ENVIRONMENTAL IMPACT STUDY

INDUSTRIAL DEVELOPMENT ZBA
12505 HEART LAKE ROAD
TOWN OF CALEDON

Prepared For: CALEDON HL DEVELOPMENTS INC.

AUGUST 2022
MYLER ECOLOGICAL CONSULTING

INDUSTRIAL DEVELOPMENT ZBA

12505 HEART LAKE ROAD, TOWN OF CALEDON

ENVIRONMENTAL IMPACT STUDY

PREPARED FOR:

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Introduction

Myler Ecological Consulting (Myler) was retained by Caledon HL Developments Inc. (the proponent) c/o Berkshire Axis Development to prepare an Environmental Impact Study (EIS) and Management Plan (MP) for the proposed industrial development zoning by-law amendment (ZBA) for 12505 Heart Lake Road, Caledon (the site), pictured on **Figure 1**, below.

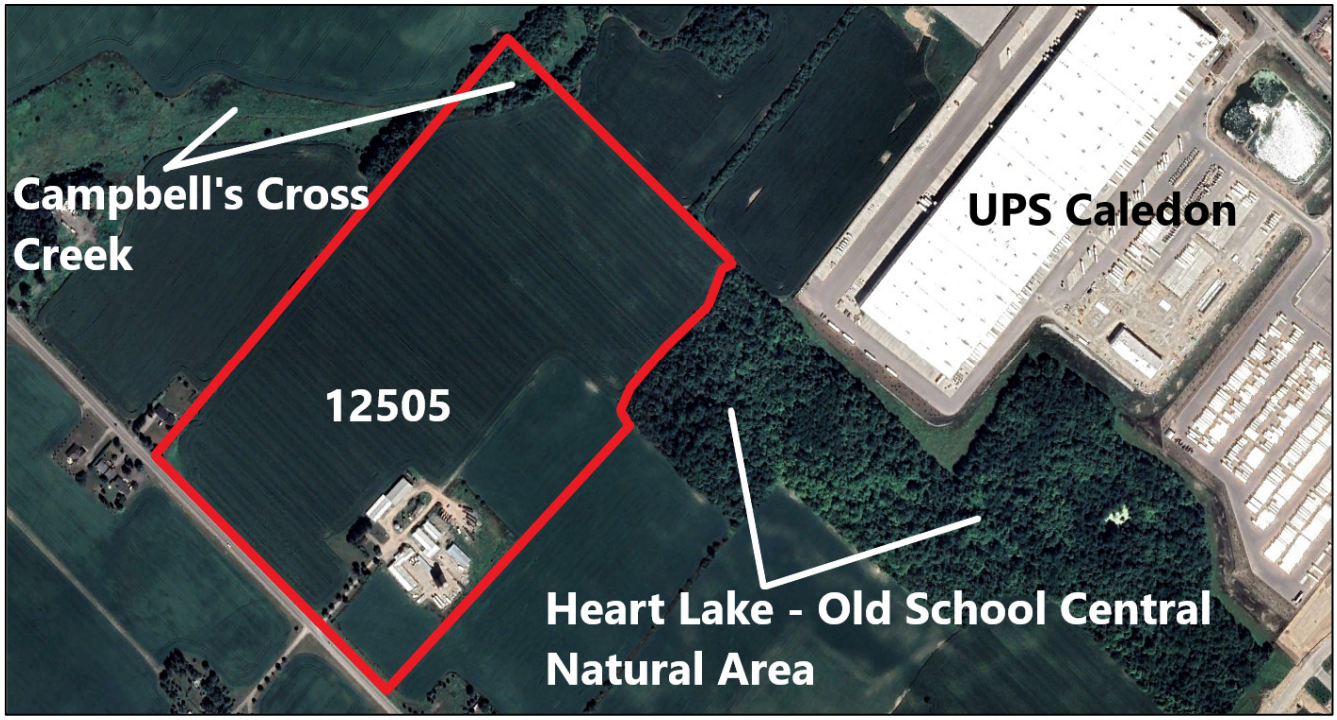


Figure 1: The site at 12505 Heart Lake Road (red outline) showing its location on active farmland fronting on Heart Lake Road and on lands neighbouring the new UPS Caledon facility. A segment of Campbell's Cross Creek crosses the "northeast" corner of the site, flowing easterly towards the west branch of the Humber River. The Heart Lake – Old School Central Natural Area abuts the site's southeast corner. The irregular site boundary in that area is a consequence of the landowner's donation of the on-site portion of the Natural Area to the Toronto Region Conservation Authority (TRCA).

The entire site is currently in agricultural use, with barns and other outbuildings remaining in the farmstead area after the farmhouse was removed and with the adjacent fields supporting a rotation of corn, soy, and wheat crops.

The sole natural feature on the site is the short segment of Campbell's Cross Creek, a West Humber River tributary, that crosses the "northeast" corner of the site flowing in an easterly direction.

The Heart Lake – Old School Central Natural Area that was a focus of the Credit River Watershed and Region of Peel Natural Areas Inventory (the NAI) formerly extended onto the site but was donated to TRCA by the family that owns the farm. As such, the site's boundary skirts the limit of the Natural Area.

The proposed industrial development that is the subject of the ZBA comprises 6 single storey industrial buildings constructed on grade and straddling a segment of the preferred route of the future GTA West Transportation Corridor that is planned to cross the site, pictured on **Figure 2**, below.

Figure 2: An excerpt of the Concept Plan depicting the proposed industrial development at 12505 Heart Lake Road. Note the proposed broad ≥30 metre setback between Building 5 and the Campbell's Cross Creek riparian corridor. Similarly, a proposed setback of ≥30 metres is provided between Building 6 and the northern edge of the Heart Lake – Old School Central Natural Area.

Background Review & Desktop Natural Heritage Constraints Analysis

At pre-consultation TRCA noted that the site occurs within lands subject to the ongoing Region of Peel Settlement Area Boundary Expansion (SABE) "study/process" and pointed out that the site contains TRCA regulated area associated with the Campbell's Cross Creek and with mapped Provincially Significant Wetland (PSW) that occurs off-site to the south within the adjacent Natural Area.

TRCA noted that a Scoped Subwatershed Study (SWS) was being prepared on behalf of the Region but that additional, more detailed studies, including an EIS, would need to be completed in support of development of the site.

Town of Caledon Official Plan

The Town of Caledon Official Plan Schedule B – Mayfield West Land Use Plan (excerpt in **Figure 3**, below) shows the vegetated Campbell's Cross Creek Corridor and the Heart Lake – Old School Central Natural Area as Environmental Policy Area (EPA). The alignment of the Campbell's Cross Creek channel is shown within the

variable width of the EPA lands. The extent of the Greenbelt Plan NHS *overlay* is also shown where it is applied to the Creek corridor and to adjacent farmed lands outside of the extent of natural riparian vegetation.

