Theia Partners

# Tree Conservation Report and Species at Risk Screening

## 30 Cleary Avenue

February 12, 2026

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**30 Cleary Avenue**

February 12, 2026

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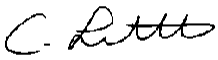

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# Version Control (optional)

| Revision No. | Reviewed by | Date Issued | Description |
|---|---|---|---|
| 000 | LC | September 7, 2023 | Executive Summary for Client Review, prepared by CIMA+ |
| 001 | LC | October 4, 2023 | Existing Conditions, prepared by CIMA+ |
| 002 | LC | November 17, 2023 | Impact Assessment, prepared by CIMA+ |
| 003 | LC | July 3, 2024 | Expanded Study Area and updated design, prepared by CIMA+ |
| 004 | AZ | May 13, 2025 | Detailed Design and updated Impact Assessment, prepared by Arcadis |
| 005 | DF | November 26, 2025 | Detailed Design and updated Impact Assessment, prepared by Arcadis |
| 006 | ## | February 12, 2026 | Comments |

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# 1 Introduction

Arcadis Canada Inc. (Arcadis) has been retained by Theia Partners (the 'Client') to prepare a Tree Conservation Report (TCR) for the proposed residential development located at 30 Cleary Ave, on Part Lot 26, Concession 1, Geographic Township of Nepean – within the Urban boundary of the City of Ottawa (the 'Site').

## 1.1 Project Location and Description

The subject property at 30 Cleary Avenue, Ottawa ON is approximately 2.2 hectares in total. The Site is bordered by a deciduous woodlot to the north that runs parallel to the Kichi Zibi Mikan (formerly Sir John A MacDonald Parkway), and the River Parkway Children's Centre to the south. A naturalized strip of vegetation along the western edge separates the Site by a chain link fence along the backyard of homes located on Aylen Avenue. The First Unitarian Congregation of Ottawa is situated to the east, where a community prayer garden separates the proposed development from the church. The topography is flat and is currently comprised of an asphalt parking area.

Refer to **Figure 1** on the following page to view the Site Location.

## 1.2 Objective

This Tree Conservation Report (TCR) follows the *City of Ottawa Tree Conservation Report Guidelines* (City of Ottawa, 2021), which required a site visit to identify trees larger than 10 cm in diameter that could be impacted by the project. Information on the individual trees and tree groupings, their species, size (diameter-at-breast height, dbh) and health were recorded. The TCR summarizes the results, identifies the ownership of the trees, and based on the current design plans provides commentary on which trees could be retained and those that are recommended to be pruned or removed. This information is depicted on the mandatory Map 1 and Map 2 of the TCR, as per the guidelines. In the paragraphs below, we have outlined the field methodology and findings of the tree inventory. This report will help determine the project's potential impact on existing trees and provide general recommendations to avoid and/or mitigate tree loss and injury.

As part of this scope of work, the city requested that a screening of the Site be completed to determine if impacts to Species at Risk (SAR) and/or their habitat would occur as a result of this proposed development.


*Figure 1: Aerial Image of the Subject Property, Proximity to Rapid Transit, and the Surrounding Area*

# 2 City of Ottawa Tree Protection By-Law

The Site is located within the City of Ottawa's Tree Protection By-law No. 2020-340 (January 1, 2021) limits. The intent of this By-Law is to respect the protection of municipal trees and municipal natural areas in the City of Ottawa and trees on private property in the urban area of the City of Ottawa.

Under the Tree Protection By-law, the following protected trees cannot be injured or removed without a tree permit from the city:

- *All City-owned trees throughout the urban and rural area.*
- *All trees 10 cm or more in diameter at breast height on private properties within the urban area that are subject to a Planning Act application for Site Plan, Plan of Subdivision, or Plan of Condominium.*
- *All trees 10 cm or more in diameter at breast height on private properties within the urban area that are over 1 hectare in size.*
- *All distinctive trees on private properties 1 hectare or less in size, where distinctive trees are defined as:*
    - *Trees measuring 30 cm or more in diameter at breast height within the City's inner urban area.*
    - *Trees measuring 50 cm or more in diameter at breast height within the City's suburban area.*

The Tree Protection By-law requires permits to be obtained before City-owned trees or protected privately owned trees are removed. It also sets out requirements for compensation to be provided when trees are removed, so that they can be replaced.

A Tree Conservation Report (TCR) is required as a part of the application package for all Plans of Subdivision, Site Plan Control Applications, Common Elements Condominium Applications, and Vacant Land Condominium Applications where there is a tree of 10 centimeters in diameter or greater on the site and/or if there is a tree on an adjacent site that has a Critical Root Zone (CRZ) extending onto the development site. The purpose of the TCR is to demonstrate how tree cover will be retained and protected on the Site, including mature trees, stands of trees, and hedgerows, using a design with nature approach. A design with nature approach incorporates the natural features of a site into the design and engineering of a proposed development. The TCR also shows which trees must be removed on the site to accommodate the proposed development.

# 3 Limitations

The assessment presented in this report has been made using accepted standard arboriculture techniques as outlined in Chapter 4 (Data Collection) of the *Council of Tree and Landscape Appraisers Guide for Plant Appraisal, 10th Edition, Second Printing* (2020). The trees observed were not climbed, cored, or dissected, and excavation for detailed root crown inspection was not performed. Since some symptoms may only be present seasonally, the extent of observations that can be made may be limited by the time of year the inspection took place.

As trees are living organisms, their health and vigor continually change over time due to seasonal variations, changes in site conditions, and other factors. For this reason, the assessment presented in this report is valid at the time of inspection, and no guarantee is made about the continued health of trees that are deemed to be in good condition. It is recommended that the trees be reassessed periodically to identify changes in condition. While every standing tree has the potential for failure and therefore poses some risk, a tree assessment is a good indication of present health and potential problems that could arise in the future.

Previous versions of this report were prepared by CIMA+ for the sole use of the client. Any use of this report by a third party, as any decision based on this report, is the singular responsibility of the third party. CIMA+ will not be held responsible for eventual damage to a third party resulting from decisions taken, or based, on this report.

# 4 Methodology

The tree inventory was undertaken on July 21, 2023, and June 5, 2024. Trees were numbered, identified, measured, and assessed for condition. Information collected on the individual trees included:

- Species
- Diameter at breast height (DBH)
- Approximate crown spread
- Condition

The Tree Inventory and Assessment Table containing this information is included in **Appendix A**. Mandatory Map 1 as per City of Ottawa, 2021, also included in **Appendix A**, depicts the locations of the numbered trees assessed. The assessment methodology is outlined in the sections below.

## 4.1 Tree Size

Size refers to trunk diameter at breast height (DBH or caliper) measured in centimeters (cm) at 1.4 meters (m) above the ground. Where trees had more than one trunk from the base, the size of each trunk was recorded. Where trees forked into codominant trunks the diameter was measured at the narrowest point below the fork.

## 4.2 Tree Assessment

The assessment involved a visual examination of the above-ground parts of each tree. The crown, trunk, and root structure of each tree were observed and assessed noting any abiotic and/or biotic disorders as well as structural defects present. Several structural defects and health problems are included in the Tree Inventory and Assessment Table (**Appendix A**). The following list provides an explanation of the short forms used in the table of the top eight (8) deficiencies observed on Site:

- DB - Dieback refers to the ends of branches dying, which is often associated with root problems.
- SMD - Small dead branches are an indicator of crown dieback and can be an early sign of stress.
- UC - Unbalanced Crown is a tree's crown that is much more extensive in one direction than another, often due to competition from the crown of a nearby tree or exposure
- COD - Codominant leaders (2 trunks or branches of approximately equal size) often have narrow branch angles and are associated with weak branch attachment. Strong branch attachments occur between 2 limbs of unequal size with enough space for branch enlargement and formation of a branch bark ridge.
- FC - Frost cracking is a winter injury caused by temperature fluctuations on bark and inner wood when the sun warms a tree trunk and then temperatures drop quickly, causing splitting of the bark that can extend into the wood below. Frost cracking can be associated with snow reflection and southwest-facing trunk exposures and particularly affects young trees and species with thin bark.
- LE - A tree with a lean can be more susceptible to windthrow and soil failure. Self-correcting lean refers to a natural correction of the lean by development of new growth that counteracts the lean of the trunk to provide a more balanced form.
- NRF - No root flare refers to the base of the trunk where it widens as it transitions to the root system.
- MBR – When a tree has multiple branches from the same point of attachment, the branches usually have characteristics of weakly attached branches.
- ADV – Adventitious shoots refer to vigorous growth of shoots from pruning cuts, inner branches, of along the trunk that usually occur in response to stress.
- INCL – Included bark is bark that has become embedded in a crotch where limbs join and causes weakened branch attachments. As the trunk and branch increase in diameter, the bark of each stem in the tight crotch begins to push apart, increasing the likelihood of failure.
- SUP - Suppressed trees are growing under the canopies of neighboring trees, which can diminish vigor and affect structural form.

## 4.3 Tree Condition

Each tree was given an overall health condition rating of: Excellent, Good, Fair, Poor, or Dead. The following is a summary of how the ratings are determined:

- EXCELLENT: No apparent health problems; good structural form.
- GOOD: Minor problems with health and/or structural form.
- FAIR: Significant problems with health and/or structural form.
- POOR: Major problems with health and structural form.
- DEAD: Dead.

