit the enclosed BHA report to the Ministry of Environment, Conservation and Parks (MECP).

The BHA Report must be submitted at least 30 days prior to registering an eligible activity to kill, harm, or remove a butternut tree. During this 30-day period, no butternut trees (of any category) may be killed, harmed, or removed, and MECP may contact you for an opportunity to examine the trees and audit the results of this report. If MECP chooses to examine the trees, a representative of MECP will contact you using the information you supplied when you submitted the BHA Report.

If you are eligible to follow the rules in regulation under section 23.7, you may register your activity using the “Notice of Butternut Impact” form on the MECP Registry after the 30-day period has elapsed.

If you are not eligible to follow the rules in regulation under section 23.7, please contact the local MECP district office to determine whether you will need to seek an authorization (e.g., a permit). A link to the directory of MECP offices is provided below.

Please retain this information and a copy of the BHA report (including copies of all data forms) for your records, along with any other documentation you may receive from MECP should an examination of the trees occur. If you have any questions, please contact your local MECP district office.

Sincerely,

STANTEC CONSULTING LTD.

Josh Mansell
Biologist, BHA #520
Phone: (613) 355-5493
Josh.mansell@stantec.com

Attachments:
1. Attachment 1 – Butternut Health Assessor’s Report
2. Attachment 2 – Original BHA data forms
3. Attachment 3 – Electronic copy of the Excel data spreadsheet (BHA Tree Analysis)
4. Attachment 4 – Figure 1 – Butternut Health Assessment
5. Attachment 5 – Photographic Record – BHA #BTP001 – City of Ottawa – Bill Teron Park Expansion and Future Development Lands (6301 Campeau Drive, Ottawa, Ontario)

Reference: Butternut Health Assessment Report #BTP001 – City of Ottawa – Bill Teron Park Expansion and Future Development Lands (6301 Campeau Drive, Ottawa, Ontario)

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Links:

Endangered Species Act, 2007:
http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_07e06_e.htm

Ontario Regulation 242/08 (refer to section 23.7):
http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080242_e.htm

MECP office locations:
https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator

Butternut Health Assessor's Report

Josh Mansell, BHA #520
Stantec Consulting Ltd.
400 – 1331 Clyde Avenue
Ottawa, ON K2C 3G4
613-355-5493
josh.mansell@stantec.com

Mike Russett
Planner III/Project Manager
Parks and Facility Planning Services
Recreation, Cultural and Facility Services Department
City of Ottawa
613-580-2424 Ext. 15459
mike.russett@ottawa.ca

Property Owner of Site: City of Ottawa (the City)
Property description: 6301 Campeau Drive, Ottawa, Ontario (Study Area)
BHA Report Number: BTP001
Date(s) of Butternut health assessment: August 22, 2019 (BTPBN001a) & September 23, 2019 (BTPBN001b)
Date BHA Report prepared: November 22, 2019

Map datum used: ☒ NAD83 ☐ WGS84

Total number of trees assessed in this BHA Report: 51

The assessed trees were numbered in the Study Area using the following name convention: (B)ill (T)eron (P)ark (B)utter(N)ut ### (e.g. BTPBN001). As the Study Area is being used heavily as a recreational area and the butternut trees are not currently identified to be impacted, Stantec decided not to visually identify all of the butternut trees assessed with flagging tape – as is typically the case when completing a BHA report.

Fifty-one (51) butternut trees on, and within 50 m of, the Study Area were assessed and included in this report. To support the City's environmental investigations on the Study Area, a butternut health assessment was completed under the provincial *Endangered Species Act, 2007*.

Butternut trees BTPBN001 – 021 were assessed on August 22, 2019 and included the eight trees originally assessed by Muncaster Environmental Planning (2007), though several were observed to be dead at the time of Stantec's assessment.

Butternut trees BTPBN022 – 051 were assessed on September 23, 2019 and included Tree #1 (BTPBN018) and Tree #2 (BTPBN019) previously assessed by IFS Associates Inc. (2019). Additionally, the September 23, 2019 assessment was completed outside of the recommended assessment window (mid-May – Aug. 31 of any given year) outlined in the MNRF's *Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the Endangered Species Act, 2007* (2014). This deviation from the MNRF guidelines (2014) was

discussed and agreed upon with the City prior to assessment. It was determined that the assessment of butternut trees within the Study Area is being completed by the City as a due diligence exercise to gain a better understanding of environmental constraints within the Study Area. Typically, as per previous guidance from the MNRF's Kemptville district, assessments completed outside of the recommended window are to input '100%' for Live Crown criteria. Based on the live crown conditions of the butternut trees assessed in the Study Area on September 23, 2019, Stantec determined that the butternut trees had retained their crowns sufficiently to accurately assess Live Crown % criteria.

This BHA Report includes the following tables:

- Table 1: Butternut Trees Assessed in the Study Area
- Table 2: Trees Determined by BHA to be Butternut Hybrids
- Table 3: Summary of Assessment Results

Table 1: Butternut Trees Assessed in the Study Area

Tree #	UTM (NAD 83)	Category (1, 2, or 3)	DBH (cm)	Cultivated (Y/N)	Proposed to be killed, harmed or taken	Reason tree is proposed to be killed, harmed or taken
BTPBN001	18T 428440E, 5018070N	1	19	N	n/a	n/a
BTPBN002	18T 428426E, 5018081N	1	45	N	n/a	n/a
BTPBN003	18T 428412E, 5018071N	2	18	N	n/a	n/a
BTPBN004	18T 428428E, 5018155N	2	42	N	n/a	n/a
BTPBN005	18T 428434E, 5018184N	2	20	N	n/a	n/a
BTPBN006	18T 428486E, 5018170N	1	22	N	n/a	n/a
BTPBN007	18T 428474E, 5018182N	1	17	N	n/a	n/a
BTPBN008	18T 428478E, 5018197N	2	44	N	n/a	n/a
BTPBN009	18T 428466E, 5018209N	2	33	N	n/a	n/a
BTPBN010	18T 428472E, 5018211N	1	7	N	n/a	n/a
BTPBN011	18T 428473E, 5018210N	1	15	N	n/a	n/a
BTPBN012	18T 428474E, 5018221N	2	15	N	n/a	n/a
BTPBN013	18T 428516E, 5018243N	2	21	N	n/a	n/a

Tree #	UTM (NAD 83)	Category (1, 2, or 3)	DBH (cm)	Cultivated (Y/N)	Proposed to be killed, harmed or taken	Reason tree is proposed to be killed, harmed or taken
BTPBN014	18T 428521E, 5018249N	2	22	N	n/a	n/a
BTPBN015	18T 428586E, 5018080N	2	14	N	n/a	n/a
BTPBN016	18T 428819E, 5018082N	1	31	N	n/a	n/a
BTPBN017	18T 428847E, 5018086N	1	20	N	n/a	n/a
BTPBN018	18T 429027E, 5018125N	2	43	N	n/a	n/a
BTPBN019	18T 429018E, 5018248N	1	49	N	n/a	n/a
BTPBN020	18T 428938E, 5018303N	2	42	N	n/a	n/a
BTPBN021	18T 428509E, 5018184N	1	20	N	n/a	n/a
BTPBN022	18T 428704E, 5018049N	1	24	N	n/a	n/a
BTPBN023	18T 428741E, 5018059N	1	20	N	n/a	n/a
BTPBN024	18T 428761E, 5018068N	1	15	N	n/a	n/a
BTPBN025	18T 428881E, 5018068N	1	24	N	n/a	n/a
BTPBN026	18T 428769E, 5018199N	3	21	N	n/a	n/a
BTPBN027	18T 428758E, 5018241N	1	36	N	n/a	n/a
BTPBN028	18T 428756E, 5018241N	1	17	N	n/a	n/a
BTPBN029	18T 428895E, 5018339N	3	36	N	n/a	n/a
BTPBN030	18T 428918E, 5018347N	3	27	N	n/a	n/a
BTPBN031	18T 42899E, 5018369N	3	20	N	n/a	n/a
BTPBN032	18T 428994E, 5018348N	3	26	N	n/a	n/a
BTPBN033	18T 429003E, 5018343N	2	14	N	n/a	n/a
BTPBN034	18T 429002E, 5018325N	3	24	N	n/a	n/a

