



REPORT

12489 & 12861 Dixie Road Climate Change Adaptation Study

Submitted to:

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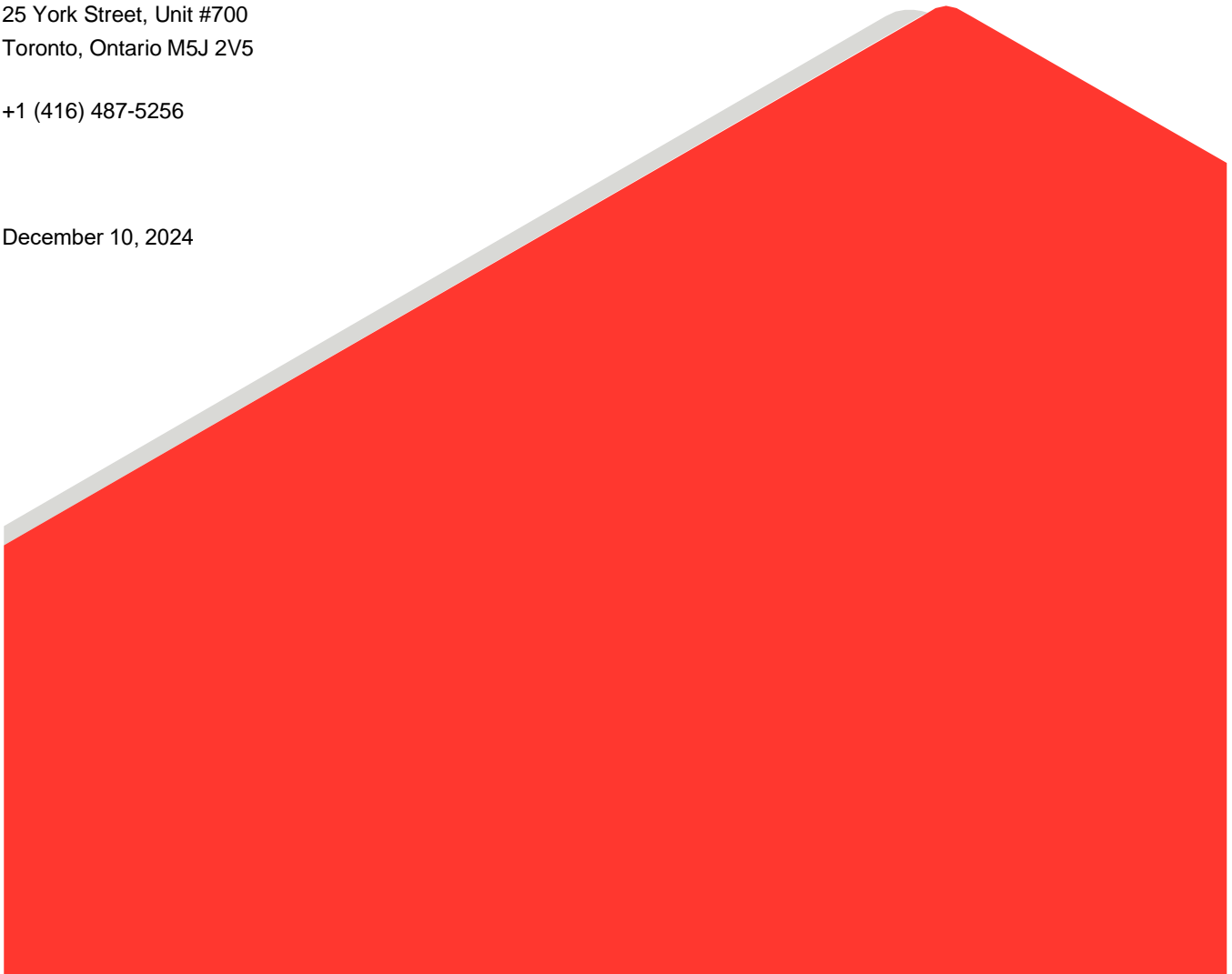
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Distribution List

One PDF - QuadReal Property Group

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Executive Summary

WSP Canada Inc. (WSP) has been engaged by QuadReal Property Group (the Applicant) to support the completion of a Climate Change Adaptation Study (the Study), as required for the Site as per s.5.6.20.14.17(e) of the Region of Peel Official Plan (RPOP 2051) and s.5.5.9.2(d) of the Town of Caledon Official Plan. The purpose of this report is to deliver a high-level climate change assessment following the policies provided by the Region of Peel and Town of Caledon and will be used to support the development application for Official Plan Amendment (OPA), Zoning By-law Amendment (ZBA), and Site Plan Approval (SPA).

The Applicant is proposing to redevelop two 58.2-hectare (144-acre) sites (combined 110.4-hectare or 272.8-acre) on lands that are municipally known as 12489 & 12861 Dixie Road in the Town of Caledon, Ontario (the Site). The Site is currently occupied by agricultural and residential buildings, as well as vacant land consisting of agricultural land and natural features. The existing residential buildings with cultural heritage value will be retained, as described in the *Cultural Heritage Impact Statement* (Stantec, 2024), while the remainder of the Site will be regraded to facilitate the construction of an industrial development consisting of five (5) buildings that have a combined floor area of 322,785 m². Existing environmental features located within the Greenbelt Plan area will be preserved.

The following plans and reports have been reviewed in support of the Study to identify mandatory planning requirements and voluntary considerations that are relevant to the proposed development:

- Provincial Planning Statement (2024)
- The Greenbelt Plan (2017)
- Region of Peel Official Plan (2022)
- Region of Peel Climate Change Master Plan (2019)
- Region of Peel Settlement Area Boundary Expansion (SABE) Study (2020)
- The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (2014)
- Town of Caledon Official Plan (2024)
- Town of Caledon Mayfield West Secondary Plan (2024)
- Town of Caledon Official Plan Update Discussion Paper – Climate Change (2021)
- Resilient Caledon Community Climate Change Action Plan (2021)
- Resilient Caledon Community Climate Change Action Plan Technical Report (2020)
- Town of Caledon Green Development Standard (2024)
- Caledon Transit Feasibility Study (2019)

Based on a review of climate change policies and guidelines in the identified plans and reports, a total of 28 recommendations are provided in this report and are separated according to themes relating to climate change

adaptation planning. They are further divided based on mandatory requirements and voluntary considerations (Section 4.0). The mandatory planning requirements identified as part of this Study includes:

- Implementing the required development setbacks of 10 metres around floodplain boundaries;
- Prohibiting development in Environmental Policy Areas (EPAs);
- Maintaining required 30 metre development setbacks around key natural heritage features part of the Greenbelt Plan Natural Heritage System;
- Manage lateral light trespass into the adjacent protected natural features;
- Ensuring stormwater management ponds meet appropriate water quality, water quantity, water balance, and erosion control requirements; and,
- Ensuring that the proposed development meets green infrastructure targets identified in the Town of Caledon Green Development Standard (2024).
- Complete Submission Requirements identified in the Town of Caledon Green Development Standard to address relevant GDS metric requirements.

Voluntary planning recommendations identified in this Study focus on the use of green infrastructure and low impact development approaches, avoiding development on lands adjacent to EPAs, increasing green spaces and tree canopy coverage, and additional stormwater management practices. The Applicant is encouraged to consider all recommendations provided in this report at the detailed design / SPA stages of the Project.

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Abbreviations and Acronyms

ANSI	Areas of Natural or Scientific Interest
CCMP	Region of Peel Climate Change Master Plan
CHIS	Cultural Heritage Impact Statement
DBH	Diameter at Breast Height
DTI	Detailed Tree Inventory
EPA	Environmental Policy Area
FSA	Focus Study Area
GDS	Green Development Standard
GGH	Greater Golden Horseshoe
GHG	Greenhouse Gas
GTI	General Tree Inventory
HDF	Headwater Drainage Features
LID	Low Impact Development
LNA	Land Needs Assessment
MECP	Ministry of the Environment, Conservation and Parks
NEP	Niagara Escarpment Plan
NHS	Natural Heritage System
OGS	Oil and Grit Separators
OPA	Official Plan Amendment
ORMCP	Oak Ridges Moraine Conservation Plan
PPS	Provincial Planning Statement
RPOP	Region of Peel Official Plan
SABE	Settlement Area Boundary Expansion
SAR	Species at Risk
Site	12489 & 12861 Dixie Road, in Caledon, Ontario, Canada
SOCC	Species of Conservation Concern
SPA	Site Plan Approval

SRI	Solar Reflectance Index
the Study	Climate Change Adaptation Study
SWM	Stormwater Management
The Region	The Region of Peel
The Town	Town of Caledon
Town OP	Town of Caledon Official Plan
TPF	Tree Protected Fence
TRCA	Toronto and Region Conservation Authority
TSS	Total Suspended Solids
TWDG	Town-wide Design Guidelines
ZBA	Zoning By-law Amendment

1.0 INTRODUCTION

WSP Canada Inc. (WSP) has been engaged by QuadReal Property Group to support the completion of a Climate Change Adaptation Study and an Energy and Emissions Reduction Study. This is the Climate Change Adaptation Study (the Study) for a proposed industrial development (the Project) located at 12489 & 12861 Dixie Road, in Caledon, Ontario, Canada, as described in Section 1.1. The Energy and Emissions Reduction Study is provided in a separate document.

A Climate Change Adaptation Study is required for the Site as per s.5.6.20.14.17(e) of the Region of Peel Official Plan (RPOP 2051) and s.5.5.9.2(d) of the Town of Caledon Official Plan. The completion of the Study was requested by Town of Caledon staff following the initial Official Plan Amendment (OPA) submission. A Climate Change Adaptation Study details how the climate risks identified by the Town’s Risk and Vulnerability Assessment can be minimized through management plans and implemented strategies. This will be achieved by outlining existing submission requirements, how climate change adaptation is being addressed in the site plan submission, and solutions for climate change impacts that are not covered by existing studies.

1.1 12489 & 12861 Dixie Road Development Proposal

QuadReal Property Group (the Applicant) is proposing to redevelop two 58.2-hectare (144-acre) sites (combined 110.4-hectare or 272.8-acre) on lands that are municipally known as 12489 & 12861 Dixie Road in the Town of Caledon, Ontario (the Site). The location of the Site is displayed in **Figure 1-1**.

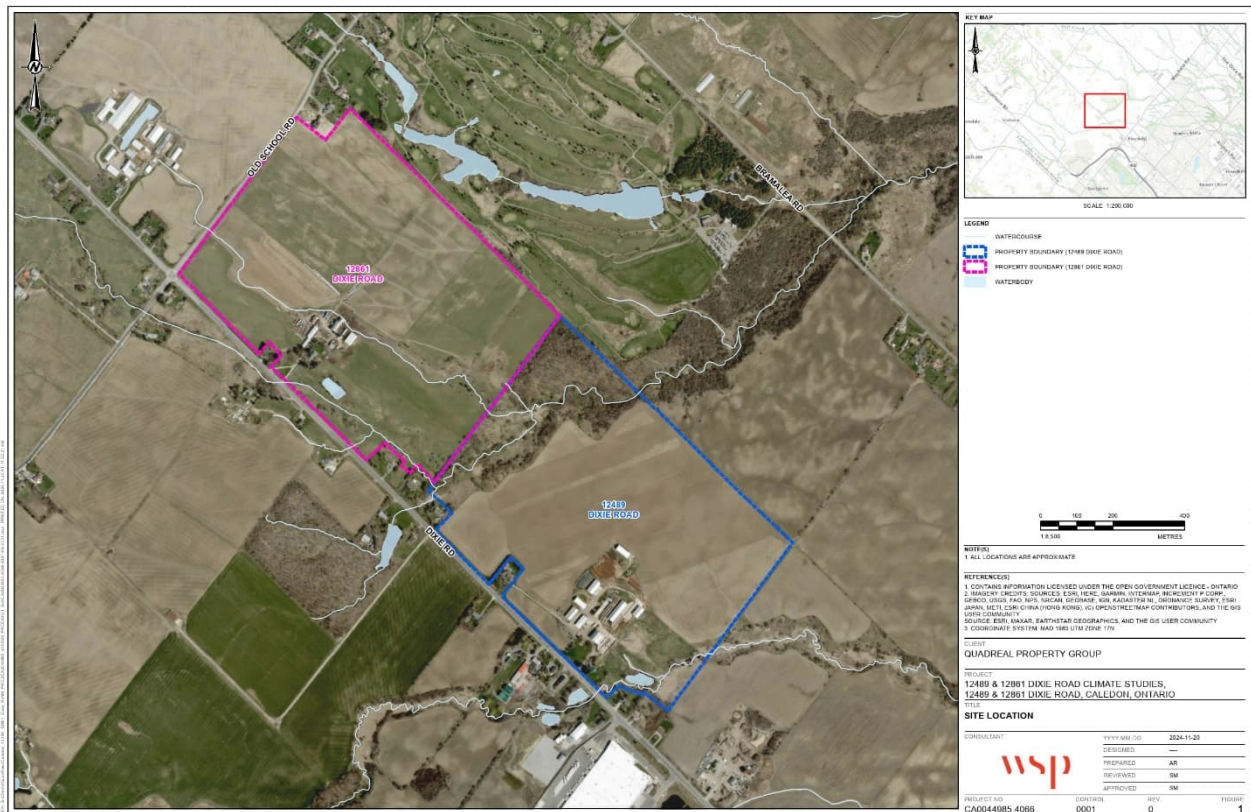


Figure 1-1: 12489 & 12861 Dixie Road, Caledon, Ontario Site Location

The Site is currently occupied by agricultural and residential buildings, as well as vacant land consisting of agricultural land and natural features. The existing residential buildings will be retained, while the remainder of the Site will be regraded to facilitate the construction of an industrial development consisting of five (5) buildings that have a combined floor area of 322,785 m². Existing environmental features located within the Greenbelt Plan Area, including Significant Valleylands, Significant Woodlands, Significant Wildlife Habitat, and Candidate Species at Risk (SAR) Habitat, will be preserved.