## 4.4 Tree Ownership

Apart from Trees 88 and 89, which are City-owned trees within the right-of-way of Cleary Avenue, all the trees inventoried are located on private property. Trees 20, 21, 25, 35, 81-87, 90-113, 115, 118, group 119, and 120-123 are privately owned trees on adjacent properties. No impact is expected to any of the trees not located within the subject property, apart from tree 123 located on the River Parkway Children's Centre property.

## 4.5 Tree Protection and Impact Analysis

The Critical Root Zone (CRZ) was determined using the *City of Ottawa Tree Conservation Report Guidelines* (City of Ottawa, 2021). The CRZ is established as 10 cm from the trunk of a tree for every cm of trunk DBH. The CRZ is calculated as DBH x 10 cm and is shown on Maps 1 and 2 in **Appendix A**.

Using data collected during the tree inventory and assessment, drawings showing the tree locations (collected through topographic survey), and the proposed development footprint and anticipated area of impact, tree impact analysis was completed, resulting in recommendations to Retain, Remove, or Prune trees. Our understanding is that the buildings will be constructed using blind forms, resulting in an impact area that will not extend significantly beyond the building footprint. We also understand that Landscape Plans being developed for the Site will minimize the requirement for tree removals, with efforts to integrate landscape improvements without impact to existing trees on the Site. The proposed limit of building forms is shown on Map 2 (in **Appendix A**) along with changes to vehicular circulation that will impact trees.

The minimum CRZ of each tree canopy is illustrated on Mandatory Map 2 as per City of Ottawa, 2021 (included in **Appendix A**) to help determine possible injury and branch pruning that may be required. The Comments section of the Tree Inventory and Assessment Table (**Appendix A**) also includes notes about tree form and canopy location that can help determine any pruning that may be required to accommodate construction equipment.

Tree Impact and associated recommendations (retain, prune and protect, or remove) have been determined and is described in Section 7, as well as included in the Tree Inventory and Assessment Table, and displayed on Map 2 included in **Appendix A**).

For all trees to be retained, tree protection fencing must be installed to separate trees from the work area. Tree protection fencing must be installed no closer to the trunk than the Critical Root Zone but should be placed as far as possible from the tree.

# 5 Existing Conditions

The dates, timing, and environmental conditions at the time of the assessments are presented below in **Table 1**.

*Table 5: Site Investigations Details*

| Date | Start/End Time | Survey Intent | Weather Conditions |
|---|---|---|---|
| 2023/07/21 | 0930-1430 | Visual assessment of all trees ≥10 cm dbh on-site | Temperature: 20°C<br>Cloud cover / Precipitation:<br>Mixed sun/clouds, Light wind. |
| 2024/06/05 | 1030-1530 | Visual assessment of all trees ≥10 cm dbh in adjacent areas | Temperature: 29°C<br>Cloud cover / Precipitation:<br>Clear skies, Light wind |

The Site has three surface water features; only two of which were observed during the 2023/2024 site investigation. One drainage ditch is situated along the western extent within the naturalized vegetation. This feature was approximately 40 m long from north to south, had standing water during the July 2023 assessment, and consisted of reed canary grass. The second feature is situated within the community garden and flows through a small culvert / pipe that runs underground in this location. Another small drainage feature is depicted on geoOttawa along the northern extent of the Site within the deciduous woodlot, outside the Site boundaries. There was no standing water present or indication of inundation in this area during the site visit. There are no wetlands or watercourses on Site.

The Site is flat with no presence of steep slopes, valleylands or escarpments. There are no valued woodlands designated as Urban Natural Features or Natural Environment Areas, or significant woodlands on or adjacent the Site. There are no riparian woodlots, rare communities, or other unique ecological features (i.e., Provincially Significant Wetlands, unevaluated wetlands).

Majority of the subject lands where the building envelope is planned consist of paved parking areas surrounded by residential and commercial buildings. The woodland to the north is dominated by deciduous tree species generally in good health. The narrow band of vegetation along the western extent of the Site is comprised of a mix of coniferous tree species (red pine) and non-native deciduous trees and shrubs (Norway maple, Manitoba maple, common buckthorn, and honeysuckle). The community garden that separates the Site from the church has numerous tree, shrub, and herbaceous plants species that are well taken care of and provide a peaceful naturalized space for the community members to enjoy. The adjacent lands to the south are fully developed (commercial and residential, respectively).

A total of 122 individual trees and one (1) group were assessed as part of this inventory. The condition of the trees on Site ranged from Good to Dead, approximately 80% of which were in Good condition. The most common species are Norway maple (26%), red pine (12%), and Manitoba maple (12%).

There are 45 trees that meet the definition of a ‘Distinctive Tree’ as per Tree Protection By-law No. 2020-340 (any tree located on private property with a DBH of 30 cm or greater, within the inner urban area), including Trees 20, 21, 25, 35, and 115 which are located on adjacent properties. Trees 2 and 80 are Distinctive trees that require removal based on the current design plans.

# 6 Species at Risk Screening

A desktop screening and review of the natural heritage features was completed for the Study Area to determine if SAR or SAR habitat may be present on or adjacent to the Site. Since many of these features have a regulatory influence which extends beyond the Study Area, the desktop screening included features up to two kilometers away from the subject property on a case-by-case basis.

This information was supplemented by a review of regulated habitat described in Ontario Regulation 242/08 under the Ontario *Endangered Species Act, 2007* to include habitat that may be protected even in the absence of the species.

## 6.1 Background Data Collection

The following referenced online resources were reviewed to collect general background information, including occurrence records of Species at Risk (SAR) listed as endangered and/or threatened under the provincial *Endangered Species Act, 2007*, within 1 km of the Site.

- NHIC Make a Natural Heritage Map – MNR (Square #18VR3925)
- Aquatic Species at Risk (SAR) Map – Fisheries and Oceans Canada (DFO)
- Ontario Breeding Bird Atlas – (Square #18TVR32)
- Ontario Reptile and Amphibian Atlas – Square (#18VR32)
- Ontario Butterfly Atlas – (Square #18VR32)

## 6.2 Existing Conditions

Background review of NHIC listed the following SAR occurrences within 1 $km^2$ of the project area: bobolink (threatened), chimney swift (threatened), and eastern meadowlark (threatened).

The Ontario Breeding Bird Atlas (OBBA), Ontario Reptile and Amphibian Atlas (ORAA), and Aquatic Species at Risk Atlas have historic records for the following SAR within 10 $km^2$ of the project area: bobolink, chimney swift, eastern meadowlark, hickorynut (endangered) and Blanding's turtle (threatened). Six (6) endangered SAR mammals are also known to occur in the Ottawa area and may be present, including: eastern red bat, eastern small-footed myotis, hoary bat, little brown myotis, northern long-eared myotis, silver-haired bat, and tri-colored bat.

There is no suitable habitat on-Site for bobolink, eastern meadowlark, hickorynut, or Blanding's turtle.

Chimney swift may use the surrounding chimneys or other manmade structures adjacent to the Site for nesting/roosting, and SAR bat habitat is present within the trees on and adjacent to the Site. General avoidance timing windows will protect the SAR with potential to occur on Site.

Based on the site conditions, the proposed project area contains habitat for common wildlife species with a high tolerance for human activity, preferring manicured habitats with a mix of lawn, trees, shrubs, and ornamental beds. These species would include wildlife such as mice, squirrels, racoons, and many common species of insects and birds.

The trees and shrubs within the Site provide adequate nesting habitat for several bird species protected under the *Migratory Bird Convention Act, 1994*.

# 7 Impact Assessment and Recommendations

## 7.1 Impacts on Trees

Based on the conditions of the trees and extent of the proposed construction limits, **Table 2** summarizes the impact and recommended actions of the 123 trees/group assessed within the Site. It is anticipated that 21 trees >10 cm diameter at breast height (DBH) will need to be removed. These details are depicted on Mandatory Map 2 as per the City of Ottawa, 2021 and outlined in the Tree Inventory and Assessment Table included in **Appendix A**.

Refer to **Section 8.2** below for information on measures recommended to protect all remaining trees within the Site prior to and during construction.

It should be noted that the condition of one (1), 2-stem northern catalpa (tree #7) situated within the community garden was assessed as Good, however is experiencing some crotch decay. It is recommended that prior to construction, an ISA certified Tree Risk Assessor (ISA TRAQ) complete a Risk Assessment for this tree, and comment on its candidacy for cabling the 2 stems to strengthen its structural integrity. **Photo 1** below displays the codominant union of the trunks of tree #7.

*Table 2: Impact Assessment and Recommendations for Trees on Site*

| Trees to be Removed | Trees to be Pruned and Protected | Trees to be Retained |
|---|---|---|
| 21 | 3 | 99 |


*Photo 1: View of crotch decay and codominant leaders of Tree #7 – Northern Catalpa*

## 7.2 Impacts to SAR

Loss of vegetation is expected to occur because of the proposed design and general construction activities (i.e. staging, excavation, and asphalt placement) required to complete this work. It is anticipated that 21 trees >10 cm diameter at breast height (DBH) will need to be removed. The mature trees located within and adjacent to the Site provide suitable SAR bat habitat. It's generally understood that within the Ottawa area, this roosting habitat is not a limiting factor contributing to the decline of SAR bats. However, because there is tree removals anticipated as a result if this Project, a Risk Category of 'Moderate' potential to impact SAR bats and their habitat has been assigned. Basic management recommendations and mitigation measures are proposed in **Section 8.5**. below to mitigate the potential impact the proposed development may have on SAR bats.