Review of the Town of Caledon Official Plan section 5.7 confirmed that development is prohibited within EPA designated lands (policy 5.7.3.1.1) except for a short list of permitted uses in policy 5.7.3.1.2. Specific EPA buffer widths are not stipulated in policy but, per policy 5.7.3.7.2, an EIS and MP shall identify the protection, enhancement, restoration, and management necessary to satisfy the Town's environmental policies.

However, within the Greenbelt Plan area which is represented at the site by the Greenbelt NHS overlay on Campbell's Cross Creek, Town of Caledon Official Plan policies 7.13.3.2.3.4 and 7.13.3.2.3.5 stipulate a minimum 30 metre "vegetation protection zone" or "VPZ" adjacent to key hydrological features (i.e., wetlands and watercourses) and to natural heritage features of significant woodlands and fish habitat, respectively.

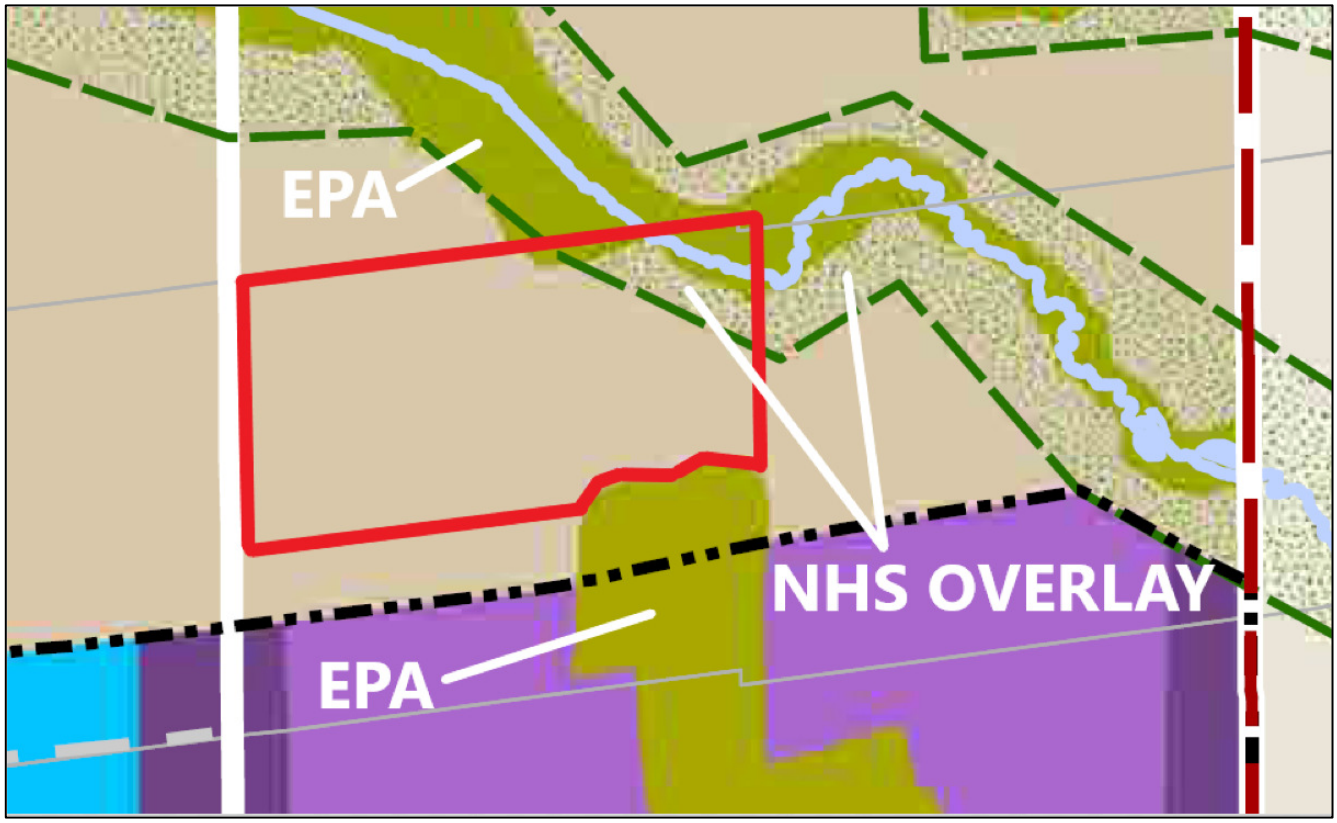


Figure 3: An excerpt of the Town of Caledon Official Plan Schedule B – Mayfield West Land Use Plan shows the extent of EPA lands at and adjacent to the site (red outline) and the swath of NHS Overlay along Campbell's Cross Creek.

Region of Peel Official Plan

The Region of Peel Official Plan Schedule A maps the Campbell's Cross Creek corridor and the Heart Lake – Old School Central Natural Area as Core Areas of the Greenlands System in Peel. Schedule D3 further maps the Greenbelt NHS along the Campbell's Cross Creek corridor.

Regional Official Plan policy 2.3.2.6 generally prohibits development within Core Areas and lists nine exceptions, none of which apply to the proposed industrial development at the site.

Policy 2.2.10.4.11 specifies that the Greenbelt NHS is an *overlay* designation that applies regionally and to the Town of Caledon and City of Brampton Official Plans. Policy 2.2.10.4.13 further directs the Town of Caledon (and City of Brampton) to include policies in their official plans that will protect key natural heritage features, key hydrologic features, and their functions in accordance with the Greenbelt Plan.

Natural Heritage Information Centre Mapping

Review of the online Natural Heritage Information Centre (NHIC) mapping and database confirmed the mapped extent of:

- The Greenbelt NHS as applied over the Campbell's Cross Creek corridor.
- Unevaluated wetland mapped within the bottom of the Campbell's Cross Creek valley.
- Polygons of the Heart Lake PSW Complex within the broader upland woodlands of the Heart Lake – Old School Central Natural Area.

These features are depicted on the excerpt of NHIC mapping in **Figure 4**, below.