The proposed use of the Site includes warehouse, distribution, and industrial uses. The proposed development at 12489 Dixie Road is comprised of three (3) industrial buildings, associated road networks, stormwater management facilities, and environmentally protected features. The proposed development will create approximately 134,565.32 m² (1,448,447.62 square feet) of employment gross floor area and provide space for approximately 1,034 jobs on site.

The proposed development at 12861 Dixie Road comprises two (2) industrial buildings, associated road networks, stormwater management facilities, and environmentally protected features. The proposed development will create approximately 188,718.37 m² (2,031,346 square feet) of employment gross floor area and provide space for approximately 1,451 jobs on site. To facilitate the proposed development, the proposed application will seek to amend the Town of Caledon Official Plan and Zoning By-law and receive Site Plan Approval.

The Site is located within the Region of Peel's 2051 New Urban Area, under the classification of *Designated Greenfield Areas* that have been identified to accommodate growth to 2051 (Region of Peel, 2022). As identified in the Region of Peel's Official Plan (2022), the site is also located in an Employment Area. Part of the site is provincially-designated as part of the Greenbelt Plan's Natural Heritage System.

The Site is designated as Prime Agricultural Area and Environmental Policy Area on Schedule 'A' Land Use Plan in the Town of Caledon Official Plan. The lands are currently zoned Agricultural (A1) and Environmental Policy Area 2 (EPA2) by the Town of Caledon Zoning By-law 2006-50, as amended. The proposed Official Plan Amendment (OPA) seeks to re-designate the lands from Prime Agricultural Area to Prestige Industrial while maintaining the Environmental Policy Area. The Zoning By-law Amendment (ZBA) proposes to rezone the lands from Agricultural (A1) to Prestige Industrial (MP) and maintain the Environmental Policy Area 2 Zone (EPA2). Areas designated as part of the Greenbelt Plan Area will be preserved. The limits of the Greenbelt Natural Heritage System are displayed in **Figure 1-2**, as prepared by Stantec as part of the *Comprehensive Environmental Impact Study and Management Plan* (Stantec Consulting Ltd., 2024).

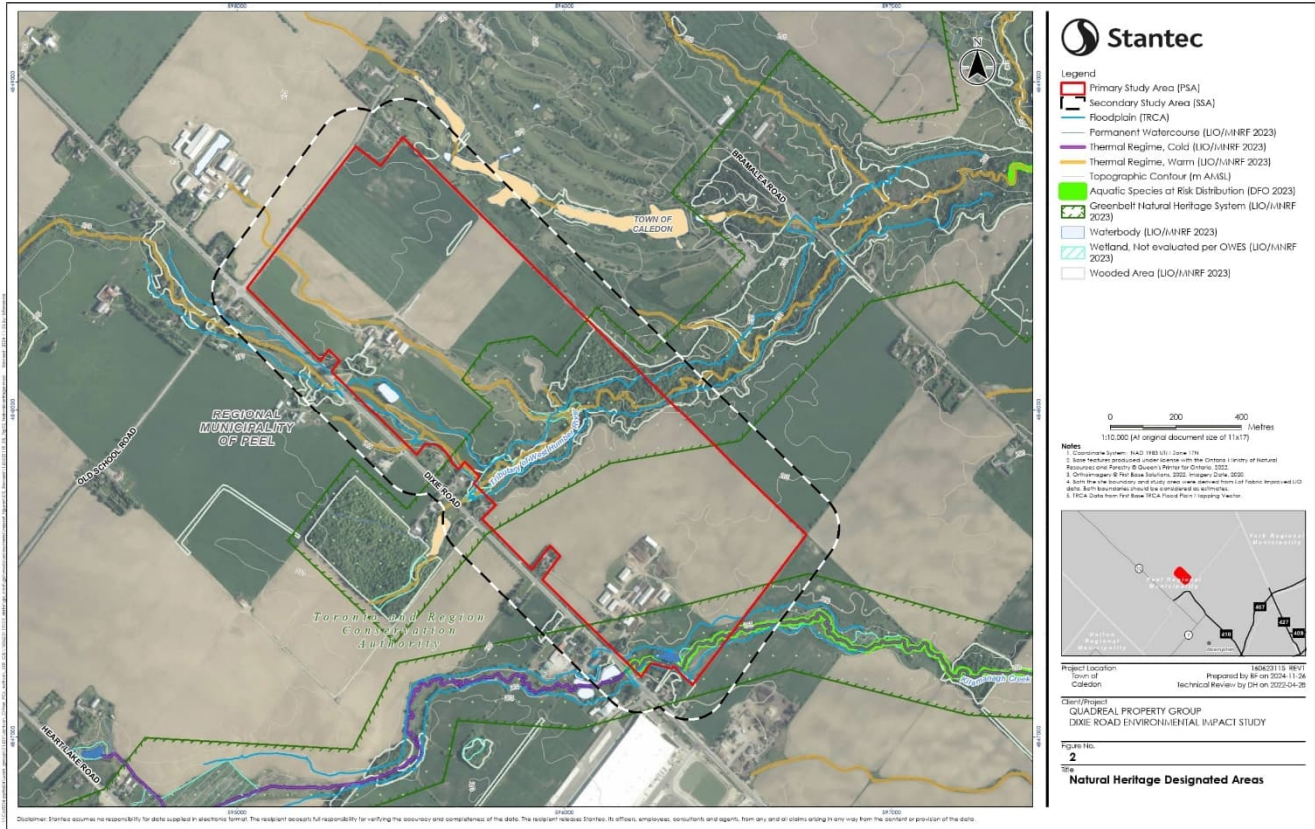


Figure 1-2: Natural Heritage Designated Areas

Source: *Comprehensive Environmental Impact Study and Management Plan* (Stantec Consulting Ltd., 2024)

The Site Plan Application proposes to establish a buffer area of 10 metres between the industrial development and the identified floodplain on the Site, and a 30-metre buffer around significant valleyland features that are part of the Greenbelt Plan Natural Heritage System. The site plans (**Figure 1-3** and **Figure 1-4**) also delineate the proposed building envelope for the industrial building, as well as the stormwater management areas, landscape areas, interior pedestrian network, driveway network, surface parking areas and entrances, and accesses from Dixie Road and Old School Road. The site plans for the two parcels of land are available in **Appendix A** of this report.

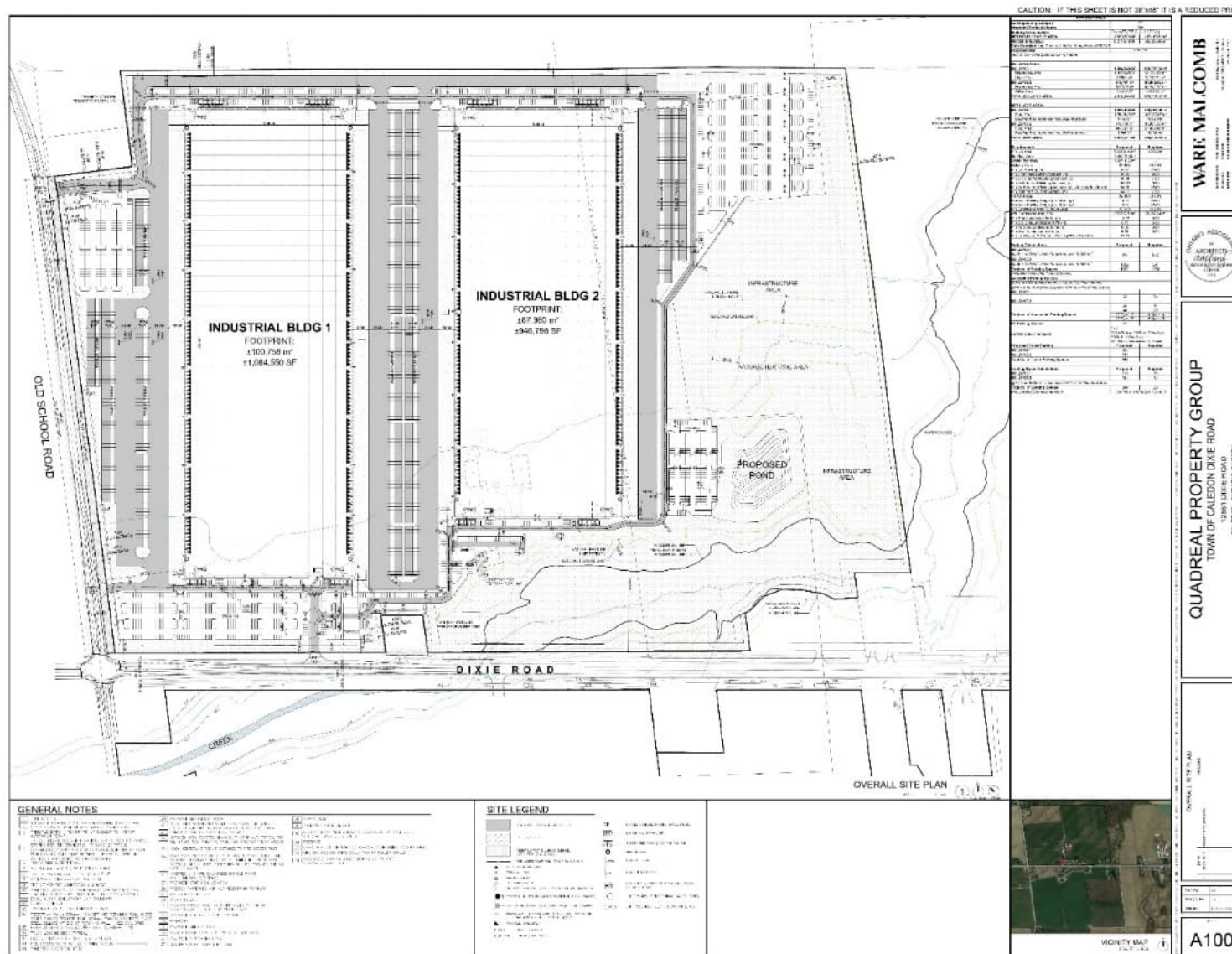


Figure 1-4: Proposed Site Plan of 12861 Dixie Road, Caledon, Ontario

1.2 Purpose of Report

The report will deliver a high-level climate change assessment following the policies provided by the Region of Peel and Town of Caledon. The outcome of this report will be used to support the development application for the Official Plan Amendment (OPA), Zoning By-law Amendment (ZBA), and Site Plan Approval (SPA). The report includes an overview of municipal climate targets and the most significant local climate risks impacting Caledon (Section 2.0), identification of relevant climate-related planning policies (Section 3.0), and assessment of the proposed sustainability initiatives and how climate change considerations will be addressed on the Site (Section 4.0). It also provides recommendations to address the adaptation requirements of the Enhanced Planning Process.

To support the preparation of this report, the following technical reports were reviewed:

- Comprehensive Environmental Impact Study and Management Plan, Stantec Consulting Ltd. (2024)
- Sustainability Narrative Memo, Purpose Building Inc. (2024)
- Scalable Concept Plan, Ware Malcomb (2024)
- Urban Design Brief, Ware Malcomb (2024)
- Planning Rationale Report, Armstrong Planning & Project Management (2024)
- Public Engagement Strategy, Armstrong Planning & Project Management (2024)
- Urban Transportation Considerations, BA Group (2024)
- Landscape Plans, MHBC Planning (2024)
- Arborist Report, Stantec Consulting Ltd. (2024)
- Cultural Heritage Impact Statement, Stantec Consulting Ltd. (2024)
- Functional Servicing and Stormwater Management Design Report, Stantec Consulting Ltd. (2024)
- West Humber River Fluvial Geomorphological Assessment, GEO Morphix Ltd. (2024)
- Geotechnical Investigation and Design Report, Stantec Consulting Ltd. (2024)
- Hydrogeological Assessment Report, Stantec Consulting Ltd. (2024)
- Stage 3 Archaeological Assessment Report, Irvin Heritage Inc. (2024)

2.0 BACKGROUND

In 2017, the Regional Council of Peel endorsed a Climate Change Statement of Commitment to ensure that concrete action is taken to mitigate and adapt to the effects of climate change, provide benefits for residents, and ensure future generations will have access to resources that support a healthy and connected community (Region of Peel, 2019). The Statement of Commitment outlines the Region of Peel's (the Region's) responsibility to reduce greenhouse gas (GHG) emissions and take action to build a more resilient community. Similar to the regional municipality, the Town of Caledon (the Town) has formally acknowledged the need to address climate change urgently in the community by declaring a climate emergency on January 28, 2020 (Town of Caledon, 2022). This section provides an overview of municipal climate targets with regards to GHG emissions reduction and community resiliency (Section 2.1) and the most significant climate risks impacting the Region (Section 2.2).

2.1 Municipal Climate Targets

As of 2022, the majority of GHG emissions in the Region of Peel were from the buildings (43%) and transportation (40%) sectors (The Atmospheric Fund, 2022). In an effort to mitigate and adapt to the effects of climate change, the Town has committed to reducing community-wide GHG emissions to reach net zero by 2050 and follow a carbon budget that aligns with limiting warming to 1.5°C, which would entail a 36% reduction of emissions by 2030 (Town of Caledon, 2021). The Town is also committed to increasing community resiliency to current and future climate impacts. This involves increasing the capacity of public facilities and services, the local economy, and natural environment to cope with the most significant climate risks impacting the community, as described further in Section 2.2.