There are suitable structures in the vicinity of the Site that provide potential roosting/nesting habitat for chimney swifts, however, as none of these suitable structures will be impacted, this infrastructure project has been assigned a Risk Category of 'Very Low' potential to impact chimney swift and their habitat.

# 8 Mitigation Measures and Construction Management

## 8.1 Tree Removal

Based on the proposed project design and existing conditions of the trees on site, 21 trees have been recommended for removal. The following recommendations are provided:

- Retain a Certified Arborist during site layout operations to confirm recommended tree removals, pruning, and tree protection fencing in proximity to the construction limits.

**Tree #13**

Tree 13 is recommended for removal to accommodate the underground stormwater capture system as required and specified by the Civil Engineer. Various configurations of this system were reviewed to achieve the least impact possible to existing trees and along with the consideration of general size and health of the trees in this area, it was determined that the removal of one tree, Tree 13, would be preferable to the impact of and potential removal of multiple trees (Trees 14, 15, 16, and 17).

**Tree #80**

The proposed road alignment limits disruption to the north garden as this area is a memorial garden that contains not only note-worthy trees, but woody shrubs and ornamental garden features with sentimental and memorial value. It has been strongly communicated to the consultant team by stakeholders that disruption to this area is difficult and every effort to reduce it would be preferred and appreciated. In contrast, the proposed disruption to the southern garden will be limited to a lawn area (the NE corner of the garden) and the CRZ of Tree 80. The proposed design was agreed to be the least impactful solution and best compromise given the existing site conditions. However, if there is an opportunity to retain this tree through collaboration with the construction team, every effort will be made to do so.

**Tree #123**

Tree 123 was tested for retention through multiple design configurations. However, given the needed quantity of short-term daycare parking and the proximity to the anticipated property line of the proposed building, the proposed parking has already been shifted as far from this tree as possible. This in turn limits the placement of the crosswalk which overlaps with Tree 123.

## 8.2 Tree Protection Measures

The most typical construction damage to trees is root damage from compaction and severance. While the drip line of a tree's canopy is typically thought to be associated with the root area, the root zones can extend significantly beyond the drip line of the tree, sometimes up to 2 or 3 times the height of the tree. Some of the trees inventoried are growing close to the edge of proposed construction and will be at risk of contact with, and damage from, heavy equipment. To protect trees, grade changes and construction activities that could cause soil compaction should generally be kept away from trees as much as possible.

To successfully preserve trees that are recommended for on-site retention, the following series of mitigation measures is recommended. These recommended measures largely center on the minimum CRZ of trees (The CRZ is calculated as DBH x 10 cm), as defined by the City's Tree Conservation Report Guidelines. The following measures are recommended to protect the CRZ of all trees slated for retention and/or impact:

- Delineation of the disturbance limits within work areas will be clearly defined in drawings and on the site prior to construction.
- Install Tree Protection Fencing prior to commencement of construction activities, and retain fencing until construction activities have been completed, as per City of Ottawa's Tree Protection (By-law No. 2020-340), Part VI:

    - Tree protection fencing shall be at least 1.2 m in height and installed in such a way that the fence cannot be altered.
    - Refer to **Appendix B** for the City of Ottawa's Tree Protection Fencing Specification.
- Ensure that site clearing is carried out only in areas where it is specifically required, and that the areas to be cleared are carefully and clearly delineated.
- Do not place any material or equipment within the CRZ of a tree.
- Do not raise or lower the existing grade within the CRZ of a tree.
- Do not extend any hard surface or significantly change landscaping.
- If the construction will have to encroach into a tree's minimum CRZ, installing a temporary layer of 150 mm deep partially composed wood chips, or mulch over the root zone can help to protect roots from compaction damage, and conserve soil moisture levels.
- Equipment and materials should not be stored near trees.
- Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.
- Do not attach any signs, notices, or posters to trees.
- Prior to construction, an ISA certified Tree Risk Assessor (ISA TRAQ) should be retained to complete a Risk Assessment of Tree #7, and comment on its candidacy for cabling the 2 stems to strengthen its structure integrity.

## 8.3 Branch and Root Pruning

- If branches are likely to hang in the way of passing equipment, the branches should be pruned by a Certified Arborist or Registered Forester to avoid tearing and undue injury to the tree.
- All pruning work must be performed under the supervision and guidance of a qualified tree professional in accordance with the latest ANSI A300 Pruning Standards and best management practices identified by the International Society of Arboriculture.
- Do not damage the root system, trunk, or branches of any tree; if any roots are encountered during excavation while working outside the CRZ, they should be cut off cleanly with sharp pruning tools rather than allow them to be torn by large equipment; clean cuts will help to minimize decay and entry points for disease.
- All exposed roots of trees to be retained should be covered in a minimum of 5 cm of firm soil within 24 hours of exposure.
- If root pruning is implemented, the crown of the tree should be reduced proportionately under the direction of a Certified Arborist or Registered Forester, to decrease wind sail. Pruning should be kept to thinning cuts (no major limb removal), and crowns should be monitored, and maintenance carried out for two (2) years after root pruning to remove any dieback under the direction of a Certified Arborist or Registered Forester.

## 8.4 Tree Planting Recommendations

For new tree planting(s) the Landscape Plan considerations may include:

- Prioritizing the use of native species, where appropriate.
- Where post-development growing conditions and landscape management requirements are not favorable for native species, the use of known invasive species shall be restricted.
- The species and health of existing tree as an indicator of appropriateness.

- The age of existing trees and potential for succession planting.
- Seek to mitigate any loss of canopy cover.
- Diversity of species in newly planted and existing trees.
- Micro-climatic conditions.

## 8.5 SAR Protection

The City of Ottawa, in collaboration with the MNRF, created a list of best management practices (BMPs) and mitigation measures to be implemented for City projects to minimize the impacts of projects on SAR and migratory birds. These BMPs and mitigation measures are commonly applied to similar projects and are broad enough to cover SAR groups such as SAR birds and SAR bats. The mitigation measures provide activity windows for work in habitats that have the potential to impact SAR/migratory birds and bats. The sections below recommend mitigation measures for the Site to protect SAR and SAR habitat because of the proposed construction. Refer to **Appendix C** for the City of Ottawa's SAR Mitigations Table.

Timing of Construction Activities

The trees and shrubs within and adjacent the Site may provide suitable habitat for SAR bats. When construction activities occur within or near SAR bat habitat impacts to individuals can be minimized by carefully scheduling the timing of the work to avoid these areas when they may be occupied or during sensitive periods. The City of Ottawa's SAR Mitigations #15, and #16 (**Appendix C**) provide timing windows to protect SAR bats.

- As vegetation clearing is required because of the Project, this work should be completed outside of the active bat timing window when SAR bats are not present in the Ottawa area (October 1 to April 30).
    - Should any clearing be required during the active bat season, searches for bat roosting habitat shall be conducted by a qualified person and must be completed 48 hours prior to clearing activities.
    - If suitable roost habitat is observed, an evening exit survey shall be conducted for each candidate roost tree proposed for removal and will occur from 30 minutes before dusk until 60 minutes after dusk. Each identified cavity requires one (1) surveyor to be present (i.e. if a tree has been identified to have three (3) cavities then three (3) surveyors are required to complete the survey for this individual tree). If no bats are observed exiting the cavity tree, the following day, the tree shall immediately be removed. If the tree is not removed the following day, a further exit survey must be carried out prior to tree removal.

Protection of Wildlife during Construction

The City of Ottawa's *Protocol for Wildlife Protection during Construction* (2013), was developed as part of the City's Wildlife Strategy. The protocol is a compilation of best practices that serves as a guide and a common frame of reference for the city and the development industry in addressing wildlife protection during construction (City of Ottawa, 2013). This protocol is intended to help reduce the direct impacts of development on wildlife that occur during construction (ibid). The protocol promotes best management practices relating to sensitive timing windows for clearing, pre-stressing, site clearing, construction site management, wildlife encounters, wildlife-proofing, and owner awareness (ibid).

General habitat for several wildlife species were observed within the immediate area of the proposed Project location during the site investigations. It is recommended that this protocol be included in the Contract Documents to guide wildlife protection prior to and during construction. Refer to the City of Ottawa's *Protocol for Wildlife Protection during Construction* (2013) for further information.

Site Restoration/Rehabilitation

The following mitigation measures are also recommended to reduce impacts to SAR, migratory birds and other wildlife because of the pathway extension:

- Travel paths, stockpile areas and staging areas, within the vicinity of the Site, should be pre-planned and followed.
- Minimize vegetation removal where possible and proper clearing and grubbing techniques will be utilized. All retained vegetation will be delineated and protected.
- Remove all construction materials from Site upon project completion.

# 9 Permits and Approvals

The City of Ottawa's Tree Protection By-law No. 2020-340 describes the rules that govern tree ownership in Ottawa and the responsibility of tree maintenance, including administration and enforcement. As per Part IV: Sections 42 – 44 Prohibition: *No person shall injure or destroy a tree without a permit.* Sections 45 to 48 - Application for tree permit stipulates the process of applying for a permit under this by-law.

Therefore, it is recommended that consultation should be undertaken with the city prior to construction to confirm the requirements for tree removal permits associated with the municipal tree protection by-law. Where required, tree removal permits must be obtained from the city prior to the start of construction.