Tree #	UTM (NAD 83)	Category (1, 2, or 3)	DBH (cm)	Cultivated (Y/N)	Proposed to be killed, harmed or taken	Reason tree is proposed to be killed, harmed or taken
BTPBN035	18T 429000E, 5018319N	2	6	N	n/a	n/a
BTPBN036	18T 429005E, 5018313N	2	17	N	n/a	n/a
BTPBN037	18T 429011E, 5018310N	2	17	N	n/a	n/a
BTPBN038	18T 429024E, 5018308N	1	17	N	n/a	n/a
BTPBN039	18T 429017E, 5018300N	1	12	N	n/a	n/a
BTPBN040	18T 429020E, 5018299N	1	25	N	n/a	n/a
BTPBN041	18T 429039E, 5018306N	2	29	N	n/a	n/a
BTPBN042	18T 429036E, 5018316N	2	25	N	n/a	n/a
BTPBN043	18T 429048E, 5018323N	1	28	N	n/a	n/a
BTPBN044	18T 429054E, 5018326N	1	23	N	n/a	n/a
BTPBN045	18T 429068E, 5018358N	2	32	N	n/a	n/a
BTPBN046	18T 429074E, 5018367N	1	19	N	n/a	n/a
BTPBN047	18T 429068E, 5018373N	1	21	N	n/a	n/a
BTPBN048	18T 429065E, 5018379N	2	6	N	n/a	n/a
BTPBN049	18T 429058E, 5018386N	2	17	N	n/a	n/a
BTPBN050	18T 428994E, 5018280N	2	15	N	n/a	n/a
BTPBN051	18T 428930E, 5018175N	2	43	N	n/a	n/a

Table 2: Trees Determined by BHA to be Butternut Hybrids

Tree #	UTM coordinates	Method used (genetic testing or field identification):
n/a	n/a	n/a

Table 3: Summary of Assessment Results

Result	Total #	Important information for persons planning activities that may affect Butternut:
Category 1	23	• A Category 1 tree is one that is affected by butternut canker to such an advanced degree that retaining the tree would not support the protection or recovery of butternut in the area in which the tree is located; and is considered "non-retainable". • During the 30-day period that follows your submission of this BHA Report to the MECP District Manager, no butternut trees (of Category 1, 2, or 3) may be killed, harmed, or taken, and MECP may contact you for an opportunity to examine the trees. • Category 1 trees may be killed, harmed or taken **after** the 30-day period that follows submission of this BHA Report to the MECP District Manager, unless the results of an MECP examination indicate that the assessment has not been conducted in accordance with the document entitled "Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the *Endangered Species Act, 2007"*.
Category 2	22	• A Category 2 tree is one that is not affected by butternut canker, or is affected by butternut canker but the degree to which it is affected is not too advanced and retaining the tree could support the protection or recovery of butternut in the area in which the tree is located, and is considered "retainable". • During the 30-day period that follows your submission of this BHA Report to the MECP District Manager, no butternut trees (of Category 1, 2, or 3) may be killed, harmed, or taken, and MECP may contact you for an opportunity to examine the trees. • Activities that may kill, harm or take up to a maximum of ten (10) Category 2 trees may be eligible to follow the rules in section 23.7 of Ontario Regulation 242/08, in accordance with the conditions and requirements set out in the regulation. • Refer to e-Laws for the legal requirements of eligible activities under section 23.7 of Ontario Regulation 242/08 and conditions that must be fulfilled: http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080242_e.htm
Category 3	6	• A Category 3 tree is one that may be useful in determining sources of resistance to butternut canker, and is considered "archivable". • Category 3 trees are not eligible to be killed, harmed or taken under section 23.7 of Ontario Regulation 242/08. • Visit the MECP website using the link below for information on how to seek an ESA authorization, or consider an alternative that will avoid killing, harming or taking any Category 3 trees: https://www.ontario.ca/page/species-risk
Cultivated	0	• An activity that involves killing, harming, or taking a cultivated butternut tree that was not required to be planted to fulfill a condition of an ESA permit or a condition of a regulation, may be eligible for the exemption provided by subsection 23.7 (11) of O. Reg. 242/08. • Prior to undertaking the activity, the owner or occupier of the land on which the butternut is located (or person acting on their behalf) will need to determine whether the exemption for cultivated trees is applicable by determining whether or not the tree was cultivated as a result of the requirements for an exemption under O. Reg. 242/08 or a condition of a permit issued under the ESA. This information can be accessed by contacting the local MECP district office: https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator

Result	Total #	Important information for persons planning activities that may affect Butternut:
		• The owner or occupier of the land on which the butternut is located (or person acting on their behalf) is encouraged to append the details regarding whether the tree was planted to satisfy a requirement (e.g., the permit number or registration number) to this BHA Report for their records.
Hybrid	0	• Hybrid butternut trees are not protected under the ESA, but their removal may be subject to municipal by-laws and other legislation.

NOTE: This concludes the summary of the BHA report. A complete BHA report must include the original (hard copy) data forms (i.e., all completed sets of Form 1 and Form 2), an electronic copy of the Microsoft Excel data analysis spreadsheet and one printed copy of the Microsoft Excel data analysis spreadsheet.

Butternut Data Collection Form 1 - 2010 Edition

0cm 3cm 15cm

Surveyor ID or BHA #: 0520

(PLEASE USE BLOCK LETTERS)

Date (dd/mm/yyyy): 1. 22-08-2019 2. 23-09-2019

Shaded fields are mandatory for Butternut Health Assessments

Surveyor Contact

First: JOSH Last: MANSELL

Email: josh.mansell@stantec.com

Telephone: (613) 355-5493 Telephone Other: ( ) - x

Property Owner (check if same as surveyor) ☐

First: Last:

or Company: CITY OF OTTAWA

Email:

Telephone: (613) - Telephone Other: (613) 580-2424 x15459

Property Owner's Mailing address

Address: 100 CONSTELLATION CRESCEN Postal Code: K2G6J8 Prov.: ON

City: NEPEAN

Tree Location (if different from mailing address)

Address/(911#): 6301 CANPEAU DRIVE

Township: GOULBOURN Lot: 03 Con: 02

City: KANATA

Directions

6301 Canpeau Dr. (Bill Teron Park) is accessed from the intersection of Kanata Ave. + Earl Grey Dr.

■ Yes ☐ No Can Share Location Information with other Butternut Recovery Organizations?

■ Yes ☐ No Site visits OK? (prior arrangments will always be made for a site vist)

> (Greater than)
< (Less than)

Butternut Trees Tally by Diameter Class

(Do a dot tally in blank space; write total# in box for each)

Tree Condition	< 3 cm	3-15 cm	16-30cm	>30 cm
Vigorous: > 50% Live Crown Minor or no cankers				
Poor Vigor: <50% Live Crown or >50% Live Crown + heavily cankered stem				
Dead				

Historically, do some trees produce seeds? ☐ Y ☐ N ☐ Unkown

Estimated area containing butternut for properties > 1 acre (0.4 hectares): 048 ■ Acres ☐ Hectares

This is the total area of 6301 Canpeau Dr.
* Survey completed within existing Bill Teron Park and proposed Park Expansion Area ~30 acres.

Overall Property Description (area(s) containing Butternut)

- ■ Rolling Upland
- ☐ Bottomland
- ☐ Valley Slope
- ☐ Variable
- ☐ Tableland
- ☐ Unknown

Vegetation Community/ies

- ☐ Open
- ☐ Fencerow
- ■ Shrubland
- ☐ Roadside
- ■ DeciduousForest
- ☐ Quary
- ☐ ConiferForest
- ☐ UrbanYard
- ☐ MixedForest
- ☐ UrbanPark

Other:

Soil Drainage

- ☐ Well Drained
- ☐ Moderately Drained
- ■ Poorly Drained
- ☐ Unknown

Soil Texture

- ☐ Clay
- ☐ Sand
- ☐ Clay Loam
- ■ Variable
- ☐ Loam
- ☐ Unknown
- ☐ Loamy Sand

Soil Depth

- ☐ > 1metre
- ☐ 30 - 99cm
- ■ < 30cm
- ■ Variable
- ☐ Unknown

Please enter matching numerical page link code on forms 1 and 2

Page Link: 428404

428704

(Contact information follows all applicable privacy policies and guidelines)

Please return forms to:
Forest Gene Conservation Association
Suite 233, 266 Charlotte St.
Peterborough, ON, K9J 2V4
www.fgca.net

49731

Butternut Data Collection FORM 2 (2010 Edition) (PLEASE USE BLOCK LETTERS)

Shaded fields are mandatory for Butternut Health Assessments

Fill when Form 1 indicates canker is well established. The information opn Form 2 must be filled out for all trees when doing a Butternut Health Assessment.