2.2 Climate Risks

Climate change presents significant risks to the Town and the Region. To better understand the climate risks impacting the Region, vulnerability assessments were conducted across several sectors in the Region from 2012-2017 as part of the Peel Climate Change Partnership (Region of Peel, 2018). The conclusion of the assessments highlighted how the current climate risks pose significant loss of key ecosystem services provided by natural systems, increased risk of urban flooding, and increased risk to agricultural production from extreme precipitation (Region of Peel, 2018). Community public health is also expected to be impacted by the effects of climate change as the occurrence of heat waves in the Region is expected to increase from 2020 to 2030, which is expected to disproportionately impact vulnerable populations (Region of Peel, 2018). Based on analyses of the key climate change vulnerabilities in the Region, the top three weather-related climate risks are:

- 1) Extreme heat;
- 2) Increased precipitation causing flooding; and
- 3) Prolonged periods of drought.

These risks have been, and will continue to, impact communities in Peel Region (Region of Peel, 2018).

3.0 PLANNING CONTEXT

Section 3.0 of this Study outlines key provincial, regional, and municipal planning documents that provide policy direction for the planning of communities to become more resilient to the effects of climate change. The Project will be developed with regard to the guidelines provided in these policies to support climate change initiatives. A complete list of relevant objectives, policies and actions as identified in key provincial, regional, and municipal planning documents relevant to this Study can be found in **Appendix B**.

3.1 Provincial

3.1.1 Provincial Planning Statement

The *Provincial Planning Statement (PPS), 2024* is a consolidated provincial statement of the Province of Ontario's policies on land use planning. The PPS (2024) leverages housing supportive policies of the *Provincial Policy Statement, 2020* and *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* ("Growth Plan"), removing barriers and continuing to protect the environment through a streamlined province-wide land use planning policy framework.

The initial draft of the Provincial Planning Statement (PPS, 2024) was released on April 6, 2023, and was followed by a consultation period to gain feedback on the proposed changes. An additional draft was released by the province on April 10, 2024.

The Province released the final version of the PPS (2024) in August 2024. The PPS (2024) came into effect on October 20th, 2024. This document includes new and updated policies supporting increased intensification, scoping protections for employment areas, and promoting a range and mix of housing options, including housing for students and seniors.

The PPS (2024) replaces both the Provincial Policy Statement, 2020 and Growth Plan (2022), and the PPS (2024) policies apply across Ontario and to the Site. **Table 3-1** identifies relevant policies from the PPS (2024) applicable to the Project.

Table 3-1: Policies from the Provincial Planning Statement (PPS) Relevant to the Project

Section	Specific Policies Relevant to the Project
Section 2.9: Energy Conservation, Air Quality and Climate Change	
Subsection 2.9.1	<p>"Planning authorities shall plan to reduce greenhouse gas emissions and prepare for the impacts of a changing climate through approaches that:</p> <ul style="list-style-type: none"> a) support the achievement of compact, transit-supportive, and complete communities; b) incorporate climate change considerations in planning for and the development of infrastructure, including stormwater management systems, and public service facilities; c) support energy conservation and efficiency; d) promote green infrastructure, low impact development, and active transportation, protect the environment and improve air quality; and

Section	Specific Policies Relevant to the Project
	e) take into consideration any additional approaches that help reduce greenhouse gas emissions and build community resilience to the impacts of a changing climate.”
Section 3.6: Sewage, Water and Stormwater	
Subsection 3.6.8	<p>“Planning for stormwater management shall:</p> <ul style="list-style-type: none"> a) be integrated with planning for sewage and water services and ensure that systems are optimized, retrofitted as appropriate, feasible and financially viable over their full life cycle; b) minimize, or, where possible, prevent or reduce increases in stormwater volumes and contaminant loads; c) minimize erosion and changes in water balance including through the use of green infrastructure; d) mitigate risks to human health, safety, property and the environment; e) maximize the extent and function of vegetative and pervious surfaces; f) promote best practices, including stormwater attenuation and re-use, water conservation and efficiency, and low impact development; and g) align with any comprehensive municipal plans for stormwater management that consider cumulative impacts of stormwater from development on a watershed scale.”
Section 4.1: Natural Heritage	
Subsection 4.1.2	“The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.”
Subsection 4.1.5	<p>“Development and site alteration shall not be permitted in:</p> <ul style="list-style-type: none"> b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River); c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River); d) significant wildlife habitat, <p>unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.”</p>

Section	Specific Policies Relevant to the Project
Section 4.2: Water	
Subsection 4.2.3	“Municipalities are encouraged to undertake, and large and fast-growing municipalities shall undertake watershed planning to inform planning for sewage and water services and stormwater management, including low impact development, and the protection, improvement or restoration of the quality and quantity of water.”
Section 5.2: Natural Hazards	
Subsection 4.2.3	“Planning authorities shall prepare for the impacts of a changing climate that may increase the risk associated with natural hazards.”

3.1.2 The Greenbelt Plan

The *Greenbelt Plan (2017)* is a provincial plan that serves to protect the agricultural and ecological features of the Greenbelt area in the Greater Golden Horseshoe (GGH) from the effects of increased urbanization. The Greenbelt is the cornerstone of Ontario's Greater Golden Horseshoe Growth Plan (Growth Plan) which is a provincial regional growth management plan that provides clarity and certainty about urban structure, where and how future growth should be accommodated and what must be protected for current and future generations. As discussed in section 3.1.1, the Growth Plan has been revoked and has been replaced with policies part of the Provincial Planning Statement (2024), but the Greenbelt Plan remains in effect. The Greenbelt Plan includes lands within, and builds upon the ecological protections provided by, the Niagara Escarpment Plan (NEP) and the Oak Ridges Moraine Conservation Plan (ORMCP).

The Site is located within the Greenbelt Plan boundary in the Protected Countryside Area, further classified as a Natural Heritage System area. The Protected Countryside Area includes both an Agricultural System and a Natural System, along with settlement areas. Within the Protected Countryside Area and Natural System, the Natural Heritage System includes core areas and linkage areas with the highest concentration of sensitive and significant natural features and functions. The primary purpose of these systems is to enhance agricultural and environmental protections while improving connections to surrounding lake systems and watersheds. As a result, the site is subject to the full provisions of the Greenbelt Plan, with the exception of Section 6 which pertains to Urban River Valley Policies (Ministry of Municipal Affairs and Housing, 2017). **Table 3-2** identifies relevant policies from the Greenbelt Plan applicable to the Project.

Table 3-2: Policies from the Greenbelt Plan Relevant to the Project

Section	Specific Policies Relevant to the Project
Section 1.2: Vision and Goals	
Subsection 1.2.2	“1.2.2.6 a) Integrating climate change considerations into planning and managing the Agricultural System, Natural Heritage System and Water Resource System to improve resilience and protect carbon sequestration potential, recognizing that the Natural Heritage System is also a component of green infrastructure; and”
	“1.2.2.6 b) Integrating climate change considerations into planning and managing growth that includes incorporating techniques to reduce greenhouse gas emissions, and increasing the resilience of settlement areas and infrastructure within the Greenbelt.”

Section	Specific Policies Relevant to the Project
Section 3.2: Geographic-Specific Policies in the Protected Countryside - Natural System	
Subsection 3.2.2	<p>“3.2.2.3 New development or site alteration in the Natural Heritage System (as permitted by the policies of this Plan) shall demonstrate that:</p> <ul style="list-style-type: none"> a) There will be no negative impacts on key natural heritage features or key hydrologic features or their functions; b) Connectivity along the system and between key natural heritage features and key hydrologic features located within 240 metres of each other will be maintained or, where possible, enhanced for the movement of native plants and animals across the landscape; c) The removal of other natural features not identified as key natural heritage features and key hydrologic features should be avoided. Such features should be incorporated into the planning and design of the proposed use wherever possible; d) Except for uses described in and governed by the policies of sections 4.1.2 and 4.3.2, i. The disturbed area, including any buildings and structures, of the total developable area will not exceed 25 per cent (40 per cent for golf courses); and ii. The impervious surface of the total developable area will not exceed 10 per cent; and e) At least 30 per cent of the total developable area will remain or be returned to natural self-sustaining vegetation, recognizing that section 4.3.2 establishes specific standards for the uses described there.”
Subsection 3.2.3	<p>“3.2.3.1 All planning authorities shall provide for a comprehensive, integrated and long-term approach for the protection, improvement or restoration of the quality and quantity of water. Such an approach shall consider all hydrologic features, areas and functions and include a systems approach to the inter-relationships between and/or among key hydrologic features and key hydrologic areas.”</p>
Subsection 3.2.5	<p>“3.2.5.1 Development or site alteration is not permitted in key hydrologic features and key natural heritage features within the Natural Heritage System, including any associated vegetation protection zone.”</p> <p>“3.2.5.4 In the case of wetlands, seepage areas and springs, fish habitat, permanent and intermittent streams, lakes and significant woodlands, the minimum vegetation protection zone shall be a minimum of 30 metres measured from the outside boundary of the key natural heritage feature or key hydrologic feature.”</p> <p>“3.2.5.5 A proposal for new development or site alteration within 120 metres of a key natural heritage feature within the Natural Heritage System or a key hydrologic feature anywhere within the Protected Countryside requires a natural heritage evaluation or a hydrological evaluation which identifies a vegetation protection zone which:</p> <ul style="list-style-type: none"> a) Is of sufficient width to protect the key natural heritage feature or key hydrologic feature and its functions from the impacts of the proposed change and associated activities that may occur before, during and after construction and, where possible, restore or enhance the feature and/or its function; and b) Is established to achieve and be maintained as natural self-sustaining vegetation.”

3.2 Regional

3.2.1 Region of Peel Official Plan

The *Region of Peel Official Plan (2022)* (RPOP) outlines the long-term policy framework for guiding growth and development in Peel, while protecting the environment. The four primary goals of the RPOP are to create a healthy community; recognize the importance of the environment; recognize the importance of a vibrant economy; and support balanced growth and development (Region of Peel, 2022).

Commencing on July 1, 2024, as per Ontario Bill 23 (*More Homes Built Faster Act, 2022*) and Bill 185 (*Cutting Red Tape to Build More Homes Act, 2024*), several upper-tier municipalities were identified as municipalities without planning responsibilities, including Peel Region. As a result, the lower-tier municipalities of Caledon, Brampton, and Mississauga must take responsibility for implementing regional policies and ensure that planning applications conform to the RPOP. **Table 3-3** identifies relevant policies from the RPOP applicable to the Project.

Table 3-3: Policies from the RPOP Relevant to the Project

Section	Specific Policies Relevant to the Project
Section 2.4: Climate System	
Subsection 2.4.2	“To support the development of sustainable, low-carbon, compact, mixed-use, and transit-supportive communities which reduce greenhouse gas emissions and support active transportation, protect natural systems, features and functions, and promote renewable energy, energy conservation and efficient design”.
Subsection 2.4.5	“To promote a culture of conservation through energy, water and soil conservation and integrated waste management”.
Section 2.6: Water Resource System	
Subsection 2.6.9	“Require the use of low impact development and green infrastructure approaches, as appropriate, to mitigate and adapt to climate change impacts, mitigate the impacts of development on natural heritage features, support the efficient and sustainable use of water resources and to manage stormwater”.
Subsection 2.6.20	“2.6.20.1 To recognize stormwater as a resource and to manage stormwater in a way that protects, improves or restores the health of water resources, minimizes flooding and erosion, and considers the risks and vulnerabilities of stormwater infrastructure to climate change and the role of stormwater management in climate change adaptation”.
Section 6.5: Water and Wastewater Services	
Subsection 6.5.12	“Assess and address climate change risks and vulnerabilities when developing new and replacing existing infrastructure. Infrastructure will be developed to be environmentally sustainable and assist with climate change adaptation to lessen environmental impact”.
Subsection 6.5.13	“Consider opportunities when designing, planning, and implementing water and wastewater services to reduce greenhouse gas emissions in accordance with provincial and Regional objectives”.

3.2.2 Region of Peel Climate Change Master Plan

The *Region of Peel Climate Change Master Plan* (CCMP), adopted in 2019, is the Region's primary climate action plan which provides direction on how the Region aims to be a leader in reducing GHG emissions and to ensure its services, operations, and infrastructure are resilient to the impacts of climate change. The CCMP is comprised of 20 actions and 66 activities that provide direction on the management of Regional assets, infrastructure, and services in a changing climate over the next decade (Region of Peel, 2019).

The CCMP provides direction for both Regional and private development actions for reducing impacts due to climate change. **Table 3-4** identifies relevant policies from the CCMP applicable to the Project.

Table 3-4: Policies from the CCMP Relevant to the Project

Section	Guiding Actions Relevant to the Project
Chapter Four: Be Prepared	
Subsection 12.3	"Install or improve cooling solutions (passive and active) for buildings which are currently or are projected to be vulnerable to overheating".
Subsection 13.1	"Assess infrastructure for risks associated with extreme weather events and future climate conditions and integrate knowledge into asset management".
Subsection 14.3	"Implement tree planting and management program for new and existing trees".
Subsection 14.6	"Require buildings undergoing applicable state of good repair work to consider green infrastructure opportunities".

3.2.3 Region of Peel Settlement Area Boundary Expansion (SABE) Study

As part of the Peel 2051 Regional Official Plan Review and Municipal Comprehensive Review, the Region of Peel conducted a Settlement Area Boundary Expansion (SABE) Study to identify locations for settlement area boundary expansions to accommodate employment and residential growth. While the Region prioritizes the accommodation of growth through intensification, it was identified as part of the Region's Land Needs Assessment (LNA) that growth requirements will also need to be accommodated on new designated greenfield lands (Region of Peel; Planning and Growth Management Committee, 2021).

Through the SABE study, the Town of Caledon has been identified as the 'Focus Study Area' (FSA) which includes areas that are considered priority and likely for boundary expansion. The Site is located within the FSA and is identified as an area for boundary expansion within new designated greenfield lands.