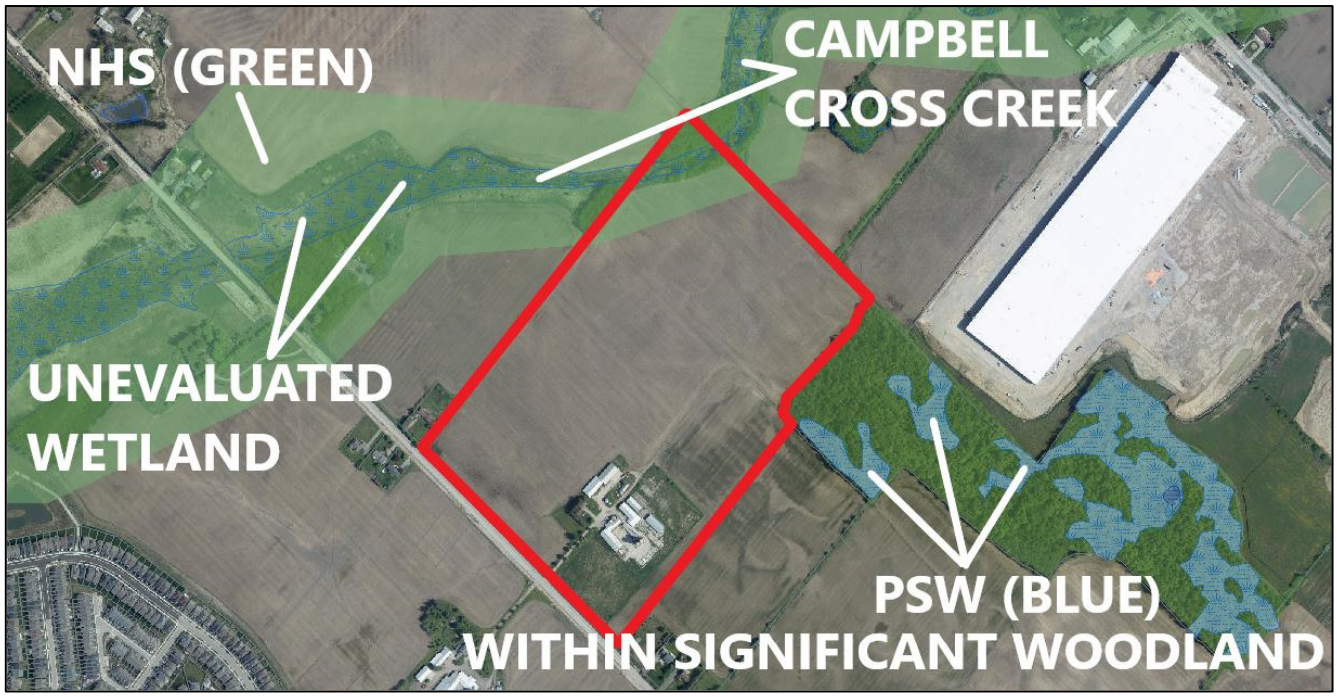


Figure 4: An excerpt of NHIC online mapping showing the site (red outline) and the extent of the various mapped natural heritage *features* and the application of the provincial Greenbelt Plan NHS to the Creek.

Additionally, the review included NHIC SAR occurrences at and near the site, which yielded the following species:

- Bank Swallow (Threatened).
- Bobolink (Threatened).
- Eastern Meadowlark (Threatened).

- Eastern Wood Pewee (Special Concern).
- Wood Thrush (Special Concern).
- Snapping Turtle (Special Concern).

TRCA Regulated Area and Living City Policies

Review of online TRCA regulation mapping confirmed TRCA regulated area associated with the Campbell's Cross Creek corridor (presumably reflecting "standard" regulation area setbacks from the watercourse, its floodplain, the unevaluated wetland, and the valley slope) and with the Heart Lake – Old School Central Natural Area (presumably reflecting regulation area mapped adjacent to the PSW polygons within the upland woods). The extent of TRCA regulated area is depicted on **Figure 5**, below.

Figure 5: An excerpt of TRCA mapping showing the site (red outline) and regulated area (tan shading).

TRCA regulated area isn't a firm constraint or buffer, but represents a trigger for a TRCA permit, for study and delineation of associated natural heritage and natural hazard features, and recommendation of appropriate buffers, setbacks, or VPZ as applicable.

Whereas the Town of Caledon and Region of Peel Official Plans do not specify buffer widths, the TRCA Living City Policies section 7.3.1.4 describes TRCA policies regarding buffer widths as follows:

- Valley and Stream Corridors – 10 metres from long term stable slope and any contiguous natural areas.
- Woodlands – 10 metres from the dripline and any contiguous natural areas.
- Wetlands – 30 metres from PSW and 10 metres from other wetlands and any contiguous natural areas.

Credit River Watershed and Region of Peel Natural Areas Inventory

The Credit River Watershed Watershed and Region of Peel Natural Areas Inventory (NAI) includes the results of detailed biological investigations of natural areas including:

- Heart Lake – Old School Central Natural Area comprising the woodland and PSW that abuts the southeast corner of the site; and
- Kennedy – Old School Natural Area comprising the segment of the Campbell's Cross Creek corridor immediately upstream of the site across Heart Lake Road.

The NAI describes the upland and wetland vegetation communities in these features and documents notable species, including SAR that were observed during the NAI inventories.

The NAI reported vegetation communities at the northern limit of the Heart Lake – Old School Central Natural Area as upland forest communities FOD5-2 Dry-Fresh Sugar Maple – Beech Deciduous Forest and FOD7-F Fresh-Moist Basswood Lowland Deciduous Forest, and wetland forest community SWD3-3 Swamp Maple Mineral Deciduous Swamp that is part of the PSW mapped within the otherwise upland woodlot. The NAI reported a "data-sensitive species" in the Natural Area and advised that TRCA should be consulted for additional details. SAR reported within the Heart Lake – Old School Central Natural Area include one plant and two birds:

- Butternut (Endangered);
- Eastern Wood Pewee (Special Concern); and
- Wood Thrush (Special Concern).

The NAI reported the vegetation community within the Campbell's Cross Creek valley bottom of the Kennedy – Old School Natural Area as primarily MAM2-2 Reed Canary Grass Mineral Meadow Marsh. The NAI reported no provincially rare or SAR plants and identified only one SAR, a bird, the ground-nesting Bobolink (Threatened). The NAI described a mix of warmwater and coolwater fish species that were observed within the reach of Campbell's Cross Creek.

Humber River Fisheries Management Plan

The Humber River Fisheries Management Plan classified Campbell's Cross Creek as "small riverine coldwater habitat" and confirmed that the coldwater species Brook Trout was captured in this West Humber River tributary as recently as 2003.

Department of Fisheries and Oceans Aquatic SAR Mapping

Online Department of Fisheries and Oceans (DFO) aquatic SAR mapping was reviewed to confirm that no aquatic SAR are considered to occur or potentially occur within the segment of Campbell's Cross Creek at the site. However, the DFO mapping shows the Endangered Redside Dace in the Creek immediately downstream of the nearby Dixie Road crossing.