# 10 Summary

One hundred and twenty-three (123) trees were inventoried within the proposed residential development area located at 30 Cleary Avenue in Ottawa, Ontario. Based on the proposed design, the inventory resulted in ninety-nine (99) trees to be retained, three (3) of which are to be pruned and protected, and twenty-one (21) trees proposed for removal.

A list of proposed avoidance and mitigation measures have been included in Section 7 of this report in relation to tree removals, tree protection, and tree preservation. This includes recommendation for further assessment of Tree #7 to determine the potential risk of the tree and whether it would be a good candidate for cabling to support the codominant trunk union.

Based on the review of the potential impacts to the SAR and SAR habitat that could result from the proposed Project, it was determined that appropriate measures can be implemented prior to and during construction to mitigate the impacts to SAR and SAR habitat within the Site. Best management practices and limited mitigation measures have been recommended for this Project to reduce impacts on SAR bats. These are mostly focused on recommended timing windows when planning construction activities.

Landscape plans have been developed separately as part of the development application.

# 11 Certification and Closure

We certify that all the statements of fact in this assessment are true, complete, and correct to the best of our knowledge and belief, and that they are made in good faith.

# Appendix A

## Tree Inventory and Protection Plan, and Maps 1 and 2


**CURRENT VEGETATION PLAN**
SCALE 1:750

0 5 10 20 50 metres
DO NOT SCALE DRAWING

**NOTES:**

1. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE TREE CONSERVATION REPORT PREPARED BY ARCADIS;
2. REFER TO RECOMMENDATIONS IN TREE CONSERVATION REPORT FOR TECHNIQUES TO PRESERVE TREES.



Client / Client

theia PARTNERS

legend / légende

EXISTING TREES
62
ESTIMATED CROWN DIAMETER
CRITICAL ROOT ZONE
TREE NUMBERING

119 EXISTING TREE-LINE AS SURVEYED TO BE PRESERVED. REFER TO TREE CONSERVATION REPORT FOR PRESERVATION TECHNIQUES DURING CONSTRUCTION

| revn | description / la description | yyyy/mm/dd |
|---|---|---|
| 02 | Re-Issued for Tree Conservation Report | 2025/11/18 |
| 01 | Issued for Tree Conservation Report | 2025/05/08 |
| 00 | Issued for DRAFT Tree Conservation Report | 2025/04/09 |

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project / projet

**30 CLEARY AVENUE**

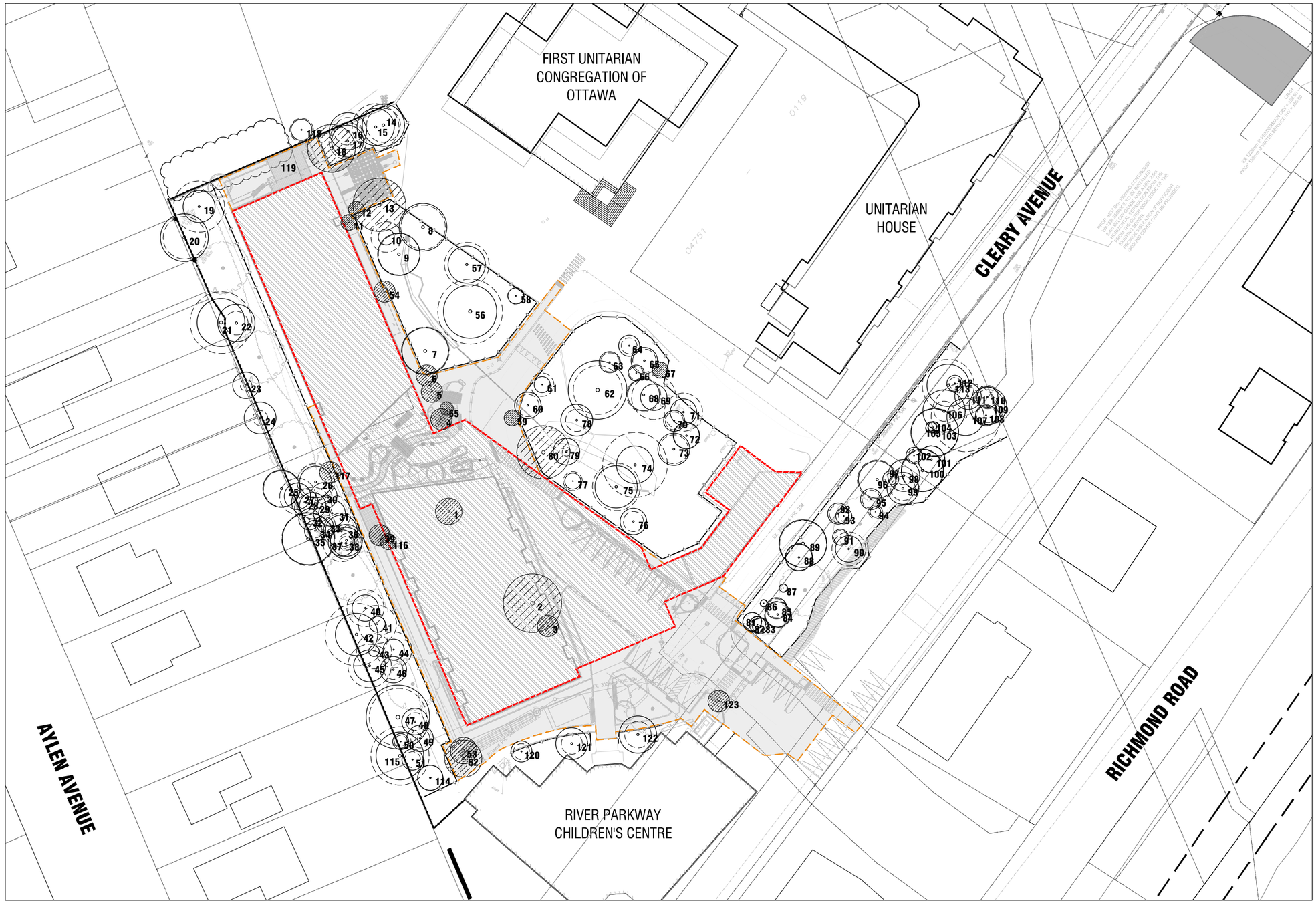
drawing / dessin

**TREE CONSERVATION REPORT**
CURRENT VEGETATION

| designed / conçu | drawn / dessiné | reviewed / examiné |
|---|---|---|
| | BM | DF |

project number / No. du projet
**23002**

drawing number / No. du dessin
**MAP 1**




**TREE CONSERVATION PLAN AND SCOPE OF PROPOSED DEVELOPMENT**
SCALE 1:750

0 5 10 20 50 metres

DO NOT SCALE DRAWING

**NOTES:**

1. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE TREE CONSERVATION REPORT PREPARED BY ARCADIS;
2. REFER TO RECOMMENDATIONS IN TREE CONSERVATION REPORT FOR TECHNIQUES TO PRESERVE TREES.



Client / Client

theia PARTNERS

legend / légende

- EXISTING TREES TO REMAIN
- ESTIMATED CROWN DIAMETER
- CRITICAL ROOT ZONE
- TREE NUMBERING
- TREES TO BE REMOVED
- TREE NUMBERING
- EXTENT OF PROPOSED UNDERGROUND GARAGE (DEEP EXCAVATION)
- EXTENT OF PROPOSED SITE WORKS (SHALLOW EXCAVATION, RE-GRADING, SITE WORKS, PLANTING)
- EXISTING TREE-LINE AS SURVEYED TO BE PRESERVED. REFER TO TREE CONSERVATION REPORT FOR PRESERVATION TECHNIQUES DURING CONSTRUCTION
- TREE NUMBERING
- TREE PROTECTION FENCING
- PROPOSED TREE PLANTING

| revn | description / la description | yyyy/mm/dd |
|---|---|---|
| 03 | Re-Issued for Tree Conservation Report | 2026/02/05 |
| 02 | Re-Issued for Tree Conservation Report | 2025/11/18 |
| 01 | Issued for Tree Conservation Report | 2025/05/08 |
| 00 | Issued for DRAFT Tree Conservation Report | 2025/04/09 |

north / le nord

project / projet

**30 CLEARY AVENUE**

drawing / dessin

**TREE CONSERVATION REPORT**
TREE CONSERVATION & PROPOSED DEVELOPMENT

| designed / conçu | drawn / dessiné | reviewed / examiné |
|---|---|---|
| | BM | DF |