Based on the results of the technical studies, a concept map of the areas most suitable for the SABE within the FSA has been developed. The settlement areas of Bolton and Mayfield West are identified in the SABE study as appropriate locations for long-term growth of Community Lands and Employment Lands in the FSA. These areas offer strong potential for near and long-term employment activities due to existing adjacent employment uses in Mayfield West and excellent connections to Highway 410 and the GTA West Highway Corridor (Hemson, 2020).

The SABE study identifies the following areas around Mayfield West for Community Land expansion that are relevant to this Project:

- “Community lands to the north-east of the existing settlement area, to be generally framed by Old School Road and the Greenbelt “finger” west of Tullamore. The boundary of Old School Road and nearby Greenbelt features provides protection for the cluster of active farms to the south of the GTA West Corridor either side of Dixie Road and excludes an area that is less preferred for water and wastewater servicing expansion. The area included in the proposed SABE is suitable for the extension of water and wastewater services while the area north of Old School Road is less preferred”. The extension of water and wastewater services are being expedited by the Region of Peel through the Regional capital works program and will be construction in 2025.
- “Community lands to the immediate north and west of the existing settlement area, to be generally framed by the GTA West Corridor. This area constitutes the most substantial expansion area proposed for Mayfield West to 2051. The lands represent the logical extension of the settlement area and, while much of the area is agriculturally active, there is an ongoing transition to non-farm uses. The area is preferred from a transportation perspective, offering opportunities for sustainable transportation modes, lower congestion, and better road connectivity than other areas in the FSA. As well, the area is well positioned for water and wastewater servicing expansion” (Hemson, 2020).

3.2.4 Toronto and Region Conservation Authority (TRCA) The Living City Policies

Part of the Site is located within the Toronto and Region Conservation Authority (TRCA) regulated area and within the regulatory flood plain boundary area, which is part of the Humber River watershed. The Applicant has engaged with the TRCA regarding the delineation of the regulatory flood plain on the Site, and TRCA completed a site visit on August 24, 2023 to the provincially-designated Natural Heritage System feature limits (dripline and top of bank) on the Site. **Figure 3-1** and **Figure 3-2**, prepared by Stantec Consulting Inc. (2024) as part of the Comprehensive Environmental Impact Study for the proposed application, displays the boundary of the floodplain and natural heritage feature limits on the Site and their required development setbacks (Stantec Consulting Ltd., 2024). The boundaries of the setback limits are also included in the overall Site Plan.

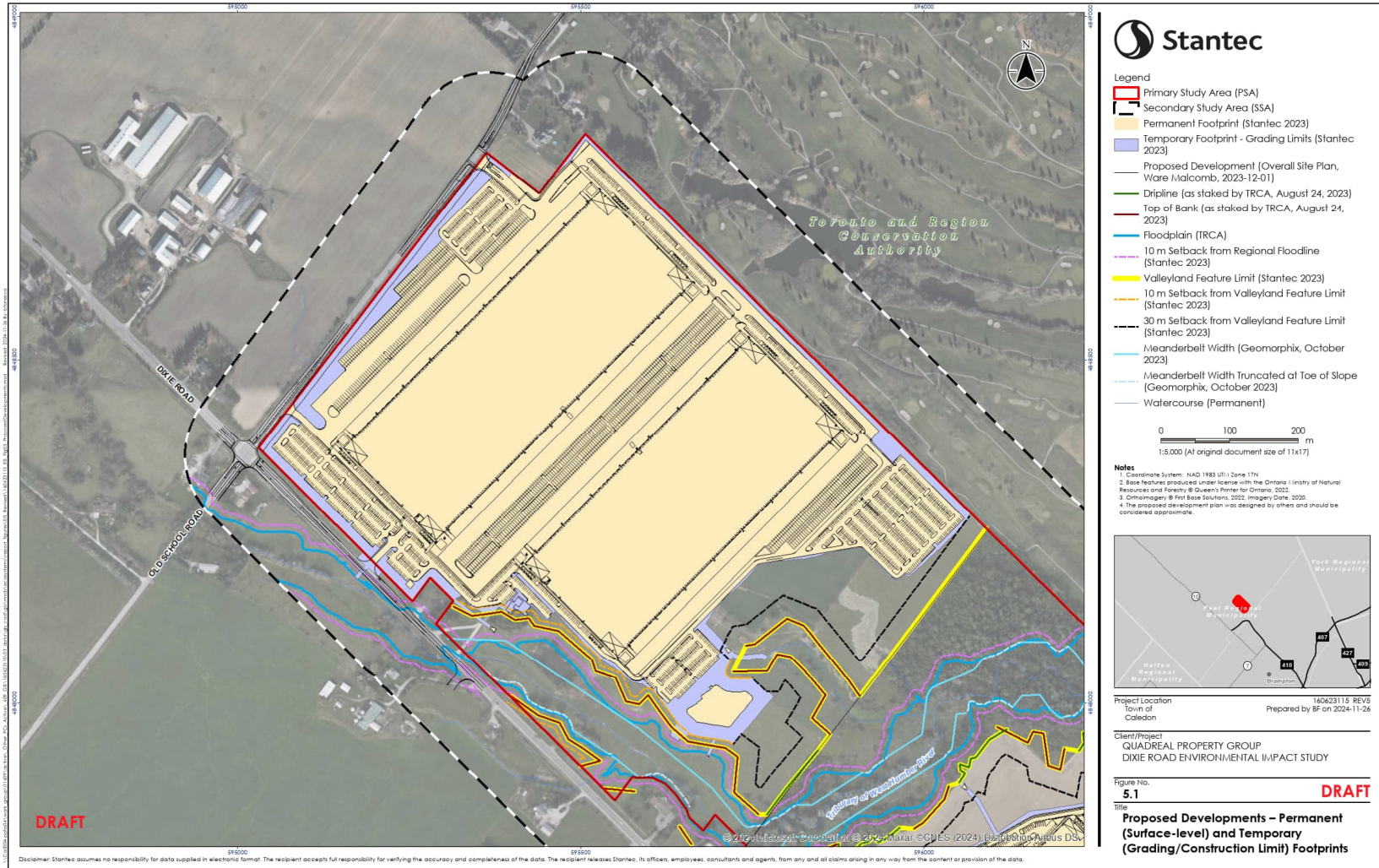


Figure 3-1: 12861 Dixie Road Environmental Features Development Setbacks

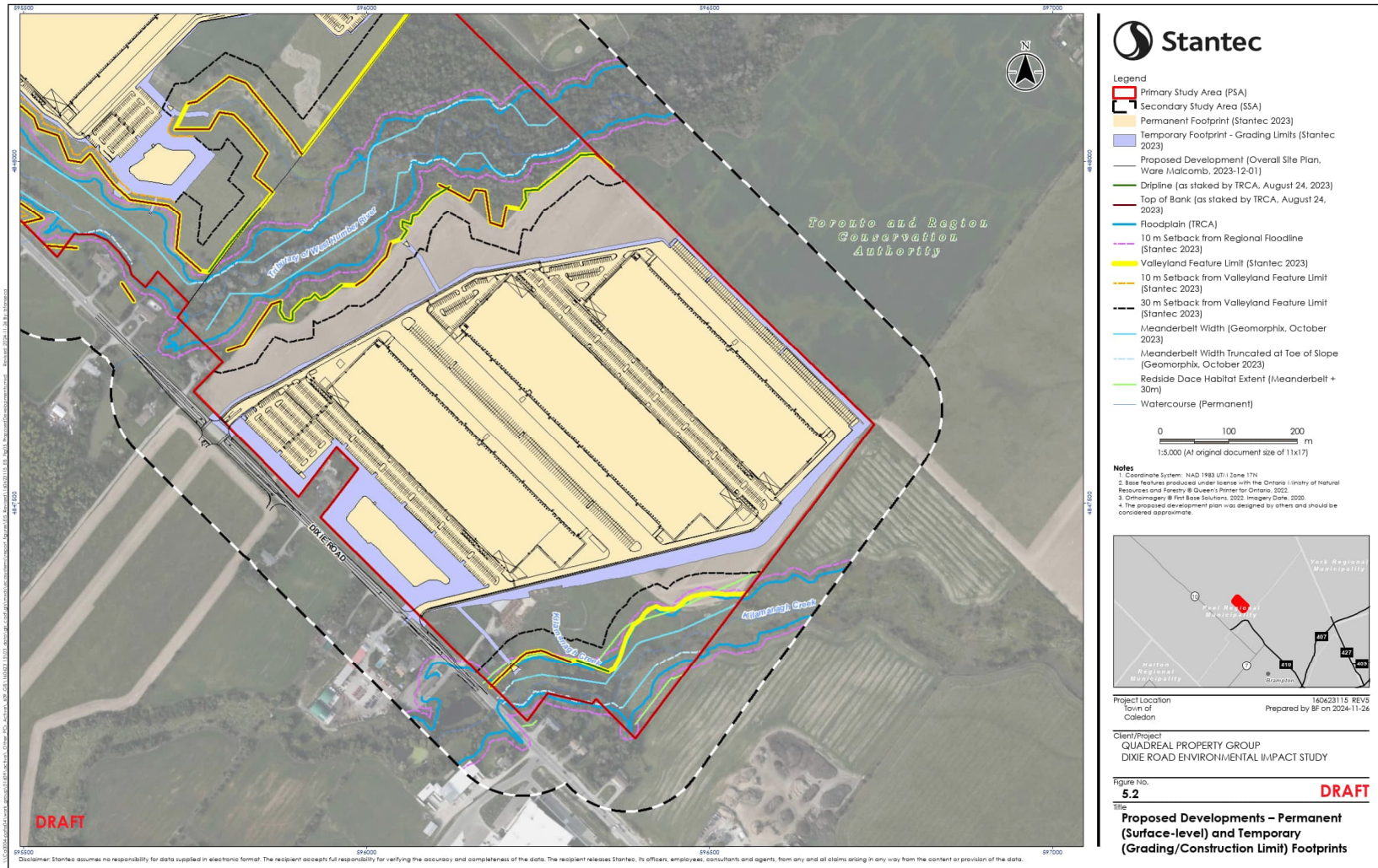


Figure 3-2: 12489 Dixie Road Environmental Features Development Setbacks

Source: Comprehensive Environmental Impact Study and Management Plan (Stantec Consulting Ltd., 2024)

The TRCA's *The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (2014)* (The Living City Policies) is a document that guides the implementation of TRCA's legislated and delegated roles and responsibilities in the planning and development approvals process (Toronto and Region Conservation Authority, 2014). Chapter 8 of The Living City Policies document outlines policies for TRCA's regulatory review and permit approval process, and outlines application and design requirements for developments in TRCA's regulated area. While the TRCA's The Living City Policies plan does not contain policies that are specific to climate change adaptation, policies that are relevant to the Project are found in **Table 3-5**.

Table 3-5: Policies from The Living City Policies Relevant to the Project

Section	Specific Policies Relevant to the Project
Section 8.4: General Regulation Policies	
Subsection 8.4.5	<p>“That development, interference or alteration within a regulated area may be permitted where it can be demonstrated to the satisfaction of TRCA, through appropriate technical reports, assessments, site plans and/or other documents as required by TRCA, that:</p> <ul style="list-style-type: none"> a) the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected; b) the risk to public safety is not increased; c) susceptibility to natural hazards is not increased and no new hazards are created; f) negative or adverse hydrological or ecological impacts on natural features and functions, including wetlands, are avoided or mitigated; g) intrusions on natural features, areas and systems contributing to the conservation of land, including areas providing ecological functions and hydrologic functions, are avoided or mitigated; i) groundwater recharge which supports natural features and areas or hydrologic or ecological functions on-site and other sites hydrologically connected to the site will be maintained; j) access for emergency works and maintenance of flood or erosion control works is available; and k) TRCA's stormwater management criteria (water quantity, water quality, erosion control and water balance for groundwater and natural features) have been met, where applicable, based on the scale and scope of the project”.
Subsection 8.4.8	<p>“That notwithstanding supplementary policies or stand-alone policies as specified in Sections 8.5 through to 8.12, development within a regulated area shall be set back from the greater of the following:</p> <ul style="list-style-type: none"> a) Valley and Stream Corridors: 10 metres from the long-term stable top of slope, stable toe of slope, Regulatory flood plain, meander belt and any contiguous natural features and areas that contribute to the conservation of land”.
Subsection 8.4.13	<p>“All development, including new parking facilities (above ground and underground structures and at-grade parking lots), must meet the minimum requirements for safe access for the nature of the development as outlined in the policies in Section 8 in accordance with Provincial and TRCA Standards, and demonstrate to the satisfaction of TRCA that:</p> <ul style="list-style-type: none"> a) risks due to both flooding and erosion have been addressed”.

3.3 Municipal

3.3.1 Town of Caledon Official Plan

The *Town of Caledon Official Plan (March 2024 Consolidation)* (Town OP) identifies goals, principles, objectives and policies that are intended to guide land use development in Caledon, and considers social, economic and environmental impact of growth in the community. The policies of the Town OP are designed to promote involvement in the future of the Town and public input as well to enhance and maintain the quality of life for the residents of Caledon (Town of Caledon, 2024).

As identified within the Town OP, the Site is designated as Prime Agricultural Area and Environmental Policy Area (Town of Caledon, 2024). The proposed Official Plan Amendment (OPA) seeks to re-designate the lands from Prime Agricultural Area to Prestige Industrial while maintaining the Environmental Policy Area designation. **Table 3-6** relevant policies from the Town OP applicable to the Project.