Region of Peel SABE SWS

The ongoing Region of Peel SABE SWS includes results of recent assessment and analysis of natural features within the SABE study area, which includes the site and surrounding lands. Preliminary review of online SABE technical reports identified the following key information:

- The SABE SWS maps the segment of Campbell's Cross Creek at and near the site as "Small Riverine Coldwater" habitat and as "Potential Redside Dace Contributing Habitat" in consideration of the occurrence of Redside Dace habitat downstream at the nearby Dixie Road crossing.
- The SABE SWS indicates in a tabular summary of coldwater streams and fish species that coldwater streams and Brook Trout are absent from the West Humber River subwatershed portion of the SABE Focused Study Area (FSA) (which includes Campbell's Cross Creek) and that Redside Dace is the only sensitive fish species in the West Humber River subwatershed.
- Erosion Hazard Limits, based in part on TRCA crest of slope mapping and including a 6 metre erosion access allowance, were mapped by Matrix Solutions Inc. along the segment of Campbell's Cross Creek at and near the site.
- The SABE SWS identifies additional potential wetland area within the northeast portion of the Heart Lake – Old School Central Natural Area.
- The SABE SWS NHS and Conceptual Linkages mapping proposes 30 metre conceptual buffers applied to the Campbell's Cross Creek corridor and to the northern edge of the Heart Lake – Old School Central Natural Area.
- The SABE SWS NHS and Conceptual Linkages mapping identifies Campbell's Cross Creek as a "Major Landscape Linkage" and proposes a mapped "Minimum Vegetation Width" and a "Permeable Landscape Zone" along the corridor.
- The SABE SWS NHIS and Conceptual Linkages mapping does not show a proposed conceptual linkage between the Heart Lake – Old School Central Natural Area and any other natural heritage features.

Summary of Potential Natural Heritage Constraints

In summary, the potential natural heritage constraints at and adjacent to the site include:

1. Campbell's Cross Creek:
    a. Small riverine coldwater fish habitat, possibly containing coldwater Brook Trout;
    b. Potential Redside Dace aquatic SAR "contributing habitat";
    c. Potential terrestrial SAR occurrences and SAR habitat;
    d. Potential occurrence of SWH;
    e. Unevaluated Reed Canary Grass Marsh wetland along the creek in the valley bottom;
    f. Riparian/valleyland corridor and Conceptual Major Landscape Linkage; and
    g. Note that the Greenbelt Plan NHS overlay is applied over the Campbell's Cross Creek corridor.
2. Heart Lake – Old School Central Natural Area:
    a. Upland forest/woodland;
    b. Polygons of the Heart Lake PSW Complex;

   c. Candidate unevaluated wetland;
   d. Potential occurrence and habitat of terrestrial SAR;
   e. Potential occurrence of SWH; and
   f. Note that the Natural Area is isolated from the Creek and other natural features and that the Greenbelt Plan NHS is not applied to it.
3. Potential occurrence of terrestrial SAR that could be associated with the site's farmstead buildings and crop fields.

Each of these potential constraints is addressed further below, with reference to the results of site observations, impact assessment, and recommended avoidance and mitigation measures to determined compliance of the proposed industrial development with applicable natural heritage policies and legislation.

Site Observations and Inventories

Myler conducted a preliminary reconnaissance of the site with the proponent and their engineer on 05 May 2022. The site was observed to be planted to soybeans and wheat. The site visit focused on observations along the distinct limit of hedgerow-like vegetation and the distinct top of ravine/valley slope along the on-site segment of Campbell's Cross Creek, along the distinct northern woodland limit of the adjacent Heart Lake – Old School Central Natural Area, and along the site's sparsely vegetated perimeter hedgerows. The reconnaissance confirmed a lack of Endangered Butternut at the edges of the natural areas and within the thin hedgerows. Afterwards, Myler conducted interior and exterior observations of the farmstead buildings to search for nesting Barn Swallow (which were observed in a single building) and to confirm presence/absence of potential habitat of Chimney Swift (which was determined to be absent).

Myler's subsequent site visits were conducted during the early mornings of 18 June 2022 and 07 July 2022 to conduct a breeding bird survey, to observe vegetation communities, and to compile a list of plant species at each of the Campbell's Cross Creek corridor and the north edge of the Heart Lake – Old School Central Natural Area where they occur on and abut the site, respectively.

Additionally, Myler conducted observations of the farmstead buildings to complete the screening for and enumeration of Barn Swallow active nests (a total of 34 active nests were counted in a single outbuilding).

Photos 1 through 4, below, provide representative views of the site's farm fields and farmstead, the segment of Campbell's Cross Creek valley corridor and valley bottom, and the north edge of the Heart Lake – Old School Central Natural Area, respectively.

Photo 1: A south-facing view of the active crop fields and the farmstead.

Photo 2: South edge of the Campbell's Cross Creek corridor within the site's northeast corner.

Photo 3: Campbell's Cross Creek channel and Reed Canary Grass bottomland marsh at the site.

Photo 4: North edge of the Heart Lake – Old School Natural Area adjacent to the site's southeast corner.

Botanical Investigation

The riparian valley rim and slope at Campbell's Cross Creek was observed to be a Cultural Hedgerow type of plant community, with many planted conifers and Rowan or Mountain Ash trees, Manitoba Maple and Crack Willow, and otherwise shrubby Common Buckthorn thicket with scattered trees. Plant species diversity was observed to be low, with a total of 23 species (13 trees, 9 shrubs/vines, and 11 herbaceous plants). None of the observed plants is a SAR. The valley bottom, flanking the defined channel and clear waters of the Creek, was observed to be dominated by Reed Canary Grass.

Vegetation within the northern edge of the Heart Lake – Old School Central Natural Area was observed to be consistent with the NAI's mapping of Basswood Forest, Sugar Maple – Beech Forest, and the Swamp Maple Deciduous Swamp. A farm field drainage swale enters the northwest corner of the Natural Area where it becomes an open, damp swale area of dead Ash trees and dense Spotted Jewelweed. This appeared to be the area of "other wetland" outside of the mapped PSW limits that was identified in the SABE SWS. Forty-three plant species (10 trees, 6 shrubs/vines, and 27 herbaceous plants) were observed within the northern edge of the Natural Area. No SAR plants were observed.

Breeding Bird Survey

The breeding bird survey identified 13 species associated with the riparian corridor at Campbell's Cross Creek and 9 species at and within the northern edge of the Heart Lake – Old School Central Natural Area (Breeding Bird Survey tables, appended). All were common species except for the single Threatened SAR, Barn Swallow, that was observed foraging over Campbell's Cross Creek, which is unsurprising given the occurrence of active nests in one of the farmstead buildings and the likely occurrence of nesting Barn Swallow on neighbouring properties as well.

Incidental Wildlife Observations

Incidental wildlife observations included signs of previous, recent, Beaver presence in the Creek (i.e., grayed cut stumps and haul-out points on the banks) and eastern chipmunk among the planted conifers. A few Green Frogs were heard calling in the Reed Canary Grass bottomland marsh that flanks the creek channel.

At the Heart Lake – Old School Central Natural Area, incidental wildlife observations were limited to Whitetail Deer sign (i.e., hoofprints).

Species at Risk Screening Observations

Observations at the site confirmed a lack of eroded bank nesting habitat for the Threatened Bank Swallow and a lack of meadow nesting habitat for the Threatened ground-nesting Bobolink and Meadowlark which were identified in the desktop screening. Only a few Horned Lark were observed in the fields, among the low soybean rows, on the June breeding bird site visit.