BTP Site Code(A,B,...Z, AA...) | Surveyor ID or BHA # 0520

Surveyor Last Name MANSELL

Date (dd/mm/yyyy) 22 - 08 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # 001 | **Zone** 18 | **Easting** 428440 | **Northing** 5018070

Crown Class 3 | Live Crown % 010 | Main Stem Length(m) Below crown 03 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■ | #Stems 1 | DBH(cm) 019

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type F | # Callused Wounds 02

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: TILAMER | FRAPENU

BTPBN059 1. Tree is growing between 2 boulders. 2. Tree is vandalized. BTP001

Tree # 002 | **Zone** 18 | **Easting** 428426 | **Northing** 5018081

Crown Class 2 | Live Crown % 045 | Main Stem Length(m) Below crown 02 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■ | #Stems 1 | DBH(cm) 015

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type S | # Callused Wounds 00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: TILAMER

BTPBN057. BTP002

Tree # 003 | **Zone** 18 | **Easting** 428412 | **Northing** 5018071

Crown Class 2 | Live Crown % 085 | Main Stem Length(m) Below crown 04 | Seed Signs: None

Twig Dieback ■ | Branch Dieback ■ | Defoliation ☐ | Discolouration ■ | #Stems 2 | DBH(cm) 018

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type F | # Callused Wounds 01

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: TILAMER

BTPBN058 1. Growing in boulders along outcrop embankment. BTP003

Tree # 004 | **Zone** 18 | **Easting** 428428 | **Northing** 5018155

Crown Class 3 | Live Crown % 075 | Main Stem Length(m) Below crown 09 | Seed Signs: None

Twig Dieback ■ | Branch Dieback ■ | Defoliation ■ | Discolouration ■ | #Stems 1 | DBH(cm) 042

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type S | # Callused Wounds 05

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: CARCORD

BTPBN056 1. Along outcrop embankment. BTPBN004

Tree # 005 | **Zone** 18 | **Easting** 428434 | **Northing** 5018184

Crown Class 3 | Live Crown % 000 | Main Stem Length(m) Below crown 05 | Seed Signs: None

Twig Dieback ■ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■ | #Stems 1 | DBH(cm) 020

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ■ | None ☐

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type F | # Callused Wounds 03

	#Open	#Sooty
Root	00	00
=<2m	00	02
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: THUOCCI | TILAMER

BTPBN055 1. Growing along embankment between boulders. BTPBN005

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Butternut Data Collection FORM 2 (2010 Edition)

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0520

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 22 - 08 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree #: 0006 **Zone:** 18 **Easting:** 428486 **Northing:** 5018170

Crown Class: 3 | Live Crown %: 095 | Main Stem Length(m) Below crown: 04

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

☒ Twig Dieback ☐ Branch Dieback ☒ Defoliation ☒ Discolouration | #Stems: 1 | DBH(cm): 022

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 01

	#Open	#Sooty
Root	01	02
=<2m	00	03
>2m	00	01

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: PICGLAU; OSTVIR

BTPBN047 1. 5m N of BTPBN048 → dead. BTPBN006

Tree #: 0007 **Zone:** 18 **Easting:** 428474 **Northing:** 5018182

Crown Class: 3 | Live Crown %: 095 | Main Stem Length(m) Below crown: 04

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☒ Seed Set ☐ None

☒ Twig Dieback ☐ Branch Dieback ☒ Defoliation ☒ Discolouration | #Stems: 4 | DBH(cm): 017

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 03

	#Open	#Sooty
Root	00	04
=<2m	01	03
>2m	00	01

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: TILAMER

BTPBN046 1. Along pedestrian pathway. BTPBN007

Tree #: 0008 **Zone:** 18 **Easting:** 428478 **Northing:** 5018197

Crown Class: 4 | Live Crown %: 100 | Main Stem Length(m) Below crown: 05

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☒ Seed Set ☐ None

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☒ Discolouration | #Stems: 1 | DBH(cm): 044

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: F | # Callused Wounds: 01

	#Open	#Sooty
Root	00	00
=<2m	00	04
>2m	00	04

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species: PICGLAU; ACERUBR

BTPBN045 1. Corner of parking lot + pedestrian pathway. BTPBN008

Tree #: 0009 **Zone:** 18 **Easting:** 428466 **Northing:** 5018209

Crown Class: 3 | Live Crown %: 100 | Main Stem Length(m) Below crown: 05

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☒ Discolouration | #Stems: 1 | DBH(cm): 093

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: F | # Callused Wounds: 00

	#Open	#Sooty
Root	01	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species: CARCORD; QUEMACR

BTPBN044 BTPBN009

Tree #: 0010 **Zone:** 18 **Easting:** 428472 **Northing:** 5018211

Crown Class: 2 | Live Crown %: 100 | Main Stem Length(m) Below crown: 02

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

☐ Twig Dieback ☐ Branch Dieback ☒ Defoliation ☒ Discolouration | #Stems: 1 | DBH(cm): 007

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 00

	#Open	#Sooty
Root	00	00
=<2m	01	01
>2m	01	00

Metres from badly cankered tree: ☒ < 40 ☒ > 40 ☐ None Found

Competing Species: JUGCINE; ACESACH

BTPBN042. BTPBN010

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0520

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 22 - 08 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree #: 011 | **Zone:** 18 | **Easting:** 428473 | **Northing:** 5018210

Crown Class: 3 | Live Crown %: 100 | Main Stem Length(m) Below crown: 04 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ■ | Discolouration ■ | #Stems: 1 | DBH(cm): 015

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 01

	#Open	#Sooty
Root	03	01
=<2m	01	00
>2m	01	00

Metres from badly cankered tree: < 40 ■ | > 40 ☐ | None Found ☐

Competing Species: ACESACH

BTPBN011. BTPBU011

Tree #: 012 | **Zone:** 18 | **Easting:** 428474 | **Northing:** 5018221

Crown Class: 3 | Live Crown %: 100 | Main Stem Length(m) Below crown: 03 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ■ | Discolouration ■ | #Stems: 1 | DBH(cm): 015

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 01

	#Open	#Sooty
Root	01	01
=<2m	00	01
>2m	00	01

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: ACESACH

BTPBN013. 1. Behind City electrical box. BTPBU013

Tree #: 013 | **Zone:** 18 | **Easting:** 428516 | **Northing:** 5018243

Crown Class: 3 | Live Crown %: 100 | Main Stem Length(m) Below crown: 06 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ■ | Discolouration ■ | #Stems: 1 | DBH(cm): 021

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ■ | > 40 ☐ | None Found ☐

Competing Species: BETPAPY.

BTPBN053 BTPBU013

Tree #: 014 | **Zone:** 18 | **Easting:** 428521 | **Northing:** 5018249

Crown Class: 1 | Live Crown %: 100 | Main Stem Length(m) Below crown: 03 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ■ | Discolouration ■ | #Stems: 1 | DBH(cm): 022

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live: 02 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: QUEMACR / BETPAPY.

BTPBN054. 1. Along slope of bedrock outcrop. BTPBN014

Tree #: 015 | **Zone:** 18 | **Easting:** 428586 | **Northing:** 5018080

Crown Class: 2 | Live Crown %: 100 | Main Stem Length(m) Below crown: 05 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■ | #Stems: 1 | DBH(cm): 014

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: 5 | # Callused Wounds: 00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: PINSTRO

BTPBN 1. Growing under large DBH P. Strobus dbrs yard margin. BTPBU015

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0520

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 22 - 08 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree #: 016 **Zone:** 18 **Easting:** 428819 **Northing:** 5018082

Crown Class: 3 | Live Crown %: 015 | Main Stem Length(m) Below crown: 09 | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 1 | DBH(cm): 031

Butternut Origin: Natural ☐ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ☐

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 02 | Bark Type: 5 | # Callused Wounds: 00

	#Open	#Sooty
Root	01	01
=<2m	04	04
>2m	03	06

Metres from badly cankered tree: < 40 ☐ | > 40 ☐ | None Found ☐

Competing Species: CARCORD, QUEMACR

Starlec - BTPBN005 2007 - BrOOC * 2007 - BrOOD → dead BTPBN016

Tree #: 017 **Zone:** 18 **Easting:** 428647 **Northing:** 5018086

Crown Class: 3 | Live Crown %: 100 | Main Stem Length(m) Below crown: 05 | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 1 | DBH(cm): 020