project number / No. du projet
**23002**

drawing number / No. du dessin
**MAP 2**

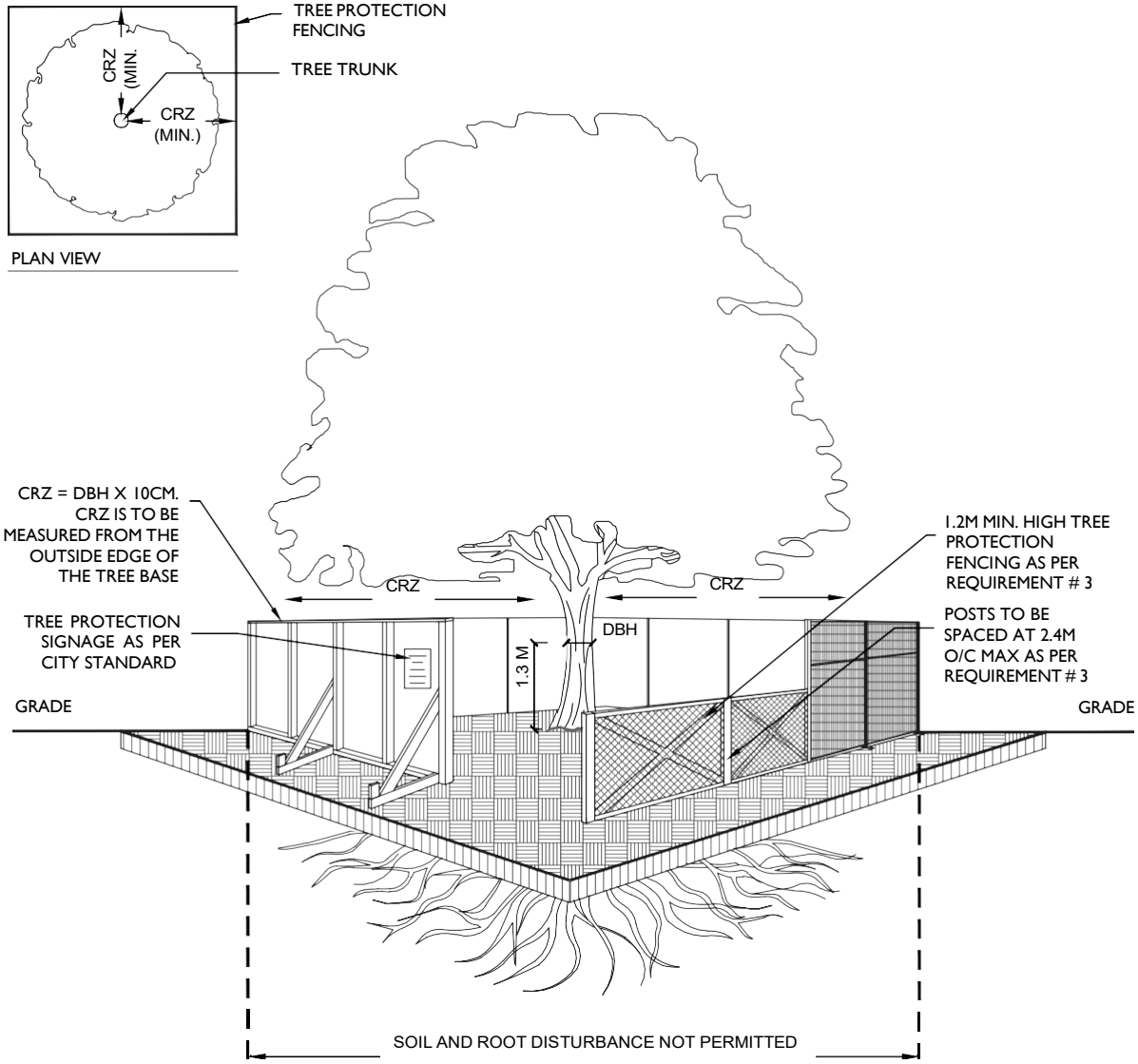
# Appendix A: 30 Cleary Tree Inventory and Protection Plan