The Special Concern Eastern Wood Pewee and Wood Thrush are reported from within the Heart Lake – Old School Central Natural Area, but neither was heard or observed within the northern edge of the feature adjacent to the site.

Campbell's Cross Creek was observed to possess a distinct and deeply incised channel and permanent flow regime, and therefore undoubtedly supports specimens of the Special Concern Snapping Turtle. However, suitable Snapping Turtle nesting habitat, consisting of exposed, well-drained soils or aggregate materials (e.g., road bed/shoulder gravel) was not observed in upland areas of the site.

A total of 34 active Barn Swallow nests were counted in one of the farmstead outbuildings. No Barn Swallow nests were observed in any of the other structures.

Confirmed Natural Heritage Constraints

Site visit habitat observations, the botanical investigation, and the breeding bird survey supported confirmation of natural heritage constraints from among the candidate constraints identified through desktop review and screening.

1. Campbell's Cross Creek:
    a. Small riverine coldwater fish habitat, possibly containing coldwater Brook Trout; YES
    b. Potential Redside Dace aquatic SAR "contributing habitat"; POSSIBLY
    c. Potential terrestrial SAR occurrences and SAR habitat; NONE OBSERVED, BUT SNAPPING TURTLE (SPECIAL CONCERN) LIKELY
    d. Potential occurrence of SWH; POSSIBLY, WITHIN CREEK BOTTOMLAND
    e. Unevaluated Reed Canary Grass Marsh wetland along the creek in the valley bottom; YES
    f. Riparian/valleyland corridor and Conceptual Major Landscape Linkage; and YES
    g. Note that the Greenbelt Plan NHS overlay is applied over the Campbell's Cross Creek corridor.
2. Heart Lake – Old School Central Natural Area:
    h. Upland forest/woodland; YES
    i. Polygons of the Heart Lake PSW Complex; YES
    j. Candidate unevaluated wetland; JEWELWEED SWALE OBSERVED
    k. Potential occurrence and habitat of terrestrial SAR; NONE OBSERVED, EASTERN WOOD PEWEE AND WOOD THRUSH (BOTH SPECIAL CONCERN) MAY OCCUR FURTHER SOUTH IN THE WOODLOT
    l. Potential occurrence of SWH; and POSSIBLY, WITHIN OFFSITE NATURAL AREA WOODLOT
    m. Note that the Natural Area is isolated from the Creek and other natural features and that the Greenbelt Plan NHS is not applied to it.
3. Potential occurrence of terrestrial SAR that could be associated with the site's farmstead buildings and crop fields. BARN SWALLOW (THREATENED) WAS THE SOLE OBSERVED SAR, WITH 34 NESTS IN ONE OF THE FARMSTEAD OUTBUILDINGS

The Special Concern SAR and potential SWH are protected within the associated natural features, with the sole exception of the Barn Swallow SAR for which nesting habitat was observed in one of the farmstead buildings.

Proposed Industrial Development

The proposed industrial development includes 6 single storey industrial buildings constructed on grade, with associated driveways and parking, straddling a segment of the preferred route of the future GTA West Transportation Corridor that is planned to cross the site, pictured on **Figure 2**, above.

The proposed limit of development was determined through preliminary constraints analysis that included:

- Preliminary staking and surveying of the top of slope and tree dripline at Campbell's Cross Creek in the northeast corner of the site; and
- Use of the surveyed property boundary in the southeast corner of the site that marks the limit between the previously donated northern portion of the Heart Lake – Old School Central Natural Area and the site's active crop fields.

There are no other natural heritage or natural hazard features/constraints at the site.

A 30 metre setback or buffer was applied to the Campbell's Creek and Heart Lake – Old School Central Natural Area constraints as a guide for development of the Concept Plan. As a result, the limit of development, including grading limits, paved areas, and the industrial buildings, is at least 30 metres, and generally more than 30 metres, from the edge of natural features.

As the site terrain is undulating and slopes generally towards Campbell's Cross Creek, extensive grading will be required within the development footprint for the industrial buildings. A retaining wall is proposed in the site's northeast corner to preserve existing grades in the buffer/VPZ next to Campbell's Cross Creek.

The EXP Services Inc. Preliminary Hydrogeology Investigation and Water Balance Assessment describes how dewatering during construction will require measures such as filtration and decanting to maintain water quality compliance for discharge to the existing sewer and recommends monitoring of the adjacent surface water features (i.e., Campbell's Cross Creek) during dewatering activities. Slab on grade construction will ensure that no permanent dewatering will be required at the site.

Site drainage, as described in the EXP Services Inc. Stormwater Management Report, is proposed to maintain the general pre-development drainage pattern in a manner that meets Town of Caledon engineering standards and TRCA requirements. The site drainage plan accounts for the site's division by the GTA West Transportation Corridor and proposes the use of retaining walls to maintain drainage patterns in separate east and west stormwater management (SWM) systems. To protect receivers, including Campbell's Cross Creek, SWM quantity controls will be achieved through temporary storage on rooftops and paved areas, in underground storage tanks with open-bottom infiltration function, and in Low Impact Development (LID) features such as infiltration swales. Quality control will be provided by four oil-grit separators situated downstream of orifice-controlled temporary storage facilities and upstream of infiltration facilities. Clean roof drainage will discharge directly to infiltration facilities.

Natural Heritage Impact Assessment

As most of the site is active crop land and natural areas are limited to the short segment of Campbell's Cross Creek and the northern edge of the Heart Lake – Old School Central Natural Area, the potential natural heritage impacts are limited to:

- Erosion and sedimentation during site preparation and construction;
- Temporary groundwater dewatering during site preparation and construction;
- Disruption of Barn Swallow nesting during site preparation and construction;
- Encroachment within and disturbance of the Campbell's Cross Creek corridor and the Heart Lake – Old School Central Natural Area; and
- Site drainage effects on Campbell's Cross Creek and on the Heart Lake – Old School Central Natural Area.

Construction period drainage and dewatering related impacts will be mitigated through the use of erosion and sedimentation controls including silt fencing and catch basin barriers, and through treatment and monitoring of dewatering discharge.

Avoidance of impact to nesting Barn Swallows will include construction of at least 34 replacement nests within a nesting structure or structures to be built outside of the development limits and adjacent to the on-site segment of Campbell's Cross Creek. Endangered Species Act compliance for Barn Swallow is straightforward, as specified in O. Reg. 242/08 which will guide implementation, registration, and monitoring of the nest habitat compensation measures.

As the Concept Plan was developed with a setback or buffer of at least 30 metres from each of the Campbell's Cross Creek and the Heart Lake – Old School Central Natural Area, prevention of encroachment and disturbance is assured. Careful attention to lighting of the site's buildings, parking areas, and driveways will mitigate off-site intrusion of light into the adjacent natural areas.