Butternut Origin: Natural ☐ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ☐

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: F | # Callused Wounds: 01

	#Open	#Sooty
Root	02	01
=<2m	02	03
>2m	00	03

Metres from badly cankered tree: < 40 ☐ | > 40 ☐ | None Found ☐

Competing Species: ACESACH, PINSTRO

Starlec - BTPBN059 2007 - BrOOH BTPBN017

Tree #: 018 **Zone:** 18 **Easting:** 429027 **Northing:** 5018125

Crown Class: 4 | Live Crown %: 090 | Main Stem Length(m) Below crown: 12 | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 1 | DBH(cm): 043

Butternut Origin: Natural ☐ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ☐

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: F | # Callused Wounds: 01

	#Open	#Sooty
Root	00	02
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ☐ | None Found ☐

Competing Species: TILAMER

Starlec - BTPBN007 2007 - BrOOF 1. Previously flagged w/ white tape. BTPBN018

Tree #: 019 **Zone:** 18 **Easting:** 429018 **Northing:** 5018248

Crown Class: 4 | Live Crown %: 065 | Main Stem Length(m) Below crown: 11 | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 2 | DBH(cm): 049

Butternut Origin: Natural ☐ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ☐

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: F | # Callused Wounds: 00

	#Open	#Sooty
Root	03	04
=<2m	00	05
>2m	01	05

Metres from badly cankered tree: < 40 ☐ | > 40 ☐ | None Found ☐

Competing Species: ACESACH

Starlec - BTPBN019 ~~2007 - BrOOA~~ 1. Previously flagged w/ white tape. BTPBN019

Tree #: 020 **Zone:** 18 **Easting:** 426993 **Northing:** 5018303

Crown Class: 4 | Live Crown %: 095 | Main Stem Length(m) Below crown: 10 | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 1 | DBH(cm): 042

Butternut Origin: Natural ☐ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ☐

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: F | # Callused Wounds: 02

	#Open	#Sooty
Root	01	01
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: < 40 ☐ | > 40 ☐ | None Found ☐

Competing Species: BETPAPY

Starlec - BTPBN020 2007 - BrOOB BTPBN020

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0520

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 22 - 08 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree 1

Tree #: 021 | Zone: 18 | Easting: 428509 | Northing: 5018184

Crown Class: 3 | Live Crown %: 075 | Main Stem Length(m) Below crown: 03 | Seed Signs

Twig Dieback ■ | Branch Dieback ■ | Defoliation ■ | Discolouration ■ | #Stems: 3 | DBH(cm): 020

Butternut Origin: ■ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ■ None

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: F | # Callused Wounds: 00

	#Open	#Sooty
Root	01	01
=<2m	02	05
>2m	00	06

Metres from badly cankered tree: ☐ < 40 ■ > 40 ☐ None Found

Competing Species: THUOCCI | CRATEGU

BTPN-1

BTPN-01

Tree 2

Tree #: | Zone: 1 | Easting: | Northing:

Crown Class: | Live Crown %: | Main Stem Length(m) Below crown: | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: | DBH(cm):

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live: | #Epic-Dead: | Bark Type: | # Callused Wounds:

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree 3

Tree #: | Zone: 1 | Easting: | Northing:

Crown Class: | Live Crown %: | Main Stem Length(m) Below crown: | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: | DBH(cm):

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live: | #Epic-Dead: | Bark Type: | # Callused Wounds:

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree 4

Tree #: | Zone: 1 | Easting: | Northing:

Crown Class: | Live Crown %: | Main Stem Length(m) Below crown: | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: | DBH(cm):

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live: | #Epic-Dead: | Bark Type: | # Callused Wounds:

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree 5

Tree #: | Zone: 1 | Easting: | Northing:

Crown Class: | Live Crown %: | Main Stem Length(m) Below crown: | Seed Signs

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: | DBH(cm):

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live: | #Epic-Dead: | Bark Type: | # Callused Wounds:

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species:

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Site Code(A,B,...Z, AA...) | Surveyor ID or BHA # | Date (dd/mm/yyyy) - - 20

Surveyor Last Name

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # | Zone 1 | Easting | Northing

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

Twig Dieback | Branch Dieback | Defoliation | Discolouration | #Stems | DBH(cm)

Butternut Origin: Natural | Planted | Unknown

Male Flowers | Female Flowers | Seed Set | None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

#Open | #Sooty: Root | =<2m | >2m

Metres from badly cankered tree: < 40 | > 40 | None Found

Competing Species

Tree # | Zone 1 | Easting | Northing

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

Twig Dieback | Branch Dieback | Defoliation | Discolouration | #Stems | DBH(cm)

Butternut Origin: Natural | Planted | Unknown

Male Flowers | Female Flowers | Seed Set | None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

#Open | #Sooty: Root | =<2m | >2m

Metres from badly cankered tree: < 40 | > 40 | None Found

Competing Species

Tree # | Zone 1 | Easting | Northing

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

Twig Dieback | Branch Dieback | Defoliation | Discolouration | #Stems | DBH(cm)

Butternut Origin: Natural | Planted | Unknown

Male Flowers | Female Flowers | Seed Set | None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

#Open | #Sooty: Root | =<2m | >2m

Metres from badly cankered tree: < 40 | > 40 | None Found

Competing Species

Tree # | Zone 1 | Easting | Northing

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

Twig Dieback | Branch Dieback | Defoliation | Discolouration | #Stems | DBH(cm)

Butternut Origin: Natural | Planted | Unknown

Male Flowers | Female Flowers | Seed Set | None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

#Open | #Sooty: Root | =<2m | >2m

Metres from badly cankered tree: < 40 | > 40 | None Found

Competing Species

Tree # | Zone 1 | Easting | Northing

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

Twig Dieback | Branch Dieback | Defoliation | Discolouration | #Stems | DBH(cm)

Butternut Origin: Natural | Planted | Unknown

Male Flowers | Female Flowers | Seed Set | None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

#Open | #Sooty: Root | =<2m | >2m

Metres from badly cankered tree: < 40 | > 40 | None Found

Competing Species

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Butternut Data Collection FORM 2 (2010 Edition)

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Shaded fields are mandatory for Butternut Health Assessments

Site Code(A,B,...Z, AA...) | Surveyor ID or BHA # | Date (dd/mm/yyyy) - - 20

Surveyor Last Name

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # | **Zone** 1 | **Easting** | **Northing**

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration | #Stems | DBH(cm)

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species

Tree # | **Zone** 1 | **Easting** | **Northing**

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration | #Stems | DBH(cm)

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species

Tree # | **Zone** 1 | **Easting** | **Northing**

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration | #Stems | DBH(cm)

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species

Tree # | **Zone** 1 | **Easting** | **Northing**

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration | #Stems | DBH(cm)

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species

Tree # | **Zone** 1 | **Easting** | **Northing**

Crown Class | Live Crown % | Main Stem Length(m) Below crown | Seed Signs

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration | #Stems | DBH(cm)

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live | #Epic-Dead | Bark Type | # Callused Wounds

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species

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BTP Site Code(A,B,...Z, AA...) | Surveyor ID or BHA # 0520

Surveyor Last Name MANSELL

Date (dd/mm/yyyy) 23 - 09 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # 001 | Zone 18 | Easting 428704 | Northing 5018049

Crown Class 3 | Live Crown % 050 | Main Stem Length(m) Below crown 06 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ■ | Defoliation ■ | Discolouration ■ | #Stems 1 | DBH(cm) 024

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 00 | #Epic-Dead 01 | Bark Type 5 | # Callused Wounds 00

	#Open	#Sooty
Root	01	00
=<2m	02	03
>2m	00	06

Metres from badly cankered tree: < 40 ■ | > 40 ☐ | None Found ☐

Competing Species: ACERUBR, CARCORD

GPS - Tree 38 ; main stem is punky/rotten. BTPBN022 939

Tree # 002 | Zone 18 | Easting 428741 | Northing 5018059

Crown Class 3 | Live Crown % 075 | Main Stem Length(m) Below crown 09 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ■ | Defoliation ☐ | Discolouration ■ | #Stems 1 | DBH(cm) 020

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 01 | #Epic-Dead 00 | Bark Type 5 | # Callused Wounds 00