Table 3-6: Policies from the Town of Caledon Official Plan Relevant to the Project

Section	Specific Policies Relevant to the Project
Section 3.1: Sustainability	
Subsection 3.1.3.9	<p>“3.1.3.9.4 Proponents of new development shall be encouraged to minimize the percentage of impervious surfaces as well as adopt Low Impact Development (LID) or similar standards so as to reduce rates of surface water flow and run-off”.</p> <p>“3.1.3.9.6 The Town shall encourage development proposals that maximize water capture and re-use (e.g., grey-water capture) and promote the use of storage facilities throughout the Town”.</p> <p>“3.1.3.9.7 The Town shall promote landscaping practices that are responsive to local climate and ecological conditions, and which minimize the need for irrigation and the use of chemicals which could contaminate surface and groundwater resources”.</p>

3.3.1.1 Town of Caledon Mayfield West Secondary Plan

The Site is located adjacent to the Mayfield West Secondary Plan area in the Town of Caledon. As the site is situated outside of the Plan area boundary, policies part of Town of Caledon’s Mayfield West Secondary Plan (Town of Caledon, Official Plan, Chapter 7) are not applicable to the Project.

3.3.1.2 Town of Caledon Official Plan Update Discussion Paper – Climate Change

In support of the Town of Caledon’s 2024 Official Plan Update, the Town’s *Official Plan Update Discussion Paper – Climate Change (2021)* was prepared with the purpose of identifying the best policy practices and opportunities for Caledon to fully incorporate climate change into its Official Plan. Climate change is identified as one of the five focus areas in the Town’s Official Plan to put climate change issues at the forefront of planning in the community. The discussion paper highlights the benefits of climate-oriented development in an approachable and concise format which helps to showcase Caledon as a local leader in sustainable and resilient development (Town of Caledon, 2021).

Some of the priority policy practices and opportunities identified in the discussion paper that are relevant to climate change adaptation and are the responsibility of a land developer include:

- Natural Environment and Greenspaces:
 - Monitor and manage the protection and health of natural systems;
 - Protection and acquisition of lands within the Natural Heritage System; and
 - Protection of areas adjacent to Natural Heritage Features.
- Resilient Communities:
 - Site plan control requirements for the inclusion of green infrastructure;
 - Explore sustainable stormwater financing tools to support a robust stormwater system and that incentivizes stormwater practices on private land; and
 - Restrict development and mitigate risks in hazardous and flood-prone areas.

3.3.2 Town of Caledon Resilient Caledon Community Climate Change Action Plan

The Town of Caledon’s *Resilient Caledon Community Climate Change Action Plan (2021)* identifies objectives and actions to reduce energy use and greenhouse gas (GHG) emissions in the community and better prepare for the impacts of climate change. The Plan aims to support the Town of Caledon in achieving a 36% reduction of emissions by 2030 and net zero GHG emissions by 2050 (Town of Caledon, 2021). The Plan contains over 60 actions and supporting tasks, which are divided into five action areas:

- 1) Smart Growth;
- 2) Sustainable Communities;
- 3) Agriculture and Natural Systems;
- 4) Low-Carbon Transportation; and
- 5) Resilient Infrastructure and Energy.

Table 3-7 below identifies relevant policies from the Town of Caledon Community Climate Change Action Plan applicable to the Project.

Table 3-7: Policies from the Caledon Community Climate Change Action Plan Relevant to the Project

Section	Specific Policies Relevant to the Project
Section 1: Establish Climate-Friendly Planning and Building Policies	
Subsection 1.2	“Create a sustainable development standard to ensure all new residential and commercial buildings are net zero and climate resilient by 2030, and promote efficient, green, and livable community design”.
Section 2: Protect Communities from Flood Risks	
Subsection 2.1	“Prohibit new development in high-risk flood zones and maintain sufficient setbacks along water bodies and near natural features”.
Subsection 2.2	“Increase the amount of green space incorporated into all new communities to provide green infrastructure, stormwater management, and recreation services”.

Section	Specific Policies Relevant to the Project
Section 11: Restore and Enhance Natural Features on Public and Private Land	
Subsection 11.2	“Expand restoration efforts on private land (residential, commercial, rural, and marginally productive agricultural), including tree planting, wetland restoration, stream rehabilitation, etc.”.
Subsection 11.3	“Increase tree planting and restoration of wetlands, streams, and meadows on public lands including Town-owned Parks, Conservation Areas, public right of ways, and other areas”.

3.3.2.1 Resilient Caledon Community Climate Change Action Plan Technical Report

The Resilient Caledon Community Climate Change Action Plan Technical Report was prepared in November 2020 by the Town of Caledon as a technical resource to support and inform the Town of Caledon’s Community Climate Change Action Plan, Resilient Caledon (2021). The primary purpose of the technical report was to document work undertaken to identify an emissions reduction pathway for Caledon, as well as priority actions for the Town to increase its resilience to climate change impacts (Town of Caledon, 2020).

The technical report summaries findings from the Risk and Vulnerability Assessment completed by the Town of Caledon in 2018, which included an assessment of future climate conditions projected for the Town of Caledon out to 2090 and impacts on infrastructure, natural environments, and socio-economic environments. It was assessed that the highest risk impacts were related to infrastructure risks due to increased precipitation, warmer temperatures, and flood risk.

The technical report also summaries findings from GHG emissions modelling. Based on the results, it is predicted that energy use in Caledon is expected to more than double from 2016 to 2050 due to population growth. Despite the overall increase, per capita energy use is expected to decrease due to improvements to space heating/cooling and water heating demands, due in part to smaller homes and also increased energy efficiency resulting from new government regulations on appliances and the building code.

As described in the technical report, the residential buildings and transportation sectors are responsible for most of Caledon’s emissions in 2016, with 20% and 54% of total 2016 emissions, respectively. By 2050, transportation emissions are anticipated to double, with a 130% increase, driven by an increase in population and jobs, and the travel associated with each. The commercial building sector is projected to experience a 140% increase in emissions while the residential sector will see just a 58% increase.

3.3.3 Town of Caledon Green Development Standard

In June 2024, the Town of Caledon published its Green Development Standard (GDS) which aims to improve the sustainability and livability of communities for the future and current residents (Town of Caledon, 2024). The GDS outlines climate-friendly design standards for all new residential, commercial, and industrial development in Caledon. The design standards aim to minimize energy use and GHG emissions, help Caledon adapt to a changing climate, protect and enhance the natural environment, and create more walkable communities.

The Town of Caledon Green Development Standard came into effect on July 1, 2024, for new applications. The proposed development application at the Site is therefore subject to the requirements of Town of Caledon Green Development Standard (2024). The applicant is committed to meeting the requirements of the GDS as well as the

sustainability objectives and targets set out by the Town of Caledon, which is discussed further in Section 4.0 of this report.

Caledon's GDS is organized into three theme areas of Community Design and Mobility, Green Infrastructure, and Buildings and Energy (Town of Caledon, 2023). **Table 3-8** lists the metric requirements and submission requirements included in the GDS for industrial developments that can be reviewed in support of this development application.

Table 3-8: Applicable Policies from the Town of Caledon Green Development Standard

Category	Policy	Metric Requirement Relevant to the Project	Relevant Technical Files
Mandatory Metrics:			
Community Design and Mobility	1.3 Light Pollution	<ul style="list-style-type: none"> All lighting fixtures must be DarkSky approved. If a DarkSky Fixture Seal of Approval is not available, fixtures must be full-cutoff (0 BUG upright) and with a colour temperature rating of 3000 K or less. Street and walkway/bikeway lighting must have NEMA 7-pin ANSI 136.41 receptacle and photocells, and all other fixtures must have photocells or astronomic time clock operations. Sites adjacent to protected natural features shall have no lateral light trespass into the feature. 	Lighting Design Plan Photometric Plan
Green Infrastructure	2.1 On-Site Green Infrastructure	<ul style="list-style-type: none"> Meet a minimum green cover target of 0.2 by completing the Green Factor Tool.¹ Eligible green infrastructure features must comply with specifications in the GDS and other Town standards and guidelines. 	Green Factor Scoresheet Landscape and Planting Plans Arborist Report
	2.2 Healthy Soils	<ul style="list-style-type: none"> Provide access to a minimum of 30 m³ soil volume for newly planted trees or tree-specific soil volume indicated in municipal tree species guide. Where two or more trees share the same soil volume, 20 m³ per tree is sufficient. Provide a minimally compacted topsoil layer/upper horizon. Where feasible and appropriate, use selective grading techniques that reduce soil compaction and preserve the natural landform as much as possible. Stockpiled soils used for planting areas must be tested and amended to achieve the soil properties outlined in the Town's Planting Medium Terms of Reference. 	Soils Report Landscape Plan Grading Plan

¹ The Green Factor Tool is a pilot resource adapted by the Town of Caledon from the City of Seattle's Green Factor. This approach sets an overall target for green cover across different development types, which can be achieved through a weighted menu of features. The Green Factor Tool can be found here: https://www.caledon.ca/en/town-services/resources/Energy-Environment/GDS_Green-Factor-Tool.xlsx.

Category	Policy	Metric Requirement Relevant to the Project	Relevant Technical Files
	2.3 Plant Species	<ul style="list-style-type: none"> ▪ Include no invasive species and a minimum of 50% native plant species in the Landscape Plan. ▪ For sites adjacent to natural features where buffer areas are required, the Landscape Plan must show the site and surrounding area, highlighting natural features and their buffer areas and labelling the native plant species to be planted in the buffers. 	Landscape Plan Watering Plan
	2.4 Urban Heat Island	<ul style="list-style-type: none"> ▪ Install cool roof over 90% of available roof area (excluding HVAC and other equipment) except if installing solar PVs and/or green roof over a minimum of 50% of the available roof area. Cool roof materials and/or coatings should have an SRI rating of 78 or higher and an emissivity equal to or greater than 0.9. ▪ Paved areas (excluding loading bays, freight parking, and fire lanes) are to be treated with a minimum of two of the following strategies, covering at least 50% of the total paved area: <ul style="list-style-type: none"> – High-albedo paving materials with an initial solar reflectance of at least 0.33 or an SRI of 29; – Canopy of large-growing shade trees planted in landscape islands at regular intervals or in hedgerows to maximize both shading and ecological value. Canopy coverage to be calculated at 75% maturity (also contributes to, and can be demonstrated through, the On-Site Green Infrastructure metric); – Shade from architectural structures that are vegetated or have an initial solar reflectance of at least 0.33 at installation or an SRI of 29; – Shade from structures with energy generation; and – Open-grid pavement with at least 50% perviousness (can be demonstrated through the On-Site Green Infrastructure metric). 	Roof Plan Site Statistics Template: Urban Heat Island tab
	2.5 Stormwater Quantity and Quality	<ul style="list-style-type: none"> ▪ Control the infiltration deficit per the criteria identified in the water balance assessment through stormwater retention low impact development (LID) practices <u>OR</u> Control, to the greatest extent possible, the 27 mm event using a hierarchical application of LID measures to achieve the target beginning with (1) retention, followed by (2) filtration, in accordance with site constraints outlined in the GDS Guidebook. ▪ Ensure 80% Total Suspended Solids (TSS) removal, to the greatest extent possible through a hierarchical approach identified using (1) retention, (2) filtration, and (3) conventional stormwater management, where each step is exhausted before proceeding to the next. 	Stormwater Management Plan

Category	Policy	Metric Requirement Relevant to the Project	Relevant Technical Files
	2.6 Bird Friendly Design	<ul style="list-style-type: none"> ▪ Use the Canadian Standards Association CSA A460:19 Bird-Friendly Design Standards (2019 or later) to design treatment of glazing materials, building integrated permanent structures, and overall building and site design, including, at minimum, treating glazing up to 16 m above grade or to the top of the mature tree canopy, whichever is greater. ▪ Treat a minimum of: <ul style="list-style-type: none"> – 85% of glazing with collision deterrent markers – All glazing that creates fly-through conditions, including glass railing systems; – All glazing adjacent to natural areas; and – All non-vision glazing, including spandrels. ▪ Collision Deterrent markers shall meet the following requirements: <ul style="list-style-type: none"> – Size: Minimum 4 mm in diameter. – Density: Maximum 50 mm between markers. – Contrast: High contrast under varying daylight conditions. – Surface: Must be applied to the first (exterior) surface of glass. ▪ Where there is glazing adjacent to green roofs and/or other rooftop vegetation, the bird collision mitigation strategy shall be applied to a height of 4 m from the surface of the green roof or the height of the adjacent mature vegetation, whichever is greater. Provide a buffer of at least 2.5m on either side of the feature using strategies from Bird-Friendly Glazing. ▪ Ensure ground level ventilation grates have a porosity of less than 20 mm x 20 mm (or 10 mm x 50 mm). 	<p>Building Elevation Plans</p> <p>Site Statistics Template: Bird-Friendly Design tab</p>
Voluntary Metrics:			
Higher Performance Buildings	4.1 Higher Performance Buildings	<ul style="list-style-type: none"> ▪ The Higher Performance Buildings metric is a voluntary additional metric that allows applicants to demonstrate ways in which they are going above and beyond the Town's GDS or using innovative practices. This metric is optional to complete and will not be used to approve applications but may be recognized as part of a future awards/recognition program. See the GDS for examples of high-performance measures. 	

3.3.4 Town of Caledon Transit Feasibility Study

The Caledon Transit Feasibility Study, prepared by Steer Group in 2019, identifies the need and potential demand for local transit services within Caledon for residents and local communities. The Study provides an overview of opportunities and challenges for transit expansion in the Town and identifies potential approaches for transit service according to priority routes (Steer Group, 2019).

The Site is currently not directly serviced by local or regional public transit. The Transit Feasibility Study identifies seven (7) proposed fixed transit routes through the Mayfield West Secondary Plan Area. However, the identified routes would not directly service the Site and instead service more dense and residential areas of Mayfield West (Steer Group, 2019).