Site drainage impacts will be mitigated through the two SWM systems described above that will maintain the existing drainage pattern and will include quantity and quality controls plus infiltration measures to protect and sustain the adjacent surface water and wetland receivers.

Recommended Buffers and Mitigation Measures

The 30 metre setbacks or buffers that were included on and guided the development of the Concept Plan are recommended as sufficiently protective of the adjacent natural features. Further, the broad areas of at least 30 metres width represent opportunities to restore and enhance natural habitat contiguous with Campbells Cross Creek and with the Heart Lake – Old School Central Natural Area, effectively increasing the extent, quality, and function of these natural features over time.

Development of a native species Landscape Plan is recommended for the buffer/VPZ adjacent to Campbell's Cross Creek because the existing riparian vegetation community lacks diversity and has a high proportion of non-native species.

Conversely, for the buffer adjacent to the Heart Lake – Old School Central Natural Area it is recommended that planting should be limited to the application of a native species meadow seed mix followed by monitored natural regeneration through natural dispersal of seed from the adjacent woodland, which is dominated by desirable native tree, shrub, and herbaceous plant species.

As noted above, Endangered Species Act compliance requires provision of replacement nests for the 34 active Barn Swallow nests that were observed at the site in 2022. Replacement nest structures are recommended to be constructed adjacent to Campbell's Cross Creek, within the VPZ area.

Policy Compliance

Key applicable policies were identified above as part of the Background Review and Desktop Natural Heritage Constraints Analysis.

The separation of the proposed limit of development from the adjacent natural features by a ≥30 metre VPZ in the case of Campbell's Cross Creek and a ≥30 metre buffer in the case of the Heart Lake – Old School Central Natural Area satisfies policies of the Town and Region Official Plan buffer and VPZ policies, the Greenbelt Plan VPZ policies, and the TRCA Living City valleyland, wetland, and woodland buffer policies.

The proposed VPZ and buffer are also consistent with the recommendations of the SABE SWS and, for Campbell's Cross Creek, will create the SABE SWS recommended Major Landscape Linkage.

As noted above, legislative and policy compliance respecting SAR will be achieved through avoidance, buffering, and mitigation of impacts to the habitat of Special Concern SAR that are known or assumed to occur in the Campbell's Cross Creek corridor and the Heart Lake – Old School Central Natural Area and through the provision of replacement nests for the Threatened Barn Swallows that nest in one of the farmstead outbuildings.

Conclusion and Recommendations

The proposed industrial development at the site has been designed to avoid intrusion within and impacts to adjacent natural features. These features and their ecological functions will not be negatively impacted. Restoration and enhancement within the ≥30 metre VPZ and buffer will result in a net increase in natural vegetation and wildlife habitat.

Accordingly, the proposed redevelopment conforms to applicable policies and is recommended for approval.

PROJECT DATA:

TOTAL SITE AREA:		
GROSS:	72.64 AC	29.40 HA
	3,164,261 SF	293,970 m²

PARKING REQUIREMENTS:	
WAREHOUSE	
<7000 m²	1/90 m²
7000-20000 m²	1/145 m²
>20000 m²	1/170 m²
OFFICE	1/30 m²

SITE AREA 1:

GROSS:	31.62 AC	12.80 HA
	1,377,507 SF	127,975 m²
BUILDING 1	121,806 SF	11,316 m²
BUILDING 2	189,108 SF	17,569 m²
BUILDING 3	127,672 SF	11,861 m²
BUILDING 4	179,168 SF	16,645 m²
TOTAL:	617,754 SF	57,391 m²
LANDSCAPE AREA:		20%
		25,285 m²

FAR:	
GROSS:	0.45
NET:	0.45
COVERAGE:	
GROSS:	45%
NET:	45%

BUILDING 1

▲ DOCK-HIGH DOORS	30
O GRADE-LEVEL DOORS	2

PARKING REQUIRED:			
WAREHOUSE			
<7000 m²		7,000 m²	78 STALLS
7000-20000 m²		3,750 m²	26 STALLS
OFFICE	@ 5%	566 m²	19 STALLS
TOTAL			123 STALLS
PARKING PROVIDED:			130 STALLS
		@1.07/1000 SF	@1.15/100 m²
REQ. ACCESSIBLE			*To be confimed by City*

BUILDING 2

▲ DOCK-HIGH DOORS	32
O GRADE-LEVEL DOORS	2

PARKING REQUIRED:			
WAREHOUSE			
<7000 m²		7,000 m²	78 STALLS
7000-20000 m²		9,690 m²	67 STALLS
OFFICE	@ 5%	878 m²	29 STALLS
TOTAL			174 STALLS
PARKING PROVIDED:			200 STALLS
		@1.06/1000 SF	@1.14/100 m²
REQ. ACCESSIBLE			*To be confimed by City*

BUILDING 3

▲ DOCK-HIGH DOORS	33
O GRADE-LEVEL DOORS	2

PARKING REQUIRED:			
WAREHOUSE			
<7000 m²		7,000 m²	78 STALLS
7000-20000 m²		4,268 m²	29 STALLS
OFFICE	@ 5%	593 m²	20 STALLS
TOTAL			127 STALLS
PARKING PROVIDED:			180 STALLS
		@0.98/1000 SF	@1.06/100 m²
REQ. ACCESSIBLE			*To be confimed by City*

BUILDING 4

▲ DOCK-HIGH DOORS	32
O GRADE-LEVEL DOORS	2

PARKING REQUIRED:			
WAREHOUSE			
<7000 m²		7,000 m²	78 STALLS
7000-20000 m²		8,813 m²	61 STALLS
OFFICE	@ 5%	832 m²	28 STALLS
TOTAL			166 STALLS
PARKING PROVIDED:			180 STALLS
		@0.98/1000 SF	@1.06/100 m²
REQ. ACCESSIBLE			*To be confimed by City*

SITE AREA 2:

GROSS:	29.79 AC	12.06 HA
	1,297,740 SF	120,564 m²
EASEMENT.:	@ 22%	26,358 m²
NET:	23.28 AC	9.42 HA
	1,014,028 SF	94,206 m²
BUILDING 5	210,067 SF	19,516 m²
BUILDING 6	227,370 SF	21,123 m²
TOTAL:	437,437 SF	40,639 m²
LANDSCAPE AREA:		44%
		52,612 m²

FAR:	
GROSS:	0.34
NET:	0.43
COVERAGE:	
GROSS:	34%
NET:	43%

BUILDING 5

▲ DOCK-HIGH DOORS	39
O GRADE-LEVEL DOORS	2

PARKING REQUIRED:			
WAREHOUSE			
<7000 m²		7,000 m²	78 STALLS
7000-20000 m²		12,516 m²	86 STALLS
OFFICE	@ 5%	976 m²	33 STALLS
TOTAL			194 STALLS
PARKING PROVIDED:			200 STALLS
		@0.95/1000 SF	@1.02/100 m²
REQ. ACCESSIBLE			*To be confimed by City*