	#Open	#Sooty
Root	01	04
=<2m	01	04
>2m	02	11

Metres from badly cankered tree: < 40 ☐ | > 40 ■ | None Found ☐

Competing Species: PINSTRO, ACESACH

GPS - Tree 37 BTPBN023 960

Tree # 003 | Zone 18 | Easting 428761 | Northing 5018068

Crown Class 2 | Live Crown % 065 | Main Stem Length(m) Below crown 02 | Seed Signs: None

Twig Dieback ■ | Branch Dieback ■ | Defoliation ☐ | Discolouration ■ | #Stems 1 | DBH(cm) 015

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 03 | #Epic-Dead 01 | Bark Type 5 | # Callused Wounds 00

	#Open	#Sooty
Root	02	00
=<2m	03	01
>2m	01	04

Metres from badly cankered tree: < 40 ■ | > 40 ☐ | None Found ☐

Competing Species: ACESACH, PINSTRS

GPS - Tree - ; stem is punky/rotten. BTPBN024 961

Tree # 004 | Zone 18 | Easting 428861 | Northing 5018068

Crown Class 3 | Live Crown % 090 | Main Stem Length(m) Below crown 06 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■ | #Stems 1 | DBH(cm) 024

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 01 | #Epic-Dead 01 | Bark Type 5 | # Callused Wounds 01

	#Open	#Sooty
Root	03	01
=<2m	00	03
>2m	00	04

Metres from badly cankered tree: < 40 ■ | > 40 ☐ | None Found ☐

Competing Species: ULMAMER, PINSTRO

GPS - Tree 4 BTPBP025 960

Tree # 005 | Zone 18 | Easting 428769 | Northing 5018199

Crown Class 4 | Live Crown % 100 | Main Stem Length(m) Below crown 05 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■ | #Stems 1 | DBH(cm) 021

Butternut Origin: Natural ■ | Planted ☐ | Unknown ☐ | Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type 5 | # Callused Wounds 02

	#Open	#Sooty
Root	01	03
=<2m	00	01
>2m	00	00

Metres from badly cankered tree: < 40 ■ | > 40 ☐ | None Found ☐

Competing Species: ACERUBR, PRUSERO

GPS - Br (Gradley) BTPBN026 963

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 052

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 23 - 09 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree #: 006 | **Zone:** 18 | **Easting:** 428758 | **Northing:** 5018217

Crown Class: 4 | Live Crown %: 050 | Main Stem Length(m) Below crown: 04

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☑ | #Stems: 1 | DBH(cm): 036

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☑ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	01	00	F	00

	#Open	#Sooty
Root	01	02
=<2m	00	04
>2m	00	01

Metres from badly cankered tree: ☑ < 40 ☐ > 40 ☐ None Found

Competing Species:

GPS - BTP2 (red flag) BTPBNU27 964

Tree #: 007 | **Zone:** 18 | **Easting:** 428756 | **Northing:** 5018241

Crown Class: 2 | Live Crown %: 025 | Main Stem Length(m) Below crown: 04

Twig Dieback ☑ | Branch Dieback ☑ | Defoliation ☑ | Discolouration ☑ | #Stems: 1 | DBH(cm): 017

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☑ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	03	01	F	00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species: CARCORD

GPS - 965 (new); growing out of bedrock outcrop BTPBNU28 965

Tree #: 008 | **Zone:** 18 | **Easting:** 428895 | **Northing:** 5018339

Crown Class: 3 | Live Crown %: 095 | Main Stem Length(m) Below crown: 03

Twig Dieback ☑ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☑ | #Stems: 1 | DBH(cm): 036

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☑ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	00	00	F	00

	#Open	#Sooty
Root	00	01
=<2m	00	00
>2m	00	01

Metres from badly cankered tree: ☑ < 40 ☐ > 40 ☐ None Found

Competing Species: PINSTRO

GPS - Tree 50 BTPBNU29 966

Tree #: 009 | **Zone:** 18 | **Easting:** 428918 | **Northing:** 5018347

Crown Class: 3 | Live Crown %: 090 | Main Stem Length(m) Below crown: 07

Twig Dieback ☑ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☑ | #Stems: 1 | DBH(cm): 027

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☑ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	00	00	S	00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: ☑ < 40 ☐ > 40 ☐ None Found

Competing Species: PINSTRO

GPS - Tree 51; large open wound on bottom of main stem. BTPBNU30 967

Tree #: 010 | **Zone:** 18 | **Easting:** 428999 | **Northing:** 5018369

Crown Class: 4 | Live Crown %: 075 | Main Stem Length(m) Below crown: 06

Twig Dieback ☑ | Branch Dieback ☐ | Defoliation ☑ | Discolouration ☑ | #Stems: 2 | DBH(cm): 020

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☑ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	00	00	S	00

	#Open	#Sooty
Root	02	00
=<2m	01	03
>2m	00	01

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species: BSTUIRO

?. - Tree? BTPBNU31 965

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0520

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 23 - 09 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree 011 — Zone 18 — Easting 428994 — Northing 5018348

Crown Class: 4 — Live Crown %: 080 — Main Stem Length(m) Below crown: 04

Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration ☒ — #Stems: 4 — DBH(cm): 026

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 00 — #Epic-Dead: 00 — Bark Type: F — # Callused Wounds: 00

	#Open	#Sooty
Root	01	00
=<2m	00	04
>2m	00	01

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: QUEMACR

GPS - Tree 32 ; overall health declining, failed 5th stem. 32 969

Tree 012 — Zone 18 — Easting 429003 — Northing 5018343

Crown Class: 3 — Live Crown %: 085 — Main Stem Length(m) Below crown: 05

Twig Dieback ☒ Branch Dieback ☒ Defoliation ☐ Discolouration ☒ — #Stems: 1 — DBH(cm): 014

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 00 — #Epic-Dead: 00 — Bark Type: F — # Callused Wounds: 00

	#Open	#Sooty
Root	00	01
=<2m	00	03
>2m	00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - Tree 31 33

Tree 013 — Zone 18 — Easting 429002 — Northing 5018325

Crown Class: 3 — Live Crown %: 095 — Main Stem Length(m) Below crown: 02

Twig Dieback ☒ Branch Dieback ☐ Defoliation ☐ Discolouration ☒ — #Stems: 1 — DBH(cm): 024

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 00 — #Epic-Dead: 00 — Bark Type: F — # Callused Wounds: 00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - Tree 30 34

Tree 014 — Zone 18 — Easting 429000 — Northing 5018319

Crown Class: 2 — Live Crown %: 100 — Main Stem Length(m) Below crown: 03

Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration ☒ — #Stems: 1 — DBH(cm): 066

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 00 — #Epic-Dead: 00 — Bark Type: S — # Callused Wounds: 00

	#Open	#Sooty
Root	06	00
=<2m	06	00
>2m	00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - 970 (new) 35 970

Tree 015 — Zone 18 — Easting 429005 — Northing 5018313

Crown Class: 3 — Live Crown %: 090 — Main Stem Length(m) Below crown: 02

Twig Dieback ☒ Branch Dieback ☐ Defoliation ☐ Discolouration ☒ — #Stems: 1 — DBH(cm): 017

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 00 — #Epic-Dead: 00 — Bark Type: F — # Callused Wounds: 09

	#Open	#Sooty
Root	01	00
=<2m	01	00
>2m	00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - 971 36 971

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0520

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 23 - 09 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree 16

Tree #: 016 | Zone: 18 | Easting: 429011 | Northing: 5018316

Crown Class: 3 | Live Crown %: 090 | Main Stem Length(m) Below crown: 65 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■

#Stems: 2 | DBH(cm): 017

Butternut Origin: ■ Natural ☐ Planted ☐ Unknown

Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 00		
Bark Type: F		
# Callused Wounds: 00	Root	00
	=<2m	00
	>2m	00

Metres from badly cankered tree: ■ < 40 ☐ > 40 ☐ None Found

Competing Species: ULMAMER

GPS - Tree 29 — 37 — 970-29

Tree 17

Tree #: 017 | Zone: 18 | Easting: 429024 | Northing: 5018306

Crown Class: 4 | Live Crown %: 045 | Main Stem Length(m) Below crown: 65 | Seed Signs: None

Twig Dieback ■ | Branch Dieback ■ | Defoliation ☐ | Discolouration ■

#Stems: 1 | DBH(cm): 017

Butternut Origin: ■ Natural ☐ Planted ☐ Unknown

Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 01		
#Epic-Dead: 04		
Bark Type: F		
# Callused Wounds: 00	Root	00
	=<2m	02
	>2m	00