4.0 SITE ANALYSIS AND RECOMMENDATIONS

Section 4.0 of this report provides an overview of the proposed climate change adaptation initiatives on Site and an assessment of how climate change considerations will be addressed, including recommendations to improve adaptation initiatives on the Site. The site analysis will be focused on provincial, regional, and municipal plans, policies, and targets reviewed in Section 3.0 of this report. A total of 28 recommendations are provided in this section. They are separated based on mandatory requirements and voluntary considerations. The Applicant is encouraged to consider all recommendations provided in this report at the detailed design / SPA stages of the Project. A complete list of the recommendations can be found in **Appendix C**.

4.1 Floodplain Management

Key Planning Considerations

To avoid and minimize flood risk and consider the future impacts of climate change on local flooding, new development is prohibited in high-risk flood zones and sufficient setbacks along water bodies and near natural features must be implemented. The TRCA establishes minimum development setbacks for valley and stream corridors as applicable to this Site. The minimum development setback for a valley and stream corridor is 10 metres from the long-term stable top of slope, stable toe of slope, Regulatory flood plain, meander belt, and any contiguous natural features and areas that contribute to the conservation of land.

Applicant-Proposed Adaptation Initiatives

The site plan meets required development setbacks to be implemented around the watercourses on Site, with the exception of a headwall outlet structure for a stormwater management pond. The following development setback relating to floodplain management apply to the Site:

- 10 metres from the long term stable top of slope, stable toe of slope, Regulatory flood plain, meander belt and any contiguous natural features and areas that contribute to the conservation of land.

The proposed buildings and structures on the Site are currently planned to be located outside of the floodplain area. In addition to the recommended setbacks, it is recommended to implement vegetation and other ecological enhancements within the buffer area where feasible. Development should be avoided adjacent to development setback areas where feasible to consider future changes in flood risk due to climate change.

The site plan has been designed to avoid all sections of Headwater Drainage Features (HDF) that are within the protected valleylands on the Site. Some sections of the HDF that are located on the tablelands are proposed for removal. However, these HDF do not provide any wildlife functions, and as a result no mitigation or compensation is proposed for wildlife functions of these HDF. Refer to the *Comprehensive Environmental Impact Study and Management Plan* (Stantec, 2024) for additional information on HDR management recommendations.

RELEVANT PLANS

- *The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (2014)*
 - *Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)*
 - *Town of Caledon Green Development Standard (2024)*
-

Recommendations

Align with planning requirements, including:

- 1) Maintain required development setbacks of at least 10 metres around identified watercourses and floodplain boundaries on Site.

Additional voluntary planning recommendations:

- 2) Consider the implementation of vegetation and green infrastructure within development setback areas to minimize the risk of flooding on Site.
- 3) Avoid development in areas in close proximity to development setback limits to minimize the risk of flooding on Site due to climate change.

4.2 Natural Heritage

Key Planning Considerations

The Greenbelt Plan (2017) identifies development setback limits for lands designated as part of the Greenbelt Natural Heritage System. For lands part of the Protected Countryside Natural Heritage System, a vegetation protection zone of at least 30 metres must be established around key natural heritage features or key hydrologic features for the purpose of natural heritage conservation. This includes wetlands, seepage areas and springs, fish habitat, permanent and intermittent streams, lakes and significant woodlands, as defined in the Greenbelt Plan.

As outlined in the Region of Peel Official Plan (2022), the use of low impact development (LID) and green infrastructure approaches are identified as key planning considerations to mitigate the impacts of development on

RELEVANT PLANS

- *Greenbelt Plan (2017)*
- *Region of Peel Official Plan (2022)*
- *Town of Caledon Official Plan (2024)*
- *The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (2014)*

natural heritage features as well as to mitigate and adapt to climate change impacts. It is also established by TRCA that new developments should not have negative or adverse hydrological or ecological impacts on natural features and functions, and that intrusions on natural features should be avoided or mitigated. Natural heritage connectivity should also be maintained between existing adjacent natural areas and the project site, with particular consideration for wildlife passage.

As established in the Town of Caledon Official Plan (2024), parts of the Site are also designated as Environmental Policy Area (EPA) and zoned as EPA2. The EPA land use designation is applied to Natural Core Areas and Natural Corridors in the Town of Caledon.

Mitigating impacts of development on natural heritage features is important to protect the ecological functions and benefits offered by these areas. Conserving natural heritage features directly helps to mitigate the effects of climate change as vegetated areas increase carbon sequestration and improve stormwater management through the protection of permeable surfaces.

Applicant-Proposed Adaptation Initiatives

The proposed development application seeks to maintain the Environmental Policy Area land use designation and zoning, and areas designated as part of the Greenbelt Plan Area will be preserved. Maintaining these land use designations helps to protect natural heritage features present on the Site.

The following is a summary from Stantec's *Comprehensive Environmental Impact Study and Management Plan* (Stantec Consulting Ltd., 2024) prepared in support of the development application. Significant Valleylands are present on the Site in two locations: (1) surrounding a tributary of the West Humber River which is located in the central portion of the Site and (2) surrounding Kilmanagh Creek located at the southwest corner of the Site. The valleylands are designated provincially as Natural Heritage System (NHS) within the Greenbelt Protected Countryside and regionally as part of the Region of Peel's Core Areas of the Greenlands System. The NHS features limits (dripline and top of bank) were staked with the Toronto and Region Conservation Authority (TRCA) on August 24, 2023. The limits of the NHS present on the Site can be found in **Figure 1-2** presented earlier in this report.

Redside Dace, an aquatic species at risk (SAR), was identified as having presence in the area. The watercourse associated with Kilmanagh Creek located at the south end of the Study Area was confirmed to be occupied Redside Dace habitat. The main branch and connected permanent and intermittent watercourses associated with the Tributary of the West Humber River located in the central portion of the Subject Lands were confirmed by MECP to be contributing habitat (Stantec Consulting Ltd., 2024).

It was also determined that Significant Woodlands, Significant Wildlife Habitat (SWH), and Candidate SAR Habitat has been identified on lands within the existing Natural Heritage System (NHS). In addition to occupied and contributing Redside Dace habitat on the Site, two SAR (Bobolink and Eastern Meadowlark), one SAR mammal (Little Brown Myotis) and two Species of Conservation Concern (SOCC) (Eastern Wood-pewee and Barn Swallow) bird species were observed during the breeding bird surveys (Stantec Consulting Ltd., 2024).

As part of Stantec's *Comprehensive Environmental Impact Study and Management Plan*, a 30 m setback is recommended from the staked feature limits for lands located within the Greenbelt NHS and Regional Greenlands System. A 10m setback is proposed for valleyland present within the current cattle range and meadows. The limit of the proposed development is outside the meanderbelt associated with Kilmanagh Creek which is protected under the Endangered Species Act (ESA) as regulated habitat for Redside Dace a fish species at risk. The proposed development is also outside almost all lands within 30 m from meanderbelt (Redside Dace regulated habitat) of Kilmanagh Creek with the exception of a headwall outlet structure towards Kilmanagh Creek. This outlet structure is placed as far from the creek as technically feasible. Positioning this headwall outlet outside of the 30 m area from the meanderbelt would result in extensive grading. The headwall is proposed outside the regional floodplain.

The proposed setbacks are in general conformance with provincial, municipal and conservation authority policies and guidelines. With the exception of required stormwater and functional servicing infrastructure, all permanent surface level developments, including retaining walls, are located outside of significant natural heritage features and associated 10 and 30 m setbacks.

The Project will result in impacts to terrestrial SAR and SOCC/SWH habitat for bats, snakes, and birds. It is recommended in the *Comprehensive Environmental Impact Study and Management Plan* (Stantec Consulting Ltd., 2024) that an edge management and habitat restoration/compensation plan be prepared to support SAR

grassland birds as well as bat and barn swallow habitat structures. The establishment of naturalized buffer areas where feasible will provide an overall ecological enhancement to natural heritage features on Site.

Recommendations

Align with planning requirements, including:

- 4) Maintain the required 30 metre setback buffer around staked feature limits for key natural heritage features part of the Greenbelt Plan Natural Heritage System.
- 5) Review and implement mitigation measures and obtain required permits that are identified in the Comprehensive Environmental Impact Study and Management Plan prepared by Stantec (2024).

4.3 Land Use Planning

Key Planning Considerations

It is established in provincial, regional, and local planning policies that land use patterns and urban design should be implemented in a way that minimizes negative impacts to air quality, addresses public health and environmental concerns, and prepares for the impacts of a changing climate.

As identified within the Town of Caledon Official Plan, the Site is designated as Prime Agricultural Area and Environmental Policy Area (Town of Caledon, 2024).

Part of the Site is provincially-designated as part of the Greenbelt Plan Natural Heritage System. The proposed Official Plan Amendment (OPA) seeks to re-designate the lands from Prime Agricultural Area to Prestige Industrial while maintaining the Environmental Policy Area (EPA) and Greenbelt Plan Area designations. The

Town of Caledon prohibits development in lands designated as EPA, with the exception of permitted uses specified in policy 5.7.3.1.2 in the Town of Caledon Official Plan (2024). The TRCA requires a development setback of 10 metres from all regulatory floodplain areas. A 30-metre setback is required from Wetland and Significant Woodland features that are located within the existing valleyland features on Site. These features are located within the Greenbelt Plan Natural Heritage System.

Applicant-Proposed Adaptation Initiatives

The Site is located in an area in Caledon that is experiencing growth and densification, particularly with a transition from a predominantly rural land use to a developing urban employment area. The Site is located immediately east of the Mayfield West community, an area identified by the Town of Caledon's Official Plan as an growing residential and employment hub.

The site plan includes an appropriate development setback of 10 metres around the top of bank from the identified watercourses on Site. Development is not being proposed in areas designated as EPA to align with the Town of Caledon's Official Plan policies. The site plan also includes an appropriate development setback of 30 metres around staked feature limits for key natural heritage features part of the Greenbelt Plan Natural Heritage System, with the exception of required stormwater and functional servicing infrastructure.

RELEVANT PLANS

- *Region of Peel Official Plan (2022)*
 - *Town of Caledon Official Plan (2024)*
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As established in the Town of Caledon Green Development Standard (2024), sites adjacent to protected natural features shall have no lateral light trespass into the feature. This is applicable to features part of the Greenbelt Plan Natural Heritage System located in parts of the Site. The Applicant will work with the Town of Caledon on the best approaches for addressing this metric requirement.

The configuration and layout of features on Site have been considered as part of the design of the site plan to promote good land use planning and urban design. As discussed in the Urban Design Brief (2024), parking areas are accessed off the internal private road to minimize impact on Dixie Road from turning vehicles, and are distributed throughout the Site to provide convenient access for the occupants of the proposed office areas. Passenger vehicle circulation in the parking areas is kept separate from heavy truck traffic per best practices for safety.

While it is discouraged by the Town of Caledon Town-wide Design Guidelines (TWDG) for industrial buildings to design parking between the building and the public way, many parking areas are located along Dixie Road to avoid the environmentally sensitive areas, separate heavy truck traffic from passenger vehicle circulation and pedestrian areas, and to provide the appropriate number of parking spaces. To reduce the visual impact of parking close to Dixie Road strong consideration has been given to provide screening from the public way with landscaping and by locating the Stormwater Management Pond, with its native plantings, between the parking and the street. In addition to the perimeter landscape screening, the parking areas themselves feature large, landscaped islands with plants and trees. A walking path has been designed adjacent to the Natural Heritage area. Amenity areas with benches and plantings are distributed at intervals to encourage occupants to exercise and enjoy the outdoors whenever possible.

Effective water management is proposed in the form of a large retention pond and natural vegetated areas to be preserved. The proposed stormwater management pond at 12489 Dixie Road is located at the southwest corner of the site next to the existing natural heritage area to support and enhance the larger open space network. Similarly, the location of the stormwater management pond at 12861 Dixie Road is proposed at the south side of the parcel of land. These locations were chosen as they work best with the contours of the land and outlet locations for drainage. Importantly, they integrate well with the existing Greenbelt Plan natural features of the Site and provides screening for parking areas.

As discussed in the Planning Justification Report prepared by Armstrong Planning in 2024, the proposed development would promote the use of active transportation as the employment uses on the Site would be in close proximity to other employment uses, as well as large future residential subdivisions, which may shorten commute journeys and decrease traffic congestion. In addition, active trails are planned throughout the Site, particularly in connection to lands part of the Natural Heritage System. Further discussion on transportation uses being proposed on the Site in relation to energy conservation initiatives is provided in the Energy and Emissions Reduction Study.

The preservation of built heritage resources is addressed in the site plan. A *Cultural Heritage Impact Statement* (CHIS) was prepared by Stantec Consulting Ltd. in 2024 which identified a residential property located at 12489 Dixie Road that consists of cultural heritage value or interest (CHVI). The residential property will be retained *in situ* as part of the proposed development. It is recommended that softscaping elements be incorporated into the proposed development where feasible to support the CHVI. This may include planning shrubs and trees, some of which may partially screen or grow to screen the proposed development from the existing residence. It is recommended in the CHIS that an interpretive sign or panel should be established near the existing residence where feasible that explains the history of the property to support the CHVI of the residential property. An

additional CHVI property was identified at 12861 Dixie Road, consisting of an existing residence and farmstead. The existing residence is proposed to be retained *in situ*, however, the existing farmstead would be removed to accommodate the proposed development. The CHIS identified the two mitigation measures of relocation or documentation and salvage to preserve the CHVI features of the property.

Recommendations

Align with planning requirements, including:

- 6) Avoid development on areas designated as Environmental Policy Areas as required by the Town of Caledon to support the conservation of natural heritage features on Site.
- 7) Manage lateral light trespass into the adjacent protected natural features on the Site, as established as a requirement in the Town of Caledon Green Development Standard (2024).
- 8) Review and implement mitigation measures proposed in the *Cultural Heritage Impact Statements* (2024) to protect and preserve built heritage resources present on the Site.