| Tree # | Common Name | Scientific Name | No. Stems | DBH (cm) * approx. | Crown Spread (m) | Structural Defects | | | | | | | | | | | Condition | CRZ (m from trunk) | Shared Boundary Tree | Tree Ownership | Impact / Recommendation | Action Rationale | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DB | SMD | UC | COD | FC | LE | NRF | MBR | ADV | INCL | SUP | | | | | | | |
| 1 | Ohio Buckeye | *Aesculus glabra* | 1 | 18 | 5 | | | | | | | √ | | | | | Good | 1.8 | No | Client | **Remove** | Located within proposed building | In existing parking area, and within proposed building |
| 2 | Eastern Cottonwood | *Populus deltoides ssp. deltoides* | 1 | 62 | 11 | √ | √ | | | | | | | | | | Good | 6.2 | No | Client | **Remove** | Located within proposed building | In existing parking area, and within proposed building |
| 3 | Eastern White Pine | *Pinus strobus* | 1 | 12 | 4 | | | | | | | | | | | | Excellent | 1.2 | No | Client | **Remove** | Located within proposed building | In existing parking area, and within proposed building |
| 4 | Black Locust | *Robinia pseudoacacia L.* | 4 | 4;5;6;8 | 4 | | √ | √ | | | | √ | | | | | Good | 0.8 | No | Client | **Remove** | Located very close to proposed edge of building | In north community garden; very close to proposed edge of building |
| 5 | Black Locust | *Robinia pseudoacacia L.* | 1 | 21 | 4 | √ | √ | | | √ | | √ | | | | | Fair | 2.1 | No | Client | **Remove** | Located very close to proposed edge of building | In north community garden; very close to proposed edge of building |
| 6 | Black Locust | *Robinia pseudoacacia L.* | 1 | 20 | 4 | | √ | | | | | √ | | | | | Good | 2.0 | No | Client | **Remove** | Located very close to proposed edge of building | In north community garden; very close to proposed edge of building |
| 7 | Northern Catalpa | *Catalpa speciosa* | 2 | 44;45 | 9 | √ | √ | | √ | √ | | | | | | | Good | 4.5 | No | Client | Prune and Protect | Located very close to proposed edge of building | In north community garden; near proposed building; crotch rot; Consider cabling 2 stems; Multi-stemmed Amur maple and lilac underneath. |
| 8 | American Elm | *Ulmus americana* | 1 | 42 | 9 | √ | √ | | √ | √ | | | | | | | Good | 4.2 | No | Client | Retain | In north community garden. | In north community garden. |
| 9 | Norway Maple | *Acer platanoides* | 1 | 39 | 8 | √ | √ | | | √ | | √ | | | | | Good | 3.9 | No | Client | Retain | In north community garden. | In north community garden |
| 10 | Blue Spruce | *Picea pungens* | 1 | 29 | 3 | √ | | √ | | | | √ | | | | √ | Good | 2.9 | No | Client | Retain | In north community garden. | In north community garden |
| 11 | Common Hawthorn | *Crataegus monogyna* | 1 | 11 | 3 | | √ | | | | | √ | | | | √ | Dead | 1.1 | No | Client | **Remove** | Within proposed edge of building | In north community garden; within proposed edge of building |
| 12 | Red Pine | *Pinus resinosa* | 1 | 19 | 3 | √ | √ | √ | | | √ | √ | | | | | Good | 1.9 | No | Client | **Remove** | close to proposed edge of building | In north community garden; close to proposed edge of building |
| 13 | Norway Maple | *Acer platanoides* | 1 | 44 | 10 | √ | √ | | | | | | | | | | Good | 4.4 | No | Client | **Remove** | Located in north community garden | In north community garden |
| 14 | Norway Maple | *Acer platanoides* | 1 | 32 | 8 | √ | √ | √ | | √ | √ | √ | | | | | Fair | 3.2 | No | Client | Retain | Outside of construction footprint | Large scarring along entire SW trunk margin. |
| 15 | Norway Maple | *Acer platanoides* | 1 | 44 | 7 | √ | √ | √ | | √ | | √ | | | | | Fair | 4.4 | No | Client | Retain | Outside of construction footprint | Large scarring along SW side of trunk; Seepage along trunk. |
| 16 | Norway Maple | *Acer platanoides* | 2 | 26;23 | 7 | √ | √ | | √ | √ | | √ | | | | | Good | 2.6 | Yes | Client | Retain | Outside of construction footprint | |
| 17 | Norway Maple | *Acer platanoides* | 1 | 35 | 6 | √ | √ | √ | | | | √ | | | | | Poor | 3.5 | No | Client | Retain | Outside of construction footprint | Missing leader. Consider removal due to tree condition |
| 18 | Norway Maple | *Acer platanoides* | 1 | 53 | 9 | √ | √ | √ | | | | | | | | | Good | 5.3 | No | Client | **Remove** | Tree removal allows for greater conservation of existing Gardens | Crown spread within development area |
| 19 | Northern Catalpa | *Catalpa speciosa* | 1 | 48 | 6 | √ | | √ | | | √ | √ | | | | | Good | 4.8 | No | Client | Prune and Protect | Outside of construction footprint | Leaning east towards development area |
| 20 | Norway Maple | *Acer platanoides* | 1 | 40* | 9 | √ | √ | | | | | | | | | | Good | 4.0 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Private property (adjacent)- other side of fence; estimated dbh. |
| 21 | Manitoba Maple | *Acer negundo* | 1 | 58* | 9 | √ | √ | √ | | √ | √ | | | | | | Fair | 5.8 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Private property (adjacent)- other side of fence; estimated dbh. |
| 22 | Norway Maple | *Acer platanoides* | 1 | 22 | 7 | √ | √ | | | | | √ | | | | | Good | 2.2 | No | Client | Retain | Outside of construction footprint | |
| 23 | Manitoba Maple | *Acer negundo* | 1 | 11 | 5 | √ | √ | √ | | | √ | | | | | | Good | 1.1 | Yes | Client | Retain | Outside of construction footprint | |
| 24 | Manitoba Maple | *Acer negundo* | 3 | 10;11;14 | 6 | √ | √ | √ | √ | | √ | √ | | | | | Good | 1.4 | Yes | Client | Retain | Outside of construction footprint | |
| 25 | Manitoba Maple | *Acer negundo* | 3 | 11;22;34* | 7 | √ | √ | √ | √ | | | | | | | | Fair | 3.4 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Private property (adjacent)- other side of fence; estimated dbh. |
| 26 | Red Pine | *Pinus resinosa* | 1 | 35 | 6 | √ | √ | | | | | | | | | | Good | 3.5 | No | Client | Retain | Outside of construction footprint | |
| 27 | Red Pine | *Pinus resinosa* | 1 | 34 | 5 | √ | √ | | | | | | | | | | Good | 3.4 | Yes | Client | Retain | Outside of construction footprint | |
| 28 | Norway Maple | *Acer platanoides* | 2 | 11;13 | 5 | √ | √ | | √ | | | √ | | | | √ | Good | 1.3 | Yes | Client | Retain | Outside of construction footprint | |
| 29 | Red Pine | *Pinus resinosa* | 1 | 35 | 5 | √ | √ | | | | √ | √ | | | | √ | Good | 3.5 | No | Client | Retain | Outside of construction footprint | |
| 30 | Norway Maple | *Acer platanoides* | 1 | 15 | 5 | √ | √ | | | | √ | √ | | | | | Good | 1.5 | No | Client | Retain | Outside of construction footprint | |
| 31 | Red Pine | *Pinus resinosa* | 1 | 35 | 5 | √ | √ | | | | | √ | | | | √ | Good | 3.5 | No | Client | Retain | Outside of construction footprint | |
| 32 | Norway Maple | *Acer platanoides* | 1 | 10 | 4 | | | | | | | | | | | √ | Good | 1.0 | Yes | Client | Retain | Outside of construction footprint | |
| 33 | Red Pine | *Pinus resinosa* | 1 | 19 | 3 | | | | | | | | | | | √ | Good | 1.9 | Yes | Client | Retain | Outside of construction footprint | |
| 34 | Norway Maple | *Acer platanoides* | 1 | 13 | 4 | √ | | | | | | | | | | √ | Good | 1.3 | Yes | Client | Retain | Outside of construction footprint | |
| 35 | American Elm | *Ulmus americana* | 2 | 50;47* | 10 | √ | √ | | √ | | | | | | | | Good | 5.0 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Private property (adjacent)- other side of fence; estimated dbh. |
| 36 | Red Pine | *Pinus resinosa* | 1 | 34 | 6 | √ | √ | | | | | | | | | | Good | 3.4 | No | Client | Retain | Outside of construction footprint | |
| 37 | Red Pine | *Pinus resinosa* | 1 | 35 | 5 | √ | √ | | | | | √ | | | | | Good | 3.5 | No | Client | Retain | Outside of construction footprint | |
| 38 | Norway Maple | *Acer platanoides* | 2 | 13;10 | 6 | √ | √ | √ | √ | √ | | √ | | | | √ | Poor | 1.3 | No | Client | Retain | Outside of construction footprint | |
| 39 | Horse Chestnut | *Aesculus hippocastanum* | 1 | 13 | 4 | | | | | | | √ | | | | | Good | 1.3 | No | Client | **Remove** | Located at edge of proposed building | Located at edge of proposed building |
| 40 | Red Pine | *Pinus resinosa* | 1 | 35 | 5 | √ | √ | | | | | | | | | | Good | 3.5 | No | Client | Retain | Outside of construction footprint | |
| 41 | Red Pine | *Pinus resinosa* | 1 | 36 | 3 | √ | √ | √ | | | √ | √ | | | | | Fair | 3.6 | No | Client | Retain | Outside of construction footprint | |
| 42 | Norway Maple | *Acer platanoides* | 2 | 38;59 | 8 | √ | √ | √ | √ | | √ | √ | | | | √ | Poor | 5.9 | Yes | Client | Retain | Outside of construction footprint | |
| 43 | Red Pine | *Pinus resinosa* | 1 | 33 | 2 | √ | | √ | | | | √ | | | | √ | Poor | 3.3 | No | Client | Retain | Outside of construction footprint | |
| 44 | Red Pine | *Pinus resinosa* | 1 | 34 | 4 | √ | √ | √ | | | | √ | | | | | Good | 3.4 | No | Client | Retain | Outside of construction footprint | |
| 45 | Red Pine | *Pinus resinosa* | 1 | 41 | 6 | √ | √ | | | | | | | | | | Good | 4.1 | Yes | Client | Retain | Outside of construction footprint | |
| 46 | Norway Maple | *Acer platanoides* | 1 | 18 | 5 | √ | √ | | | | | | | | | √ | Good | 1.8 | No | Client | Retain | Outside of construction footprint | |
| 47 | Norway Maple | *Acer platanoides* | 1 | 54 | 12 | √ | √ | √ | | √ | | √ | | | | | Poor | 5.4 | No | Client | Retain | Outside of construction footprint | |
| 48 | Norway Maple | *Acer platanoides* | 1 | 17 | 5 | √ | | | | | | | | | | √ | Good | 1.7 | No | Client | Retain | Outside of construction footprint | |
| 49 | Red Maple | *Acer rubrum* | 1 | 18 | 5 | √ | √ | | | √ | | | | | | | Good | 1.8 | No | Client | Retain | Outside of construction footprint | |
| 50 | Eastern White Cedar | *Thuja occidentalis* | 1 | 12 | 3 | | | | | | | | | | | √ | Good | 1.2 | Yes | Client | Retain | Outside of construction footprint | |
| 51 | Eastern White Cedar | *Thuja occidentalis* | 1 | 15 | 4 | | | | | | | | | | | √ | Good | 1.5 | Yes | Client | Retain | Outside of construction footprint | |
| 52 | Red Pine | *Pinus resinosa* | 1 | 36 | 7 | √ | | | | | | √ | | | | | Good | 3.6 | No | Client | **Remove** | Located within construction footprint | |
| 53 | Manitoba Maple | *Acer negundo* | 1 | 13 | 5 | √ | | √ | √ | | √ | | | | | | Fair | 1.3 | No | Client | **Remove** | Located within construction footprint | Multiple stems from cut base |
| 54 | River Birch | *Betula nigra* | 1 | 18;19 | 4 | | | | | | | | | | | | Good | 1.9 | No | Client | **Remove** | Very close to proposed edge of building | Locted in community garden; very close to proposed edge of building |
| 55 | Weeping Norway Spruce | *Picea abies "Pendula"* | 1 | <10 | 3 | | | | | | | | | | | | Good | 1.4 | No | Client | **Remove** | Conflict with vehicular circulation | Located in north community garden; conflict with proposed vehicular circulation; consider transplanting |
| 56 | Silver Maple | *Acer saccharinum* | 1 | 61 | 10 | | √ | | | | | | √ | √ | | | Good | 6.1 | No | Client | Retain | Located in north community garden | Located in north community garden |
| 57 | Silver Maple | *Acer saccharinum* | 1 | 42 | 7 | | √ | | | | | | | √ | | | Good | 4.2 | No | Client | Retain | Located in north community garden | Located in north community garden |
| 58 | Austrian Pine | *Pinus nigra* | 1 | 15 | 3 | | | | | | | | | | | | Good | 1.5 | No | Client | Retain | Located in north community garden | Located in north community garden |
| 59 | Ginkgo | *Ginkgo biloba* | 1 | 15 | 3 | | | | | | | | | | | | Good | 1.5 | No | Client | **Remove** | Conflict with vehicular circulation | Located in south community garden; conflict with proposed vehicular circulation; consider transplanting |
| 60 | White Spruce | *Picea glauca* | 1 | 21 | 5 | | | | | | | | | | | | Good | 2.1 | No | Client | Retain | Located in south community garden | Located in south community garden |
| 61 | White Spruce | *Picea glauca* | 1 | 22 | 6 | | | | | | | | | | | | Good | 2.2 | No | Client | Retain | Located in south community garden | Located in south community garden |
| 62 | Willow sp. | *Salix spp.* | 3 | 41;45;46 | 11 | | √ | | | | | | | √ | | | Good | 4.6 | No | Client | Retain | Located in south community garden | Located in south community garden |
| 63 | White Spruce | *Picea glauca* | 1 | 18 | 4 | | | | | | | | | | | | Good | 1.8 | No | Client | Retain | Located in south community garden | Located in south community garden |
| 64 | Katsura tree | *Cercidiphyllum japonicum* | 10 | 15 | 4 | | √ | | | | | | | | | | Good | 1.5 | No | Client | Retain | Outside of construction footprint | (10) multi-stemmed, largest trunk measured |
| 65 | Willow sp. | *Salix spp.* | 1 | 22 | 5 | | | | | | | | | | | | Fair | 2.2 | No | Client | Retain | Outside of construction footprint | Main trunk removed |