Metres from badly cankered tree: ☐ < 40 ■ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - Tree 28 — 38 — 972

Tree 18

Tree #: 018 | Zone: 18 | Easting: 429017 | Northing: 5018306

Crown Class: 3 | Live Crown %: 106 | Main Stem Length(m) Below crown: 05 | Seed Signs: None

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■

#Stems: 1 | DBH(cm): 012

Butternut Origin: ■ Natural ☐ Planted ☐ Unknown

Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 01		
#Epic-Dead: 04		
Bark Type: 5		
# Callused Wounds: 00	Root	00
	=<2m	05
	>2m	04

Metres from badly cankered tree: ☐ < 40 ■ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - Tree 13 — 39

Tree 19

Tree #: 019 | Zone: 18 | Easting: 429026 | Northing: 5018299

Crown Class: 4 | Live Crown %: 095 | Main Stem Length(m) Below crown: 05 | Seed Signs: None

Twig Dieback ■ | Branch Dieback ☐ | Defoliation ■ | Discolouration ■

#Stems: 1 | DBH(cm): 025

Butternut Origin: ■ Natural ☐ Planted ☐ Unknown

Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 00		
Bark Type: F		
# Callused Wounds: 02	Root	02
	=<2m	03
	>2m	03

Metres from badly cankered tree: ☐ < 40 ■ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - 974 + Tree 14 — 40 — 974

Tree 20

Tree #: 020 | Zone: 18 | Easting: 429039 | Northing: 5018906

Crown Class: 4 | Live Crown %: 095 | Main Stem Length(m) Below crown: 07 | Seed Signs: None

Twig Dieback ■ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ■

#Stems: 1 | DBH(cm): 029

Butternut Origin: ■ Natural ☐ Planted ☐ Unknown

Male Flowers ☐ | Female Flowers ☐ | Seed Set ☐ | None ■

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 02		
Bark Type: F		
# Callused Wounds: 00	Root	01
	=<2m	02
	>2m	02

Metres from badly cankered tree: ☐ < 40 ■ > 40 ☐ None Found

Competing Species: FRAPENN

GPS - Tree 15 — 41 — 975

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Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0520

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 23-09-2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree 021

Tree #: 021 | Zone: 18 | Easting: 429036 | Northing: 5018316

Crown Class: 4 | Live Crown %: 080 | Main Stem Length(m) Below crown: 09

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☒

#Stems: 1 | DBH(cm): 025

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	00	00	F	00

	#Open	#Sooty
Root	00	00
=<2m	00	02
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species: FRAREND

GPS - 976 42 976

Tree 022

Tree #: 022 | Zone: 18 | Easting: 429048 | Northing: 5018923

Crown Class: 3 | Live Crown %: 090 | Main Stem Length(m) Below crown: 07

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐

#Stems: 1 | DBH(cm): 028

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	04	01	F	00

	#Open	#Sooty
Root	00	00
=<2m	00	02
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species: ULMAMER

GPS - Tree 19 43 971

Tree 023

Tree #: 023 | Zone: 18 | Easting: 429054 | Northing: 5018326

Crown Class: 4 | Live Crown %: 095 | Main Stem Length(m) Below crown: 07

Twig Dieback ☒ | Branch Dieback ☐ | Defoliation ☒ | Discolouration ☒

#Stems: 1 | DBH(cm): 023

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	01	03	F	00

	#Open	#Sooty
Root	02	01
=<2m	01	03
>2m	00	01

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species:

GPS - Tree 18 44 978

Tree 024

Tree #: 024 | Zone: 18 | Easting: 429068 | Northing: 5018958

Crown Class: 4 | Live Crown %: 095 | Main Stem Length(m) Below crown: 08

Twig Dieback ☒ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☒

#Stems: 1 | DBH(cm): 032

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	00	00	F	00

	#Open	#Sooty
Root	00	00
=<2m	00	01
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species: ACESACH

GPS - Tree 21 45 979

Tree 025

Tree #: 025 | Zone: 18 | Easting: 429074 | Northing: 5018967

Crown Class: 2 | Live Crown %: 020 | Main Stem Length(m) Below crown: 05

Twig Dieback ☒ | Branch Dieback ☒ | Defoliation ☒ | Discolouration ☒

#Stems: 1 | DBH(cm): 019

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Epic-Live	#Epic-Dead	Bark Type	# Callused Wounds
	00	00	F	00

	#Open	#Sooty
Root	00	00
=<2m	00	01
>2m	00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: ACESACH

GPS - Tree 22; growing along embankment of Cordillera St. 960 46

Please enter matching page link code on forms 1 and 2

Page Link: 428704

(Contact Information follows all applicable privacy policies and guidelines)

Please return forms to:
Forest Gene Conservation Association
Suite 233, 266 Charlotte St.
Peterborough, ON, K9J 2V4
www.fgca.net

49731

Butternut Data Collection FORM 2 (2010 Edition)

(PLEASE USE BLOCK LETTERS)

Fill when Form 1 indicates canker is well established. The information opn Form 2 must be filled out for all trees when doing a Butternut Health Assessment.

Shaded fields are mandatory for Butternut Health Assessments

Site Code(A,B,...Z, AA...): BTP

Surveyor ID or BHA #: 0526

Surveyor Last Name: MANSELL

Date (dd/mm/yyyy): 23 - 09 - 2019

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # 026 | Zone 18 | Easting 429065 | Northing 5018373

Crown Class: 3 | Live Crown %: 045 | Main Stem Length(m) Below crown: 06

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 2 | DBH(cm): 021

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live 00 | #Epic-Dead 01 | Bark Type F | # Callused Wounds 00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species: PRUSERO

GPS - Tree 23 : growing along Cordilera St. embankment. 47 981

Tree # 027 | Zone 18 | Easting 429065 | Northing 5018379

Crown Class: 1 | Live Crown %: 100 | Main Stem Length(m) Below crown: 09

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☑ | #Stems: 1 | DBH(cm): 006

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☑ None

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type S | # Callused Wounds 00

	#Open	#Sooty
Root	00	00
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☑ > 40 ☐ None Found

Competing Species: UITRIPA

GPS - Tree 24 48 989

Tree # 028 | Zone 18 | Easting 429058 | Northing 5018386

Crown Class: 3 | Live Crown %: 100 | Main Stem Length(m) Below crown: 02

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☑ | #Stems: 2 | DBH(cm): 017

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☑ Seed Set ☐ None

Assess below live crown: #Epic-Live 00 | #Epic-Dead 01 | Bark Type F | # Callused Wounds 00

	#Open	#Sooty
Root	02	01
=<2m	01	01
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species: FRAPENN ULMAMER

GPS - Tree 25 49 983

Tree # 029 | Zone 18 | Easting 428994 | Northing 5018280

Crown Class: 3 | Live Crown %: 100 | Main Stem Length(m) Below crown: 04

Twig Dieback ☑ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 1 | DBH(cm): 015

Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☑ None

Assess below live crown: #Epic-Live 00 | #Epic-Dead 01 | Bark Type S | # Callused Wounds 00

	#Open	#Sooty
Root	00	00
=<2m	00	01
>2m	00	00

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species: ULMAMER

GPS - Tree 11 50 984

~~**Tree # 030** | Zone 18 | Easting 428930 | Northing 5018175~~

~~Crown Class: 4 | Live Crown %: 095 | Main Stem Length(m) Below crown: 14~~

~~Twig Dieback ☑ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☑ | #Stems: 1 | DBH(cm): 043~~

~~Butternut Origin: ☑ Natural ☐ Planted ☐ Unknown~~

~~Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None~~

~~Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type F | # Callused Wounds 01~~

	#Open	#Sooty
Root	01	04
=<2m	01	02
>2m	00	01

~~Metres from badly cankered tree: ☐ < 40 ☑ > 40 ☐ None Found~~

~~Competing Species:~~

~~GPS - Tree 48~~ 51

Please enter matching page link code on forms 1 and 2

Page Link: 428704

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Forest Gene Conservation Association
Suite 233, 250 Charlotte St.
Peterborough, ON, K9J 2V4
www.fgca.net

49731

BHA Tree Analysis (version: December 2013)

This table is to be completed by a designated Butternut Health Assessor (BHA).