BUILDING 6

▲ DOCK-HIGH DOORS	39
O GRADE-LEVEL DOORS	2

PARKING REQUIRED:			
WAREHOUSE			
<7000 m²		7,000 m²	78 STALLS
7000-20000 m²		13,000 m²	90 STALLS
>20000 m²		1,123 m²	7 STALLS
OFFICE	@ 5%	1,056 m²	35 STALLS
TOTAL			209 STALLS
PARKING PROVIDED:			260 STALLS
		@1.14/1000 SF	@1.23/100 m²
REQ. ACCESSIBLE			*To be confimed by City*

DEVELOPMENT STANDARDS:

ZONING:	MP
MAX. COVERAGE:	50%
MAX. HEIGHT:	18 m

BUILDING SETBACKS:	
FRONT:	9 m
SIDE:	7.5 m
REAR:	7.5 m

LANDSCAPE SETBACKS:		
FRONT:	6 m	
SIDE:	3 m	3
REAR:	3 m	
LANDSCAPE REQ.:	10%	

OFF-STREET PARKING:	
STANDARD:	2.75X6 m
DRIVE AISLE:	6 m

REQ. PARKING RATIO BY USE:		
WAREHOUSE:	1/90 sq m	1
MANUF	1/60 sq m	2
OFFICE:	1/30 sq m	

NOTES:

1 a.) If accessory office use and retail net floor areas are 15% or less of the total net floor area: Up to 7000m2 - 1/90m2 net floor area; 7000-20000 - 78 spaces plus 1/145m2 of net floor area or portion thereof above 7000m2; Over 20000m2 - 168 spaces plus 1/170m2 or portion thereof over 20000m2;
b.) If associated office and retail net floor areas are more than 15% of the total net floor area: In addition to the standards contained in (a), the applicable net floor areas exceeding 15% shall be subject to the applicable office or retail parking requirements.

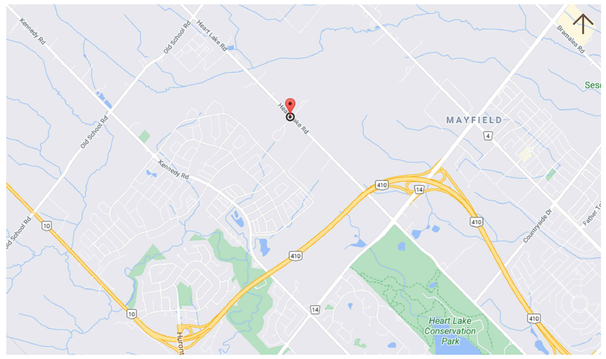
2 a.) IF accessory office and retail net floor areas are 15% of less of the total net floor area:
Up to 5,000 sq m - 1 parking space per 60 sq m net floor area or portion thereof
5,000 to 10,000 sq m - 83 spaces plus 1 space per 90 sq m of net floor area or portion thereof over 5,000 sq m
Over 10,000 sq m - 139 spaces plus 1 parking space per 170 sq m or portion thereof of net floor area or portion thereof over 10,000 sq m.
b.) If associate office and retail net floor area are more than 15% of the total net floor area: in additiona to the standards contained in (a), the applicable net floor areas exceeding 15% shall be subject to the applicable office or retail parking requirements.

3 3 m for all parking spaces.

This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.

Stormwater Management Design:
AVERAGE REGIONAL REQUIRED PROVIDED

Boundary Source:
CIVIL CAD FILE



1:1500
0 20m 40m 75m 150m

NORTH

scheme: 05

Conceptual Site Plan

Heart Lake Rd
Caledon, ON, Canadá

BERKSHIRE AXIS
Unlocking Opportunity™

WARE MALCOMB

TOR21-0126-00
08.04.2022

SHEET
1

Botanical Inventory - 12505 Heart Lake Road, Caledon - Campbell's Cross Creek			
Scientific Name	**Common Name**	**TRCA LRANK**	**SRANK**
Trees			
Acer negundo	Manitoba Maple	L+?	S5
Acer saccharinum	Silver Maple	L4	S5
Acer saccharum	Sugar Maple	L5	S5
Fraxinus pennsylvanica	Red/Green Ash	L5	S4
Larix laricina	Tamarack	L3	S5
Malus pumila	Apple	L+	SNA
Pinus resinosa	Red Pine	L1	S5
Pinus strobus	Eastern White Pine	L4	S5
Quercus rubra	Northern Red Oak	L4	S5
Salix x fragilis	Crack Willow	L+	SNA
Sorbus aucuparia	European Mountain-ash	L+	SNA
Tilia americana	Basswood	L5	S5
Ulmus americana	American Elm	L5	S5
Shrubs & Vines			
Cornus alternifolia	Alternate-leaved Dogwood	L5	S5
Lonicera tatarica	Tartarian Honeysuckle	L+	SNA
Parthenocissus vitacea	Thicket Creeper	L5	S5
Prunus virginiana	Choke Cherry	L5	S5
Rhamnus cathartica	Common Buckthorn	L+	SNA
Ribes americanum	Wild Black Currant	L5	S5
Rubus idaeus ssp. melanolasius	Wild Red Raspberry	L5	S5
Rubus occidentalis	Black Raspberry	L5	S5
Vitis riparia	Riverbank Grape	L5	S5
Herbaceous Plants			
Actea pachypoda	White Baneberry	L5	S5
Alliaria petiolata	Garlic Mustard	L+	SNA
Arctium minus	Common Burdock	L+	SNA
Circaea lutetiana	Enchanter's-nightshade	L5	S5
Dactylis glomerata	Orchard Grass	L+	SNA
Erythronium americanum	Yellow Trout Lily	L5	S5
Geranium robertianum	Herb Robert	L+?	S5
Geum aleppicum	Yellow Avens	L5	S5
Impatiens capensis	Spotted Touch-me-not	L5	S5
Solanum dulcamara	Climbing Nightshade	L+	SNA
Taraxacum officinale	Common Dandelion	L+	SNA