| Tree # | Common Name | Scientific Name | No. Stems | DBH (cm) * approx. | Crown Spread (m) | Structural Defects | | | | | | | | | | | Condition | CRZ (m from trunk) | Shared Boundary Tree | Tree Ownership | Impact / Recommendation | Action Rationale | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DB | SMD | UC | COD | FC | LE | NRF | MBR | ADV | INCL | SUP | | | | | | | |
| 66 | White Spruce | *Picea glauca* | 1 | 13 | 3 | | | | | | | | | | | | Good | 1.3 | No | Client | Retain | Outside of construction footprint | Main trunk removed |
| 67 | Norway Maple | *Acer platanoides* | 1 | 10 | 3 | | | | | | | | | | | | Good | 1.0 | No | Client | **Remove** | Located in proposed parking area | Main trunk removed. Conflict with proposed parking. |
| 68 | Northern Catalpa | *Catalpa speciosa* | 1 | 32 | 6 | | √ | | | | | | | | | | Fair | 3.2 | No | Client | Retain | Outside of construction footprint | Main trunk removed; missing leader |
| 69 | Eastern Cottonwood | *Populus deltoides ssp. deltoides* | 1 | 42 | 5 | | √ | | | | | | | | | | Good | 4.2 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 70 | Black Walnut | *Juglans nigra* | 1 | 17 | 4 | | | | | | | | | | | | Good | 1.7 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 71 | Eastern Cottonwood | *Populus deltoides ssp. deltoides* | 2 | 25;36 | 5 | | √ | | | | | | | | | | Good | 3.6 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 72 | Butternut | *Juglans cinerea* | 1 | 24 | 5 | | | | | | | | | | | | Good | 2.4 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 73 | Tulip Tree | *Liriodendron tulipifera* | 1 | 27 | 6 | | √ | | | | | | | | | | Good | 2.7 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 74 | Northern Catalpa | *Catalpa speciosa* | 1 | 61 | 7 | | | | | | | | | | | | Good | 6.1 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 75 | Red Oak | *Quercus rubra* | 1 | 45 | 8 | | | | | | | | | | | | Good | 4.5 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 76 | Eastern White Pine | *Pinus strobus* | 1 | 19 | 5 | | | | | | | | | | | | Good | 1.9 | No | Client | Prune and Protect | Outside of construction footprint | Missing leader; leaning west towards development area |
| 77 | Oranmental spp. | | 1 | 18 | 3 | | | | | | | | | | | | Good | 1.8 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 78 | Burr Oak | *Quercus macrocarpa* | 1 | 21 | 6 | | | | | | | | | | | | Good | 2.1 | No | Client | Retain | Outside of construction footprint | Missing leader |
| 79 | Chokecherry | *Prunus virginiana* | 5 | 5;6;7;7;8 | 5 | | | | | | | | | | | | Good | 0.8 | No | Client | Retain | Outside of construction footprint | Located in south community garden |
| 80 | Silver Maple | *Acer saccharinum* | 2 | 43;45 | 10 | | √ | | | | | | | | √ | | Good | 4.5 | No | Client | **Remove** | Located in proposed parking area | Located in south community garden; conflict with proposed vehicular circulation |
| 81 | Dead | | 2 | 17;18 | | | | | | | | | | | | | Dead | 1.8 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Consider Removal (dead) |
| 82 | Norway Maple | *Acer platanoides* | 1 | 16 | 3 | | | | | | | | | | | | Good | 1.6 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Under electrical lines |
| 83 | American Elm | *Ulmus americana* | 1 | 14 | 3 | | | | | | | | | | | | Good | 1.4 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Under electrical lines |
| 84 | Dead | | 1 | 25 | | | | | | | | | | | | | Dead | 2.5 | No | Adjacent Land Owner | Retain | Outside of construction footprint | Consider Removal (dead) |
| 85 | Norway Maple | *Acer platanoides* | 1 | 18 | 4 | | √ | | | | | | | | | | Good | 1.8 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 86 | Common Buckthorn | *Rhamnus cathartica* | 1 | 7 | | | | | | | | | | | | | Good | 0.7 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 87 | Dead | | 1 | 8 | | | | | | | | | | | | | Dead | 0.8 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | Consider Removal (dead) |
| 88 | Norway Maple | *Acer platanoides* | 1 | 26 | 5 | | | | | | | | | | | | Good | 2.6 | Yes | City of Ottawa | Retain | Outside of construction footprint | |
| 89 | Siberian Elm | *Ulmus pumila* | 3 | 31;32;44 | 9 | | √ | | | | | | | | √ | | Fair | 4.4 | Yes | City of Ottawa | Retain | Outside of construction footprint | Dieback 30% |
| 90 | Malus sp. | *Malus spp.* | 1 | 32 | 5 | | | | | | | | | | | | Poor | 3.2 | No | Adjacent Land Owner | Retain | Outside of construction footprint | Dieback 60%; large scare entire trunk |
| 91 | Norway Maple | *Acer platanoides* | 1 | 13 | 3 | | | | | | | | | | | | Good | 1.3 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 92 | Bur Oak | *Quercus macrocarpa* | 1 | 17 | 4 | | | | | | | | | | | | Good | 1.7 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 93 | Common Buckthorn | *Rhamnus cathartica* | 4 | 8;8;8;10 | 3 | | | | | | | | | | | | Good | 1.0 | Yes | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 94 | American Elm | *Ulmus americana* | 1 | 13 | 2 | | | | | | | | | | | | Good | 1.3 | No | Adjacent Land Owner | Retain | Outside of construction footprint | lean 30% |
| 95 | Norway Maple | *Acer platanoides* | 1 | 17 | 4 | | | | | | | | | | | | Good | 1.7 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 96 | Manitoba Maple | *Acer negundo* | 1 | 37 | 7 | | √ | | | | | | √ | √ | | | Good | 3.7 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 97 | Norway Maple | *Acer platanoides* | 1 | 11 | 3 | | | | | | | | | | | | Good | 1.1 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 98 | Manitoba Maple | *Acer negundo* | 1 | 17 | 6 | | | | | | | | | √ | | | Good | 1.7 | No | Adjacent Land Owner | Retain | Outside of construction footprint | lean 30% |
| 99 | Manitoba Maple | *Acer negundo* | 1 | 23 | 6 | | √ | | | | | | | √ | | | Good | 2.3 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 100 | Manitoba Maple | *Acer negundo* | 1 | 39 | 8 | | | | | | | | | | | | Good | 3.9 | No | Adjacent Land Owner | Retain | Outside of construction footprint | lean 30% |
| 101 | Manitoba Maple | *Acer negundo* | 1 | 25 | 5 | | √ | | | | | | | √ | | | Fair | 2.5 | No | Adjacent Land Owner | Retain | Outside of construction footprint | missing leader; scarring |
| 102 | Norway Maple | *Acer platanoides* | 1 | 12 | 3 | | √ | | | | | | | √ | | | Good | 1.2 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 103 | Manitoba Maple | *Acer negundo* | 2 | 42;44 | 9 | | √ | | | | | | | √ | | | Good | 4.4 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 104 | Norway Maple | *Acer platanoides* | 1 | 11 | 2 | | | | | | | | | | | | Good | 1.1 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 105 | Norway Maple | *Acer platanoides* | 1 | 11 | 2 | | | | | | | | | | | | Good | 1.1 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 106 | Manitoba Maple | *Acer negundo* | 1 | 19 | 8 | | | | | | | | | | | | Good | 1.9 | No | Adjacent Land Owner | Retain | Outside of construction footprint | 30% lean |
| 107 | Siberian Elm | *Ulmus pumila* | 1 | 65 | 7 | | | | | | | | | | | | Good | 6.5 | No | Adjacent Land Owner | Retain | Outside of construction footprint | Crotch rot |
| 108 | Manitoba Maple | *Acer negundo* | 1 | 18 | 4 | | | | | | | | | | | | Good | 1.8 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 109 | Manitoba Maple | *Acer negundo* | 1 | 31 | 7 | | | | | | | | | | | | Good | 3.1 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 110 | Norway Maple | *Acer platanoides* | 1 | 22 | 4 | | | | | | | | | | | | Good | 2.2 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 111 | Manitoba Maple | *Acer negundo* | 1 | 18 | 5 | | | | | | | | | | | | Good | 1.8 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 112 | Norway Maple | *Acer platanoides* | 1 | 11 | 3 | | | | | | | | | | | | Good | 1.1 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 113 | Norway Maple | *Acer platanoides* | 1 | 49 | 8 | | | | | | | | | | | | Good | 4.9 | No | Adjacent Land Owner | Retain | Outside of construction footprint | |
| 114 | Eastern White Pine | *Pinus strobus* | 1 | 24 | 4 | | | | | | | | | | | | Good | 2.4 | No | Client | Retain | Outside of construction footprint | Southwest limit |
| 115 | Eastern White Pine | *Pinus strobus* | 1 | 55* | 9 | | | | | | | | | | | | Good | 5.5 | No | Client | Retain | Outside of construction footprint | Private tree located on adjacent property; estimated dbh |
| 116 | Siberian Elm | *Ulmus pumila* | 2 | 10;6 | 3 | | | | | | | | | | | | Good | 1.0 | No | Client | **Remove** | Located on edge of proposed building | located at edge of proposed building |
| 117 | Green Ash | *Fraxinum pennsylvanica* | 2 | 9;9 | 4 | | | | | | | | | | | | Good | 0.9 | No | Client | **Remove** | Located on proposed pathway | Conflict with path adjacent to proposed building |
| 118 | Norway Maple | *Acer platanoides* | 1 | 22 | 4 | | | | | | | | | | | | Good | 2.2 | No | NCC | Retain | Outside of construction footprint | north end of site, crown extends 3m over paved area |
| 119 | Group:1<br>1 Siberian Elm<br>10 Norway Maple | *Ulmus pumila*<br>*Acer platanoides* | 11 | –<br>7;11<br>7-19 | | | | | | | | | | | | | Good | 1.9 | No | Adjacent Land Owner | Retain | Outside of construction footprint | Dripline/crowns extend 3 m over paved area |
| 120 | Sunburst Honeylocust | *Gleditsia triacanthos 'Suncole'* | 1 | 15* | 4 | | | | | | | | | | | | Good | 1.5 | No | Client | Retain | Outside of construction footprint | Private tree located River Parkway Children's Centre property; estimated dbh |
| 121 | Sunburst Honeylocust | *Gleditsia triacanthos 'Suncole'* | 1 | 20* | 6 | | | | | | | | | | | | Good | 2 | No | Client | Retain | Outside of construction footprint | Private tree located River Parkway Children's Centre property; estimated dbh |
| 122 | Sunburst Honeylocust | *Gleditsia triacanthos 'Suncole'* | 1 | 25* | 7 | | | | | | | | | | | | Good | 2.5 | No | Client | Retain | Outside of construction footprint | Private tree located River Parkway Children's Centre property; estimated dbh |
| 123 | White Spruce | *Picea glauca* | 1 | 25* | 4 | | | | | | | | | | | | Good | 2.5 | No | Client | **Remove** | Conflict with site plan | Private tree located River Parkway Children's Centre property; estimated dbh; conflict with proposed design |