BHA Report #	BTP001a	Assessment Date(s)	August 22, 2019 (BTPBNXXX_20190822)	Total # Butternut Trees in BHA Report	21
BHA ID #	520	BHA Name	Josh Mansell		
Landowner / Client Name			City of Ottawa		
Property Location			6301 Campeau Drive, Kanata, Ontario		

input field data										automatic calculations from field data						Categories: 1: non-retainable, 2: retainable, 3: archivable				
Tree #	Live Crown %	Tree dbh (cm)	# bole cankers				# root flare (RF) cankers		<40 m from cankered tree? (Y or N)	Circ. (cm) = Pi x dbh	total bole canker width (sooty x 2.5 + open x 5)	total RF canker width (sooty x 2.5 + open x 5)	bole canker % of circ.	RF canker % of circ.	total bole & root canker % of 2xCirc	LC% >/= 50 & BC% = 0	LC% >70 & BRC % <20	LC% >70 & BC % <20	Preliminary tree call	FINAL TREE CALL a Cat 2, dbh>20cm <40m from a Cat 1
			sooty (S) (will be assigned 2.5 cm per canker)		open (O) (will be assigned 5 cm per canker)															
			S <2 m	S >2 m	O <2 m	O >2 m	RF S	RF O		Circ (cm)	BC (cm)	RC (cm)	BC%	RC%	BRC%					
1	10	19	0	0	0	0	0	0	n	59.66	0.0	0.0	**0.0**	**0.0**	**0.0**	1	1	1	**1**	**1**
2	45	45	0	0	0	0	0	0	n	141.3	0.0	0.0	**0.0**	**0.0**	**0.0**	1	1	1	**1**	**1**
3	85	18	0	0	0	0	0	0	n	56.52	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
4	75	42	0	0	0	0	0	0	n	131.9	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
5	100	20	2	0	0	0	0	0	n	62.8	5.0	0.0	**8.0**	**0.0**	**4.0**	1	2	2	**2**	**2**
6	95	22	3	1	1	0	4	1	y	69.08	15.0	15.0	**21.7**	**21.7**	**21.7**	1	1	1	**1**	**1**
7	95	17	3	1	1	0	4	0	y	53.38	15.0	10.0	**28.1**	**18.7**	**23.4**	1	1	1	**1**	**1**
8	100	44	4	4	0	0	0	0	n	138.2	20.0	0.0	**14.5**	**0.0**	**7.2**	1	2	2	**2**	**2**
9	100	33	0	0	0	0	0	1	n	103.6	0.0	5.0	**0.0**	**4.8**	**2.4**	2	2	2	**2**	**2**
10	100	7	1	0	1	1	0	0	n	21.98	12.5	0.0	**56.9**	**0.0**	**28.4**	1	1	1	**1**	**1**
11	100	15	0	0	1	1	1	3	n	47.1	10.0	17.5	**21.2**	**37.2**	**29.2**	1	1	1	**1**	**1**
12	100	15	1	1	0	0	1	1	n	47.1	5.0	7.5	**10.6**	**15.9**	**13.3**	1	2	2	**2**	**2**
13	100	21	0	0	0	0	0	0	n	65.94	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
14	100	22	0	0	0	0	0	0	n	69.08	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
15	100	14	0	0	0	0	0	0	n	43.96	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
16	15	31	4	6	4	3	1	1	y	97.34	60.0	7.5	**61.6**	**7.7**	**34.7**	1	1	1	**1**	**1**
17	100	20	3	3	2	0	1	2	y	62.8	25.0	12.5	**39.8**	**19.9**	**29.9**	1	1	1	**1**	**1**
18	90	43	0	0	0	0	2	0	n	135	0.0	5.0	**0.0**	**3.7**	**1.9**	2	2	2	**2**	**2**
19	65	49	5	5	0	1	4	3	y	153.9	30.0	25.0	**19.5**	**16.2**	**17.9**	1	1	1	**1**	**1**
20	95	42	0	0	0	0	1	1	n	131.9	0.0	7.5	**0.0**	**5.7**	**2.8**	2	2	2	**2**	**2**
21	75	20	5	6	2	0	1	1	n	62.8	37.5	7.5	**59.7**	**11.9**	**35.8**	1	1	1	**1**	**1**

BHA Tree Analysis (version: December 2013)

This table is to be completed by a designated Butternut Health Assessor (BHA).

BHA Report #	BTP001b	Assessment Date(s)	September 23, 2019 (BTPBNXXX_20190923)	Total # Butternut Trees in BHA Report	30
BHA ID #	520	BHA Name	Josh Mansell		
Landowner / Client Name			City of Ottawa		
Property Location			6301 Campeau Drive, Kanata, Ontario		

input field data										automatic calculations from field data						Categories: 1: non-retainable, 2: retainable, 3: archivable				
			# bole cankers				# root flare (RF) cankers													
Tree #	Live Crown %	Tree dbh (cm)	sooty (S) (will be assigned 2.5 cm per canker)		open (O) (will be assigned 5 cm per canker)				<40 m from cankered tree? (Y or N)	Circ. (cm) = Pi x dbh	total bole canker width (sooty x 2.5 + open x 5)	total RF canker width (sooty x 2.5 + open x 5)	bole canker % of circ.	RF canker % of circ.	total bole & root canker % of 2xCirc	LC% >/= 50 & BC% = 0	LC% >70 & BRC % <20	LC% >70 & BC % <20	Preliminary tree call	FINAL TREE CALL a Cat 2, dbh>20cm <40m from a Cat 1
			S <2 m	S >2 m	O <2 m	O >2 m	RF S	RF O		Circ (cm)	BC (cm)	RC (cm)	BC%	RC%	BRC%					
1	50	24	3	6	2	0	0	1	y	75.36	32.5	5.0	**43.1**	**6.6**	**24.9**	1	1	1	**1**	**1**
2	75	20	4	11	1	2	4	1	n	62.8	52.5	15.0	**83.6**	**23.9**	**53.7**	1	1	1	**1**	**1**
3	65	15	1	4	3	1	0	2	n	47.1	32.5	10.0	**69.0**	**21.2**	**45.1**	1	1	1	**1**	**1**
4	90	24	3	4	0	0	1	3	n	75.36	17.5	17.5	**23.2**	**23.2**	**23.2**	1	1	1	**1**	**1**
5	100	21	1	0	0	0	3	1	y	65.94	2.5	12.5	**3.8**	**19.0**	**11.4**	1	2	2	**2**	**3**
6	30	36	1	1	0	0	2	1	y	113	5.0	10.0	**4.4**	**8.8**	**6.6**	1	1	1	**1**	**1**
7	25	17	0	0	0	0	0	0	y	53.38	0.0	0.0	**0.0**	**0.0**	**0.0**	1	1	1	**1**	**1**
8	95	36	0	1	0	0	1	0	y	113	2.5	2.5	**2.2**	**2.2**	**2.2**	1	2	2	**2**	**3**
9	90	27	0	0	0	0	0	0	y	84.78	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**3**
10	75	20	3	1	1	0	0	2	y	62.8	15.0	10.0	**23.9**	**15.9**	**19.9**	1	2	1	**2**	**3**
11	80	26	4	1	0	0	0	1	y	81.64	12.5	5.0	**15.3**	**6.1**	**10.7**	1	2	2	**2**	**3**
12	85	14	3	0	0	0	1	0	y	43.96	7.5	2.5	**17.1**	**5.7**	**11.4**	1	2	2	**2**	**2**
13	95	24	0	0	0	0	0	0	y	75.36	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**3**
14	100	6	0	0	0	0	0	0	y	18.84	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
15	90	17	0	0	1	0	0	1	y	53.38	5.0	5.0	**9.4**	**9.4**	**9.4**	1	2	2	**2**	**2**
16	90	17	0	0	0	0	0	0	y	53.38	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
17	45	17	2	0	2	0	0	0	y	53.38	15.0	0.0	**28.1**	**0.0**	**14.1**	1	1	1	**1**	**1**
18	100	12	5	4	1	1	0	0	n	37.68	32.5	0.0	**86.3**	**0.0**	**43.1**	1	1	1	**1**	**1**
19	95	25	3	3	2	0	2	1	n	78.5	25.0	10.0	**31.8**	**12.7**	**22.3**	1	1	1	**1**	**1**
20	95	29	2	2	1	0	1	1	n	91.06	15.0	7.5	**16.5**	**8.2**	**12.4**	1	2	2	**2**	**2**
21	80	25	2	0	0	0	0	0	n	78.5	5.0	0.0	**6.4**	**0.0**	**3.2**	1	2	2	**2**	**2**
22	30	28	2	0	0	0	0	0	n	87.92	5.0	0.0	**5.7**	**0.0**	**2.8**	1	1	1	**1**	**1**
23	35	23	3	1	1	0	1	2	n	72.22	15.0	12.5	**20.8**	**17.3**	**19.0**	1	1	1	**1**	**1**
24	95	32	1	0	0	0	0	0	n	100.5	2.5	0.0	**2.5**	**0.0**	**1.2**	1	2	2	**2**	**2**
25	20	19	1	0	0	0	0	0	y	59.66	2.5	0.0	**4.2**	**0.0**	**2.1**	1	1	1	**1**	**1**
26	45	21	0	0	0	0	0	0	y	65.94	0.0	0.0	**0.0**	**0.0**	**0.0**	1	1	1	**1**	**1**
27	100	6	0	0	0	0	0	0	y	18.84	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
28	100	17	1	0	1	0	1	2	y	53.38	7.5	12.5	**14.1**	**23.4**	**18.7**	1	2	2	**2**	**2**
29	100	15	1	0	0	0	0	0	y	47.1	2.5	0.0	**5.3**	**0.0**	**2.7**	1	2	2	**2**	**2**
30	95	43	2	1	1	0	4	1	n	135	12.5	15.0	**9.3**	**11.1**	**10.2**	1	2	2	**2**	**2**