Botanical Inventory - 12505 Heart Lake Road, Caledon - Campbell's Cross Creek			
Scientific Name	**Common Name**	**TRCA LRANK**	**SRANK**
Trees			
Acer saccharinum	Silver Maple	L4	S5
Acer saccharum	Sugar Maple	L5	S5
Carya cordiformis	Bitternut Hickory	L4	S5
Fagus grandifolia	American Beech	L4	S4
Fraxinus pennsylvanica	Red/Green Ash	L5	S4
Ostrya virginiana	Hop Hornbeam	L5	S5
Quercus alba	White Oak	L2	S5
Tilia americana	Basswood	L5	S5
Tsuga canadensis	Eastern Hemlock	L4	S5
Ulmus americana	American Elm	L5	S5
Shrubs & Vines			
Euonymus obovata	Running Strawberry-bush	L3	S4
Parthenocissus vitacea	Thicket Creeper	L5	S5
Prunus virginiana	Choke Cherry	L5	S5
Rhamnus cathartica	Common Buckthorn	L+	SNA
Rubus idaeus ssp. melanolasius	Wild Red Raspberry	L5	S5
Toxicodendron rydbergii	Rydberg's Poison-ivy	L5	S5
Herbaceous Plants			
Alisma triviale	Common Water-plantain	L5	S5
Arisaema triphyllum	Jack-in-the-pulpit	L5	S5
Carex blanda	Woodland Sedge	L5	S5
Carex communis	Common Sedge	L4	S5
Carex intumescens	Bladder Sedge	L4	S5
Caulophyllum giganteum	Giant Blue Cohosh	L4	S5
Circaea lutetiana	Enchanter's-nightshade	L5	S5
Collinsonia canadensis	Canada Horsebalm	L3	S4
Dryopteris carthusiana	Spinulose Wood Fern	L5	S5
Equisetum hyemale	Scouring-rush	L5	S5
Erythronium americanum	Yellow Trout Lily	L5	S5
Fragaria vesca	Woodland Strawberry	L5	S5
Galium aparine	Cleavers	L5	S5
Geranium robertianum	Herb Robert	L+?	S5
Geum canadense	White Avens	L5	S5
Glyceria striata	Fowl Manna Grass	L5	S5
Hydrophyllum virginianum	Virginia Waterleaf	L5	S5
Impatiens capensis	Spotted Touch-me-not	L5	S5
Laportea canadensis	Canada Wood Nettle	L5	S5
Maianthemum racemosum	False Solomon's-seal	L5	S5
Onoclea sensibilis	Sensitive Fern	L5	S5
Phytolacca americana	Common Pokeweed	L+	S4
Polystichum acrostichoides	Christmas Fern	L4	S5
Solanum dulcamara	Climbing Nightshade	L+	SNA
Solidago caesia	Blue-stem Goldenrod	L5	S5
Solidago flexicaulis	Zigzag Goldenrod	L5	S5
Trillium grandiflorum	White Trillium	L4	S5

Breeding Bird Survey - 12505 Heart Lake Rd., Caledon - Campbell's Cross Creek Riparian Corridor

Common Name	Scientific Name	18-Jun-22	07-Jul-22	TRCA L-Rank	S-Rank	OBBA Breeding Evidence Codes (see below)	Summary Breeding Evidence	Notes
Eastern Kingbird	Tyrannus tyrannus		X	L4	S4B	H	POSSIBLE	
Blue Jay	Cyanocitta cristata		X	L5	S5	H	POSSIBLE	
Black-capped Chickadee	Poecile atricapilla	X	X	L5	S5	S	POSSIBLE	
Tree Swallow	Tachycineta bicolor	X	X	L4	S4S5B	H	POSSIBLE	flyovers, treetops
Barn Swallow	Hirundo rustica	X		L4	S4B	X	OBSERVED	foraging over creek and valley bottom
American Robin	Turdus migratorius		X	L5	S5	S	POSSIBLE	many observed
Gray Catbird	Dumetella carolinensis		X	L4	S5B	S	POSSIBLE	
American Goldfinch	Carduelis tristis	X		L5	S5	H	POSSIBLE	
Song Sparrow	Melospiza melodia	X	X	L5	S5	FY	CONFIRMED	many singing males, one fledgling observed
Red-winged Blackbird	Agelaius phoeniceus	X	X	L5	S5	FY	CONFIRMED	creek and valley bottom
Baltimore Oriole	Icterus galbula		X	L5	S4B	H	POSSIBLE	
Common Yellowthroat	Geothlypis trichas		X	L4	S5B	S	POSSIBLE	
Northern Cardinal	Cardinalis cardinalis		X	L5	S5	S	POSSIBLE	

OBSERVED

X — Species observed in its breeding season (no breeding evidence).

POSSIBLE

H — Species observed in its breeding season in suitable nesting habitat.

S — Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.

PROBABLE

P — Pair observed in suitable nesting habitat in nesting season.

T — Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more appart, at the same place.

D — Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulation.

V — Visiting probable nest site

A — Agitated behaviour or anxiety calls of an adult.

B — Brood Patch on adult female or cloacal protuberance on adult male.

N — Nest-building or excavation of nest hole.

CONFIRMED

DD — Distraction display or injury feigning.

NU — Used nest or egg shells found (occupied or laid within the period of the survey).

FY — Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.

AE — Adult leaving or entering nest sites in circumstances indicating occupied nest.

FS — Adult carying fecal sac.

CF — Adult carying food for young.

NE — Nest containing eggs.

NY — Nest with young seen or heard.

Breeding Bird Survey - 12505 Heart Lake Rd., Caledon - Heart Lake - Old School Central Natural Area

Common Name	Scientific Name	18-Jun-22	07-Jul-22	TRCA L-Rank	S-Rank	OBBA Breeding Evidence Codes (see below)	Summary Breeding Evidence	Notes
Red-eyed Vireo	Vireo olivaceus	**X**		L4	S5B	**S**	POSSIBLE	
Blue Jay	Cyanocitta cristata	**X**	**X**	L5	S5	**T**	PROBABLE	
Common Raven	Corvus corax	**X**		L4	S5	**X**	OBSERVED	flyover and landed atop silo
Black-capped Chickadee	Poecile atricapilla		**X**	L5	S5	**S**	POSSIBLE	
American Robin	Turdus migratorius	**X**		L5	S5	**A**	PROBABLE	
Gray Catbird	Dumetella carolinensis		**X**	L4	S5B	**H**	POSSIBLE	
American Goldfinch	Carduelis tristis		**X**	L5	S5	**H**	POSSIBLE	many in treetops and at edge
Song Sparrow	Melospiza melodia	**X**	**X**	L5	S5	**A**	PROBABLE	
Northern Cardinal	Cardinalis cardinalis	**X**		L5	S5	**H**	POSSIBLE	

OBSERVED

X — Species observed in its breeding season (no breeding evidence).

POSSIBLE

H — Species observed in its breeding season in suitable nesting habitat.

S — Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.

PROBABLE

P — Pair observed in suitable nesting habitat in nesting season.

T — Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more appart, at the same place.

D — Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulation.

V — Visiting probable nest site

A — Agitated behaviour or anxiety calls of an adult.

B — Brood Patch on adult female or cloacal protuberance on adult male.

N — Nest-building or excavation of nest hole.

CONFIRMED

DD — Distraction display or injury feigning.

NU — Used nest or egg shells found (occupied or laid within the period of the survey).

FY — Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.

AE — Adult leaving or entering nest sites in circumstances indicating occupied nest.

FS — Adult carying fecal sac.

CF — Adult carying food for young.

NE — Nest containing eggs.

NY — Nest with young seen or heard.