Consider the following voluntary planning recommendations:

- 9) Avoid dense development in areas adjacent to lands designated as Environmental Policy Area and Greenbelt Plan Area, and ensure appropriate buffers are maintained.
- 10) Explore opportunities to implement additional open, green spaces on Site to encourage a pedestrian-friendly urban realm.

4.4 Stormwater and Surface Water Management

Key Planning Considerations

The planning for stormwater and surface water management (SWM) is integral in protecting people and assets from flood risks. Good stormwater and surface water management practices reduce runoff and improve water quality. Provincial, regional, and local policies and guidelines, as outlined in Section 3.0 of this report, provide direction for priority actions and considerations when planning for the management of stormwater and surface water.

As directed in provincial, regional, and municipal policies, planning for stormwater management shall be conducted to minimize erosion and changes in water balance. Stormwater run-off from new development shall also be managed to achieve appropriate levels of surface water quantity, quality, and erosion control to minimize any adverse effects on downstream watercourses, terrestrial and aquatic habitat functions, and base flow. The maintenance of groundwater functions shall be considered in stormwater management strategies. The policies identified in this Project that are relevant to stormwater and surface water management also highlight considerations in using green infrastructure and low

RELEVANT PLANS

- *Provincial Planning Statement (2024)*
- *Regional of Peel Official Plan (2022)*
- *The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (2014)*
- *Town of Caledon Official Plan (2024)*
- *Town of Caledon Green Development Standard (2024)*

impact development approaches to mitigate and adapt to climate change impacts.

As outlined in the Town of Caledon Green Development Standard (2024), the development proposal must meet the following minimum requirements as they relate to stormwater management infrastructure on new industrial sites:

- Control the infiltration deficit per the criteria identified in the water balance assessment through stormwater retention low impact development (LID) practices OR Control, to the greatest extent possible, the 27 mm event using a hierarchical application of LID measures to achieve the target beginning with (1) retention, followed by (2) filtration, in accordance with site constraints outlined in the GDS Guidebook.
- Ensure 80% Total Suspended Solids (TSS) removal, to the greatest extent possible through a hierarchical approach identified using (1) retention, (2) filtration, and (3) conventional stormwater management, where each step is exhausted before proceeding to the next.

Applicant-Proposed Adaptation Initiatives

The following section provides a summary from the *Functional Servicing and Stormwater Management Design Report* prepared in support of the development application (Stantec Consulting Ltd., 2024).

The proposed development at 12489 Dixie Road will span across four (4) catchments while the development at 12861 Dixie Road will span across six (6) catchments. The catchments will be serviced by two SWM wet ponds, which are designed to meet the stormwater management requirements for those areas. Underground storm chambers are also proposed to address the specific stormwater management needs. The detailed design of the two proposed SWM ponds and underground storm chambers include the following features:

Water Balance

Site based water balance will be met by installing underground stormwater infiltration tanks. Providing tree cells within paved areas may also be investigated during further detailed design. A best practices approach has been used to maintain the pre-development infiltration in post development conditions to the extent practicable. Existing flows to the Headwater Drainage Features (HDF) will be maintained in the proposed condition.

Water Quality

Sufficient permanent pool and extended detention volumes are provided in the SWM Ponds to meet the requirements for Enhanced Level protection as per the Ministry of the Environment, Conservation and Park (MECP) Stormwater Management Planning and Design Manual. Additionally, oil and grit separators (OGS) will be provided to meet the requirements for Enhanced Level protection.

Extended Detention (Erosion Control)

For the SWM pond facilities, orifice plates and flow restrictors are proposed as flow control to achieve the target flow rate for the 25 mm rainfall event. By meeting the erosion control requirements, no erosion is anticipated in the receiving watercourses. Extended detention storage and flood control storage up to and including the Regional storm event will be provided. Detention storage on Site will be provided through a combination of blue roof storage, below grade stormwater tanks, and SWM Ponds.

Water Quantity Control (2 ~ 100-year Events)

Sufficient storage is provided in each SWM facility to detain runoff and control discharge rates down to the allowable rates set out in the Humber River Hydrology Update for the 2- to 100-year storm events and the Regional event.

Water Quantity Control (Regional)

In addition to the 2- to 100-year discharge requirements, additional active storage and flow control is provided in each SWM facility to limit outflow rates during the Regional storm event in accordance with the requirements of the TRCA.

The development will control for the 90th percentile rainfall event using roof control, underground stormwater tanks providing infiltration and quantity storage, and stormwater managements pond providing erosion control and quantity storage. Stormwater quality control will be provided to achieve 80% Total Suspended Solids (TSS) removal from all runoff leaving the site on an annual loading basis. With this design, the development proposal meets SWM requirements as established in the Town of Caledon Green Development Standard (2024).

Refer to the Functional Servicing and Stormwater Management Design Report prepared by Stantec (Stantec Consulting Ltd., 2024) for additional details on stormwater management strategies for the Site.

Recommendations

Align with planning requirements, including:

- 11) Ensure SWM ponds on Site meet water quality, water quantity, water balance, and erosion control requirements as outlined in Stantec's Functional Servicing and Stormwater Management Design Report (2024).
- 12) As established in the Town of Caledon Green Development Standard (2024), the proposed development should control the infiltration deficit per the criteria identified in the water balance assessment through stormwater retention low impact development (LID) practices OR Control, to the greatest extent possible, the 27 mm event using a hierarchical application of LID measures to achieve the target beginning with (1) retention, followed by (2) filtration, in accordance with site constraints outlined in the GDS Guidebook.
- 13) As established in the Town of Caledon Green Development Standard (2024), the proposed development should ensure 80% Total Suspended Solids (TSS) removal, to the greatest extent possible through a hierarchical approach identified using (1) retention, (2) filtration, and (3) conventional stormwater management, where each step is exhausted before proceeding to the next.

Additional voluntary planning recommendations:

- 14) Explore opportunities to integrate low impact development (LID) and green infrastructure approaches for stormwater management on Site, including but not limited to, implementing a green roof on the proposed building, rainwater harvesting, rain gardens, and permeable pavement.
- 15) Avoid development activities that may cause harm or reduce the effectiveness of existing stormwater management on Site.

4.5 Public Health

Key Planning Considerations

The Region of Peel's Regional Official Plan Review (Peel 2041) Discussion Paper on Climate Change (Region of Peel, 2018) outlines how climate change is impacting public health in the Region. The most significant climate driver impacting regional public health is extreme heat that is exacerbated by the Urban Heat Island effect. Other human health impacts include increased:

- risk of injuries and mortality resulting from extreme weather;
- food and water-borne contamination;
- incidence of vector-borne illnesses including West Nile Virus and Lyme disease;
- risk of temperature-related morbidity and mortality; and
- respiratory and cardiovascular conditions exacerbated by poor air quality.

Climate change policies identified in Section 3.0 of this report that are relevant to public health planning considerations primarily focus on the promotion of sustainable development and land use patterns. This includes using green infrastructure approaches to maximize the amount and quality of green space and tree canopy across the Town, so that residents can benefit from cleaner air, shading and temperature regulation during extreme heat, in addition to improved physical and mental health through recreation opportunities.

Provincial, regional, and local policy also highlight the role that stormwater management planning has in mitigating risks to human health and safety. It is recommended that stormwater management infrastructure should be designed to provide a reasonable level of safety, both in terms of their stormwater management function and in relation to potential use of the pond area by members of the public. In general, infrastructure should be assessed for risks associated with extreme weather events and future climate conditions for asset management and public health promotion purposes.

Applicant-Proposed Adaptation Initiatives

An Arborist Report was prepared by Stantec in 2024 in support of this development application. The report documents a tree inventory and assessment of trees located on the Site. Trees 10 cm diameter at breast height (DBH) and greater located within the Site were tagged and recorded in a Detailed Tree Inventory (DTI) and large groupings or stands were recorded in a General Tree Inventory (GTI). A summary of trees that will be preserved and removed is provided below:

- A total of 35 trees from within the DTI and 166 stems within the GTI will be preserved and protected throughout the construction process.

RELEVANT PLANS

- *Region of Peel Official Plan (2022)*
 - *Region of Peel Climate Change Master Plan (2019)*
 - *The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (2014)*
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- *Protect - No Hoarding:* Tree preservation on private property/outside limits of work with limited to no opportunity for impacts within the TPZ. Trees will be preserved and will not have protection fencing installed at the limits of the TPZ. One-hundred and nine (109) stems within the GTI (vegetation units 3-5) are within this preservation category.
- *Protect - Hoarding:* Trees are recommended to be preserved, and hoarding will be installed at the limits of construction or the TPZ, whichever is greater. A total of 35 trees from the DTI and 57 stems within the GTI are within this preservation category.
- A total of 93 trees within the DTI and 115 stems from the GTI conflict with the proposed construction and will require removal. There are 4 additional trees from the DTI that are dead and will require removal.

New deciduous and coniferous trees and perennial and shrub planting is proposed around the perimeter of the Site and in some areas of the Site's proposed parking lot where feasible. **Table 4-1** provides an overview of the total number of new trees, shrubs, flowers, and grasses being proposed on the Site. It should be noted that if the total number of new plantings were to change, plant quantities indicated on the site plan supersede the quantities from the plant list, and any discrepancies should be reported to the landscape architect as indicated in the General Notes section of the Landscape Plan.

Table 4-1: Landscape Plan Planting Totals

Vegetation Type	12489 Dixie Road	12861 Dixie Road	SITE TOTAL
General Area			
Deciduous Trees	678	445	1,123
Coniferous Trees	496	165	661
Coniferous Shrubs	318	169	487
Deciduous Shrubs	3,487	1,553	5,040
Perennial Flowers	2,497	2,410	4,907
Perennial Grasses	850	4,782	5,632
SMWP Area			
Deciduous Trees	91	65	156
Coniferous Trees	40	43	83
Deciduous Shrubs	604	391	995
Aquatics	1,293	773	2,066

As outlined in the Town of Caledon's Industrial / Commercial Design Guidelines, a minimum 5-m wide landscape island is recommended for every 20 parking spots with planting throughout the parking lot (Town of Caledon, 2002). An increased number of trees in and around parking lots on industrial sites can improve public health by

improving air quality and provide shaded spaces to mitigate extreme heat. The Applicant will consider approaches to mitigate the Urban Heat Island effect, including consolidation of landscape islands.

As described in the Urban Design Brief (2024) prepared by Ware Malcomb, amenity areas are provided in the Site Plan, with designated area conveniently concentrated at the office entrances to encourage daily use by employees. Amenities include benches and picnic tables for outdoor seating and/or gathering areas, as well as recreational activities in the form of ping pong tables. The amenity areas closer towards the offices also include receptacles, trash cans along with the benches and other areas even include activity spaces and incorporate an adequate blend of hard and soft landscape features along with the natural vegetation being a part of it. A winding walking trail has been designed adjacent to the Natural Heritage area. It includes native plantings, rest areas and amenity spaces distributed along its length. The landscaped walking trail will be lit for pedestrian safety and security. The design of these areas incorporates the overall landscape features of the site to create an aesthetic and coherent environment. It is encouraged that amenity areas on the Site are designed to include trees and tree canopy coverage where feasible to provide natural shade and so that employees can benefit from temperature regulation during extreme heat. Trees should particularly cover areas with benches and picnic tables where feasible.

Regarding safety for the stormwater management ponds on Site, an emergency overflow spillway shall be incorporated downstream of the SWM ponds to safely convey and control inflow from the Regional storm to allowable release rates, as described in the *Functional Servicing and Stormwater Management Design Reports* (Stantec Consulting Ltd., 2024).

Recommendations

Align with planning requirements, including:

- 16) Review and implement mitigation measures identified in the Arborist Report (2024), prepared by Stantec, to promote and protect tree canopy coverage on Site.

Consider the following voluntary planning recommendations:

- 17) Explore opportunities to implement additional trees and tree canopy coverage in the proposed amenity areas on the Site.
- 18) Ensure amenity areas are accessible for all users of the Site, maintaining that picnic tables and other recreational areas will be wheelchair accessible.
- 19) Explore opportunities to design the recreational trails on the Site in a way that encourages public safety through appropriate lighting, wayfinding, and away from flood-prone areas.
- 20) Consider including an emergency overflow spillway at the Regional storm level in the design of the stormwater management ponds on Site to safely convey the peak flow rate from a Regional storm event in case of blockage to the outlet structure.
- 21) Explore opportunities to integrate an appropriate buffer area for the stormwater management ponds on Site to minimize and avoid risks to public safety. Vegetation and other forms of green infrastructure should be considered in the buffer area.
- 22) Review Site features periodically to ensure that public health standards are being maintained.

4.6 Green and Grey Infrastructure

Key Planning Considerations

Using both green and grey infrastructure is important to mitigate the effects of climate change. Green infrastructure, which includes low impact development (LID), refers to a network of natural and semi-natural areas that are designed and managed to deliver a wide range of ecosystem services. Grey infrastructure refers to traditional, human-engineered infrastructure.