Stantec

Legend

- Bill Teron Park
- Future Development Lands
- Park Expansion Area
- Study Area

Butternut Health Assessment – Tree Category

- 1
- 2
- 3
- Dead

0 50 100 metres

1:2,500 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2019.
3. Orthoimagery © City of Ottawa, 2019. Imagery Date, 2017.

Project Location
Ottawa, ON

160925020 REVA
Prepared by JS on 2019-09-25
Technical Review by JM on 2019-09-25

Client/Project
CITY OF OTTAWA
BILL TERON PARK EIS
OTTAWA, ON

Figure No.
3

DRAFT

Title
Butternut Tree Locations

APPENDIX F:
TREE INVENTORY FIELD DATA SHEETS AND SUMMARY TABLE

Stantec

Tree Inventory Data Sheet

T5001.
10m - 10m Plot

Project Number: Bill Tam Park
Project Name: 160925085
Project Manager: J. Morell

Date: Aug 20/2019
Field Samplers: J Morell

Tree #	Species	Size - dbh (cm)	Height approx.	Age approx.	Location	Waypoint	Photo	Health (excellent, good, fair, poor, dead)	Comments (crown, branches, trunk, roots, etc.)
	*No trees over 10cm DBH observed within 10x10m plot.								
	- exposed bedrock								
	- Junipers								
	- FRAGM, QUEMAC, PRAVIR, LONICORN.								
	- adjacent to small 5x5m pothole w/ CARR observed.								

Quality Control: This form is complete (✓) & legible (✓). QA/QC by: (signature): _____

Project Manager (signature): _____

C:\Users\cstaples\Desktop\1 1_2014 Field Projects\BIOLOGY\Forms\frm_tree_inventory(1).xls

Stantec

Tree Inventory Data Sheet

T5002

10 x 10m plot.

Project Number: V0025020

Project Name: Bill Teron Park

Project Manager: J. Mansell

Date: Aug. 20/2019

Field Samplers: J. Mansell

Tree #	Species	Size - dbh (cm)	Height approx. (m)	Age approx.	Location	Waypoint Jet Garmin	Photo	Health (excellent, good, fair, poor, dead)	Comments (crown, branches, trunk, roots, etc.)
001	PINSTR0	43	14	n/a	T5002 plot	951		Good	none
002	PINSTR0	43	13	n/a	T5002 plot	952		Fair	none.
003	PINSTR0	50	14	n/a	T5002 plot	953		Good	none.
	Understory								
	FRAPENN								
	LONICERA								
	- are shrubs.								

Quality Control: This form is complete (✓) & legible (✓). QA/QC by: (signature): _____

Project Manager (signature): _____

Stantec

Tree Inventory Data Sheet

TS003

10×10m plot

Project Number: 160925020

Project Name: Bill Teron Park.

Project Manager: J. Mosell

Date: Aug 20/2019

Field Samplers: J. Mosell

Tree #	Species	Size - dbh (cm)	Height approx.	Age approx.	Location	Waypoint	Photo	Health (excellent, good, fair, poor, dead)	Comments (crown, branches, trunk, roots, etc.)
001	~~[illegible]~~ FRAPENN	13	11	n/a	TS003 plot	954	Yes	Dead	EAB
002	OSTVIR6	11	9	n/a	TS003 plot	955	Yes	Fair	none
003	OSTVIR6	16	10	n/a	TS003 plot	956	Yes	Good	none.
004	OSTVIR6	17	10	n/a	TS003 plot	957	Yes	Fair	none.
005	OSTVIR6	22	11	n/a	TS003 plot	958	Yes	Fair	none
006	OSTVIR6	29	13	n/a	TS003 plot	959	Yes	Fair	3-stems - 15, 35-38cm.
	* Understory dominated by ACERSAC1 in all levels surround TS003 plot. - Large DBH (25cm)								

Quality Control: This form is complete (✓) & legible (✓). QA/QC by: (signature): _____

Project Manager (signature): _____

Stantec

Tree Inventory Data Sheet

TS004
10 x 10m plot

Project Number: 160925020
Project Name: Bill Teron Park
Project Manager: J. Mansell

Date: Sept. 23/2019
Field Samplers: J. Mansell

Tree #	Species	Size - dbh (cm)	Height approx.	Age approx.	Location	Waypoint	Photo	Health (excellent, good, fair, poor, dead)	Comments (crown, branches, trunk, roots, etc.)
001	PINSTR	27	8	n/a	TS004 plot	n/a		good	stunted on bedrock.
002	FRAPENN	14	6	n/a	TS004 plot	n/a		dead	EAB.
			* Plot is dominated by exposed bedrock + shrubs species:						
									Lonicera sp.

Quality Control: This form is complete (__) & legible (__). QA/QC by: (signature) _____

Project Manager (signature): J. Mansell

Stantec

Tree Inventory Data Sheet

T5005
10x10m plot

Project Number: 160925080
Project Name: Bill Teron Park
Project Manager: J. Mansell

Date: Sept. 23/2019
Field Samplers: J. Mansell

Tree #	Species	Size - dbh (cm)	Height approx.	Age approx.	Location	Waypoint	Photo	Health (excellent, good, fair, poor, dead)	Comments (crown, branches, trunk, roots, etc.)
001	PINSTR	89	n/a	n/a	T5005 plot	001	N	Good	-
002	ACESACH	63	n/a	n/a	" "	002	N	Good	-
003	ACESACH	65	n/a	n/a	" "	003	N	Good	-
004	OSTVIR	17	10	n/a	" "	004	N	Fair	-
005	OSTVIR	19	11	n/a	" "	005	N	Fair	-

Quality Control: This form is complete (__) & legible (__). QA/QC by (signature): J. Mansell

Project Manager (signature): J. Mansell

Bill Teron Park Tree Inventory Field Data Summary Table

ELC Community	Plot	Tree #	Species	DBH (cm)	Approx. Height (m)	Health	Comments
RBTB2-3	BTPTS001	n/a	n/a	n/a	n/a	n/a	n/a
	BTPTS002	1	PINSTRO	43	12	Good	n/a
		2	PINSTRO	43	11	Fair	n/a
		3	PINSTRO	50	12	Good	n/a
FODM5-1	BTPTS003	1	FRAPENN	13	11	Dead	EAB
		2	OSTVIRG	11	9	Fair	n/a
		3	OSTVIRG	16	10	Good	n/a
		4	OSTVIRG	17	10	Fair	n/a
		5	OSTVIRG	22	11	Fair	n/a
		6	OSTVIRG	29	13	Fair	n/a
RBTB2-3	BTPTS004	1	PINSTRO	27	8	Good	stunted
		2	FRAPENN	14	6	Dead	EAB
FODM5-1	BTPTS005	1	PINSTRO	89	n/a	Good	Unable to see crown
		2	ACESACH	63	n/a	Good	Unable to see crown
		3	ACESACH	65	n/a	Good	Unable to see crown
		4	OSTVIRG	17	10	Fair	n/a
		5	OSTVIRG	19	11	Fair	n/a