# Appendix B

## Tree Protection Specification (City of Ottawa, 2021)




TREE PROTECTION REQUIREMENTS:

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

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

ACCESSIBLE FORMATS AND COMMUNICATION SUPPORTS ARE AVAILABLE, UPON REQUEST

Ottawa

# TREE PROTECTION SPECIFICATION

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

| | |
|---|---|
| SCALE: | NTS |
| DATE: | MARCH 2021 |
| DRAWING NO.: | 1 of 1 |

# Appendix C

## City of Ottawa Suggested Mitigation Measures

# Suggested Mitigation Measures

| Number | Type of Mitigation Measures | Description |
|---|---|---|
| 1 | General Mitigation Measures | Species at risk (SAR) awareness training is recommended for all site supervisors. Training should be specific to each infrastructure project site and focus on SAR with potential to occur. |
| 2 | General Mitigation Measures | Infrastructure project work sites must be surveyed by a person trained in SAR identification (i.e., construction staff or supervisor) prior to start-up to ensure none are present.<br><br>Observations of SAR should be reported to the City Project Manager and Contract Administrator, who in return must provide SAR observations to MECP. Further measures may be needed to continue the activity. |
| 3 | General Mitigation Measures | On-site environmental monitoring should be considered for the project. The monitor must be a qualified biologist (or similarly qualified person) that is knowledgeable in SAR and their habitat.<br><br>The level of effort for the environmental monitoring should be determined through conversation with the project manager and the qualified monitor. |
| 4 | General Mitigation Measures | Provide site-specific SAR information to on-site staff. Information should include:<br>A description of relevant SAR;<br>Photos of SAR that may be present on site;<br>Appropriate avoidance measures; and<br>Emergency contact numbers in case of incident with SAR. |
| 5 | General Mitigation Measures | Construction activities occurring adjacent to wetlands and watercourses that may provide habitat for SAR should avoid the core turtle and marsh bird breeding period (April 15 to August 15, of any year). Furthermore, in-water winter work may only be done if overwintering SAR turtles are not present. |

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| 6 | General Mitigation Measures | For wetlands and watercourses that may provide habitat for SAR fishes, ensure that any in-water works are completed outside of the applicable fish spawning timing windows. Implement fish salvage and other protection measures as required for in-water work during other times of year.<br><br>Timing windows when in-water work is restricted:<br>Ottawa River: October 1 to July 15 (includes Channel Darter, Lake Sturgeon, Northern Brook Lamprey, Northern Sunfish, River Redhorse, Silver Lamprey)<br><br>Mississippi River: January 1 to June 30 (includes River Redhorse)<br><br>Rideau River: January 1 to June 30 (includes Bridle Shiner, River Redhorse)<br><br>All other water features: March 15 to June 30 |
| 7 | Barn Swallows | If the presence of Barn Swallow nesting is confirmed in the project area and construction has the potential to harm or harass the species, then no work should be conducted during the breeding period (May 1 to August 31).<br><br>Active Barn Swallow nests are protected under the federal *Migratory Birds Convention Act* and must not be removed, and access to nests must not be prevented, until the birds have finished nesting for the year. |
| 8 | Barn Swallows | If active Barn Swallow nests are found in or on a culvert or bridge, during construction activities; stop work immediately, take a photo and contact the City Project Manager and Contract Administrator. |
| 9 | Grassland Birds | Sections 4.1, 23.2 and 23.6 of Ontario Regulation 242/08 generally cover the requirements for activities in Bobolink and Eastern Meadowlark habitat.<br><br>If the habitat of Bobolink or Eastern Meadowlark will likely be damaged or destroyed, or if activities will likely harm or harass the species, an authorization may be required from MECP as described in the Regulation. Project proposals should be reviewed by MECP to determine required authorization. Construction activities adjacent to grasslands should avoid core grassland breeding bird period (May 1 to July 31, of any year). |

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| 10 | Fish | All in-water works will minimize the overall footprint and ensure works occur outside of spawning timing windows (see mitigation 6).<br><br>Necessary erosion and sediment controls will be in place prior to work beginning adjacent to watercourses. Furthermore, monitoring of devices during significant rain events (10 mm over 24 h) should occur within 24 hours of the event. |
| 11 | Turtles | If mitigation measure 12 is not implemented the following measure applies.<br><br>Work should not be conducted within the nesting habitat during the nesting season (May 1 to September 30). |
| 12 | Turtles | Heavy duty silt fencing should be erected adjacent to the wetland habitat by May 1 (prior to the nesting season), to prevent turtles from entering the work area. As turtles have been known to climb the geotextile fencing, the fence must be inspected often (daily or weekly).<br><br>Silt fencing should be constructed in accordance with the Species at Risk Branch Best Practices Technical Note: Reptile and Amphibian Exclusion Fencing: http://files.ontario.ca/environment-and-energy/species-at-risk/mnr_sar_tx_rptl_amp_fnc_en.pdf |
| 13 | Butternut Trees | A qualified biologist shall conduct a survey to determine if construction activities will occur within 50 metres of a butternut.<br><br>If butternut tree(s) are present and could be negatively impacted by the proposed construction works (i.e., removal, limbing, or root destruction), a Butternut Health Assessment will be required. An assessment can only occur between May 15 and August 31, of any year.<br><br>Note: Construction within existing 'impervious surfaces' (e.g., paved roads, sidewalks, buildings), is excluded from the 50 metre area noted above. No additional screening or surveys would be required. |

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| 14 | Butternut Trees | If construction activities are to occur within the 50 metre butternut habitat area, tree protection fencing will be installed around any healthy (retainable - as determined by a Butternut Health Assessor), butternut tree that may be negatively impacted by the construction activities.<br><br>Fencing shall be constructed in accordance with City of Ottawa Tree Protection Guidelines. The City of Ottawa can be contacted directly for more information on 'Tree Protection Guidelines', or refer to: https://ottawa.ca/en/residents/water-and-environment/trees-and-community-forests/protection<br><br>Note: Works occurring entirely within existing hardened surfaces (e.g., resurfacing of existing roads) are not anticipated to impact the species. Due caution, however, is still required to avoid direct damage to individuals. |
| 15 | Bats | If SAR bat (i.e., Northern Myotis, Little Brown Myotis, Eastern Small-Footed Myotis, or Tri-coloured Bat) hibernacula are determined to be present through field studies, then no work should occur from October 1 through April 30, of any year.<br><br>Maternity roost habitat for SAR bats (i.e., hollow trees and snags [>20 cm DBH]; houses, buildings, and barns; rock piles, cliffs, rocky outcroppings; and mature forest [>60 years old]), are protected under the Endangered Species Act, 2007, and protected as significant wildlife habitat under the Provincial Policy Statement (Ontario, 2020). Maternity roosting periods occur from May 1 through July 15, of any year. |
| 16 | Bats | If work cannot be avoided during October 1 through April 30, a permit from the MECP would likely be required. |
| 17 | Snakes | Prevent equipment from encroaching on SAR snake habitat (i.e., keep equipment in road right-of-way). Inspect equipment regularly to ensure no snakes are present in or on machinery. |
| 18 | Snakes | Conduct sweeps for SAR snakes ahead of construction (especially in the early morning), to determine if snakes are present in the construction area. If SAR snakes are present, commence work once the snake has left the work area. |
| 19 | Amphibians | Avoid working in wet ditches and other ephemeral wetland habitats during spring spawning of Western Chorus Frogs (i.e., March through June, of any year), unless amphibian surveys can determine the species is not present. |

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| 20 | Turtles | If proposed works are to be completed within an area that may impact overwintering habitat for turtles (e.g., stormwater management ponds, etc.), then work must occur only between April 30 and October 15 of any year, to avoid disturbing overwintering turtles. All water must be pumped from the pond, and any turtles must be removed prior to clean-out. |
| 21 | Birds | Project works should avoid clearing trees and vegetation during the breeding bird season. The Migratory Birds Convention Act, 1994, protects breeding migratory birds, their active nests, and young, in Canada. City of Ottawa guidelines require nest activity inspection of vegetation and trees to be cleared from April 15 to August 15, of any year. |
| 22 | Turtles | If the project is located in an area of known Blanding's Turtle occurrences, silt fence should be placed through the channel to either side of the culvert to prevent turtles from travelling into the worksite. In addition, a thorough sweep of the worksite for Blanding's Turtles should be conducted each day before work commences. |

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