As outlined in Section 3.0 of this report, the Region of Peel and Town of Caledon encourage the use of green infrastructure and LID approaches to mitigate and adapt to climate change impacts and support stormwater management. The Town of Caledon's Official Plan (2024) sets out that all proponents of new development shall be encouraged to minimize the percentage of impervious surfaces as well as adopt LID or similar standards to reduce rates of surface water flow and run-off. The Town also encourages development proposals that maximize water capture and re-use (e.g., grey-water capture). In general, green infrastructure is referenced in provincial, regional, and municipal climate change policy in relation to stormwater and surface water management, energy efficiency and conservation, natural heritage conservation, and green space development

As identified in the Town of Caledon Green Development Standard (2024), the following metric and submission requirements relating to green and grey infrastructure apply to the Site:

- Meet minimum green cover target of 0.2 by completing the Green Factor Tool. Eligible green infrastructure features must comply with specifications in the GDS and other Town standards and guidelines.
- Provide access to a minimum of 30 m³ soil volume for newly planted trees or tree-specific soil volume indicated in municipal tree species guide. Where feasible and appropriate, use selective grading techniques that reduce soil compaction and preserve the natural landform as much as possible.
- Landscape plan to include no invasive species and a minimum of 50% native plant species. Select drought tolerant species from local climate zones wherever possible.
- Paved areas are to be treated with at least two of the following strategies, covering at least 50% of the total paved area (total paved area excludes loading bays, freight parking, and fire lanes):
 - High-albedo paving materials with an initial solar reflectance of at least 0.33 or an SRI of 29;
 - Canopy of large-growing shade trees planted in landscape islands at regular intervals or in hedgerows to maximize both shading and ecological value. Canopy coverage to be calculated at 75% maturity (also contributes to, and can be demonstrated through, the On-Site Green Infrastructure metric);

RELEVANT PLANS

- *Region of Peel Climate Change Master Plan (2019)*
 - *Town of Caledon Official Plan (2024)*
 - *Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)*
 - *Town of Caledon Green Development Standard (2024)*
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- Shade from architectural structures that are vegetated or have an initial solar reflectance of at least 0.33 at installation or an SRI of 29;
- Shade from structures with energy generation; and
- Open-grid pavement with at least 50% perviousness (can be demonstrated through the On-Site Green Infrastructure metric).

Applicant-Proposed Adaptation Initiatives

As described in the *Sustainability Narrative Memo* prepared Purpose Building Inc. in 2024, landscaping on the Site is designed to minimize water needs on site by prioritizing the use of native and drought tolerant species. Native species will be used for 50% of landscape, 25% of which will be pollinator-friendly species. The Site is being designed so that a permanent irrigation system is not required. A watering program will be in place for the site for the first three years to support landscaping establishment.

Hardscape areas on the Site will be treated to minimize urban heat island effect. The Applicant will commit to meeting the above Green Development Standard metric requirements, but strategies to be used are still being determined.

The proposed landscaping has been enhanced to provide greater screening of the parking from Dixie Rd. Screening features include a series of undulating berms for visual interest. Deciduous trees and shrubs are planted on the berms to provide additional enrichment in the summer months. The rhythm of the berms is broken by coniferous plantings to provide continuous year-round screening. Durable materials and native plants are proposed throughout the Site so the outdoor areas will be easy to care for and maintain to a high standard.

The Town of Caledon Zoning By-law 2006-50 requires that a minimum of 10% of the lot area of industrial sites must consist of landscaped area. The development application proposes 54.57% of landscape area on 12489 Dixie Road and 30.59% of landscape area on 12861 Dixie Road.

In accordance with Caledon's Town-wide Design Guidelines, Section 3 Low Impact Development, Landscaping will be designed to feature native and non-invasive species that do not require irrigation to thrive. As detailed in Stantec's Stormwater Management Report, the stormwater management pond will be constructed with native plantings which allow water to percolate naturally into the soil. Plant roots aid in preventing erosion and excessive water run-off. Additional water will be directed to on-site below-grade infiltration galleries to reduce run-off and increase the amount of water returned to the soil, as described in the Urban Design Brief (QuadReal Property Group, 2024).

Additional information on tree canopy coverage can be found in Section 4.5, and stormwater management grey infrastructure can be found in Section 4.4. It is recommended that additional LID approaches be considered on the Site where feasible to improve stormwater management, such as the implementation of a green roof, rain garden, or enhanced urban tree canopy.

Recommendations

Align with planning requirements, including:

- 23) Explore opportunities to achieve a minimum green cover target of 0.2 by completing the Green Factor Tool, as established as a requirement in the Town of Caledon Green Development Standard (2024).

- 24) Consider providing access to a minimum of 30 m³ soil volume for newly planted trees or tree-specific soil volume indicated in municipal tree species guide. Where feasible and appropriate, use selective grading techniques that reduce soil compaction and preserve the natural landform as much as possible.
- 25) Consider options within the Landscape plan to include no invasive species and a minimum of 50% native plant species.
- 26) Explore opportunities to treat at least 50% of total paved areas (excluding loading bays, freight parking, and fire lanes) with two of the following strategies:
 - a) High-albedo paving materials with an initial solar reflectance of at least 0.33 or an SRI of 29;
 - b) Canopy of large-growing shade trees planted in landscape islands at regular intervals or in hedgerows to maximize both shading and ecological value. Canopy coverage to be calculated at 75% maturity (also contributes to, and can be demonstrated through, the On-Site Green Infrastructure metric);
 - c) Shade from architectural structures that are vegetated or have an initial solar reflectance of at least 0.33 at installation or an SRI of 29;
 - d) Shade from structures with energy generation; and
 - e) Open-grid pavement with at least 50% perviousness (can be demonstrated through the On-Site Green Infrastructure metric).
- 27) Complete Submission Requirements identified in the Town of Caledon Green Development Standard as required to meet relevant GDS metric requirements. See Table 3-8 of the Climate Change Adaptation Study report for Submission Requirements.

Consider the following voluntary planning recommendations:

- 28) Explore opportunities to implement additional low impact development (LID) approaches on Site to address stormwater and surface water management and increase the availability of green space.

5.0 CONCLUSION

The recommendations section of this Climate Change Adaptation Study provides the Applicant with information to align the Project with climate change planning and policy requirements, goals, and objectives set out by the Region of Peel and Town of Caledon. It is recommended that the Applicant reviews all planning requirements identified in this report to ensure the proposed development meets all minimum planning standards. Identified voluntary planning recommendations should be considered as part of this Project to further support the development of a climate-resilient site and sustainable community.

Minimum mandatory requirements are summarized as follows:

- Maintain required development setbacks of 10 metres around identified watercourses and floodplain boundaries on Site;
- Avoid new development on areas designated as Environmental Policy Areas, with the exception of permitted uses identified in the Town of Caledon Official Plan (2024);
- Maintain required 30 metre setback buffer around staked feature limits for key natural heritage features part of the Greenbelt Plan Natural Heritage System;
- Manage lateral light trespass into the adjacent protected natural features on the Site, as established as a requirement in the Town of Caledon Green Development Standard (2024);
- Ensure SWM ponds on Site meet water quality, water quantity, water balance, and erosion control requirements as outlined in Stantec's Functional Servicing and Stormwater Management Design Report (2024) and Town of Caledon Green Development Standard (2024); and,
- Explore opportunities to address green infrastructure targets identified in the Town of Caledon Green Development Standard (2024), including:
 - Explore opportunities to achieve a minimum green cover target of 0.2;
 - Consider providing access to a minimum of 30 m³ soil volume for newly planted trees or tree-specific soil volume indicated in municipal tree species guide;
 - Consider options within the Landscape plan to include no invasive species and a minimum of 50% native plant species; and,
 - Explore opportunities to treat at least 50% of total paved areas (excluding loading bays, freight parking, and fire lanes) with two of the acceptable strategies.
- Complete Submission Requirements identified in the Town of Caledon Green Development Standard as required to meet relevant GDS metric requirements. See Table 3-8 of the Climate Change Adaptation Study report for Submission Requirements.

To support climate change adaptation practices and improve the resiliency of the Site to the effects of climate change, the Applicant should consider the following summary of the voluntary planning recommendations:

- Consider implementing vegetation and green infrastructure solutions within development setback areas, and avoid development in areas in close proximity to development setback limits;

- Explore opportunities to implement additional open, green spaces on Site, including increasing tree canopy coverage around amenity areas;
- Explore opportunities to integrate low impact development (LID) and green infrastructure approaches for stormwater management on Site;
- Avoid development activities that may cause harm or reduce effectiveness of existing stormwater management;
- Explore opportunities to maintain appropriate buffer areas around stormwater management ponds to minimize and avoid risks to public safety; and.
- Explore opportunities to design the recreational trails on the Site in a way that encourages public safety through appropriate lighting, wayfinding, and away from flood-prone areas.

The Applicant is encouraged to consider all recommendations provided in this report at the detailed design / SPA stages of the Project.

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APPENDIX A

Site Plan

APPENDIX B

**Relevant Plans and Climate
Change Policies**

Plan	Section	Specific Policies Relevant to the Project
Provincial Planning Statement (2024)	Section 2.9: Energy Conservation, Air Quality and Climate Change	
	Subsection 2.9.1	<p>“Planning authorities shall plan to reduce greenhouse gas emissions and prepare for the impacts of a changing climate through approaches that:</p> <ul style="list-style-type: none"> a) support the achievement of compact, transit-supportive, and complete communities; b) incorporate climate change considerations in planning for and the development of infrastructure, including stormwater management systems, and public service facilities; c) support energy conservation and efficiency; d) promote green infrastructure, low impact development, and active transportation, protect the environment and improve air quality; and e) take into consideration any additional approaches that help reduce greenhouse gas emissions and build community resilience to the impacts of a changing climate.”
	Section 3.6: Sewage, Water and Stormwater	
	Subsection 3.6.8	<p>“Planning for stormwater management shall:</p> <ul style="list-style-type: none"> a) be integrated with planning for sewage and water services and ensure that systems are optimized, retrofitted as appropriate, feasible and financially viable over their full life cycle; b) minimize, or, where possible, prevent or reduce increases in stormwater volumes and contaminant loads; c) minimize erosion and changes in water balance including through the use of green infrastructure; d) mitigate risks to human health, safety, property and the environment; e) maximize the extent and function of vegetative and pervious surfaces; f) promote best practices, including stormwater attenuation and re-use, water conservation and efficiency, and low impact development; and g) align with any comprehensive municipal plans for stormwater management that consider cumulative impacts of stormwater from development on a watershed scale.”
	Section 4.1: Natural Heritage	
Subsection 4.1.2	<p>“The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.”</p>	
Subsection 4.1.5	<p>“Development and site alteration shall not be permitted in:</p> <ul style="list-style-type: none"> b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1; c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1; d) significant wildlife habitat, 	

Plan	Section	Specific Policies Relevant to the Project
		<p>unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.”</p>
	Section 5.2: Natural Hazards	
	Subsection 4.2.3	“Planning authorities shall prepare for the impacts of a changing climate that may increase the risk associated with natural hazards.”
Greenbelt Plan (2017)	Section 1.2: Vision and Goals	
	Subsection 1.2.2	<p>“1.2.2.6 a) Integrating climate change considerations into planning and managing the Agricultural System, Natural Heritage System and Water Resource System to improve resilience and protect carbon sequestration potential, recognizing that the Natural Heritage System is also a component of green infrastructure; and</p> <p>b) Integrating climate change considerations into planning and managing growth that includes incorporating techniques to reduce greenhouse gas emissions, and increasing the resilience of settlement areas and infrastructure within the Greenbelt.”</p>
	Section 3.2: Geographic-Specific Policies in the Protected Countryside - Natural System	
	Subsection 3.2.2	<p>“3.2.2.3 New development or site alteration in the Natural Heritage System (as permitted by the policies of this Plan) shall demonstrate that:</p> <p>a) There will be no negative impacts on key natural heritage features or key hydrologic features or their functions;</p> <p>b) Connectivity along the system and between key natural heritage features and key hydrologic features located within 240 metres of each other will be maintained or, where possible, enhanced for the movement of native plants and animals across the landscape;</p> <p>c) The removal of other natural features not identified as key natural heritage features and key hydrologic features should be avoided. Such features should be incorporated into the planning and design of the proposed use wherever possible;</p> <p>d) Except for uses described in and governed by the policies of sections 4.1.2 and 4.3.2, i. The disturbed area, including any buildings and structures, of the total developable area will not exceed 25 per cent (40 per cent for golf courses); and ii. The impervious surface of the total developable area will not exceed 10 per cent; and</p> <p>e) At least 30 per cent of the total developable area will remain or be returned to natural self-sustaining vegetation, recognizing that section 4.3.2 establishes specific standards for the uses described there.”</p>
Subsection 3.2.3	“3.2.3.1 All planning authorities shall provide for a comprehensive, integrated and long-term approach for the protection, improvement or restoration of the quality and quantity of water. Such an approach shall consider all hydrologic features, areas and functions and include a systems approach to the inter-relationships between and/or among key hydrologic features and key hydrologic areas.”	

Plan	Section	Specific Policies Relevant to the Project
	Subsection 3.2.5	"3.2.5.1 Development or site alteration is not permitted in key hydrologic features and key natural heritage features within the Natural Heritage System, including any associated vegetation protection zone."
Region of Peel Official Plan (2022)	Section 2.4: Climate System	
	Subsection 2.4.2	"To support the development of sustainable, low-carbon, compact, mixed-use, and transit-supportive communities which reduce greenhouse gas emissions and support active transportation, protect natural systems, features and functions, and promote renewable energy, energy conservation and efficient design".
	Subsection 2.4.5	"To promote a culture of conservation through energy, water and soil conservation and integrated waste management".
	Section 2.6: Water Resource System	
	Subsection 2.6.9	"Require the use of low impact development and green infrastructure approaches, as appropriate, to mitigate and adapt to climate change impacts, mitigate the impacts of development on natural heritage features, support the efficient and sustainable use of water resources and to manage stormwater".
	Subsection 2.6.20	"2.6.20.1 To recognize stormwater as a resource and to manage stormwater in a way that protects, improves or restores the health of water resources, minimizes flooding and erosion, and considers the risks and vulnerabilities of stormwater infrastructure to climate change and the role of stormwater management in climate change adaptation".
	Section 6.5: Water and Wastewater Services	
Subsection 6.5.12	"Assess and address climate change risks and vulnerabilities when developing new and replacing existing infrastructure. Infrastructure will be developed to be environmentally sustainable and assist with climate change adaptation to lessen environmental impact".	
Subsection 6.5.13	"Consider opportunities when designing, planning, and implementing water and wastewater services to reduce greenhouse gas emissions in accordance with provincial and Regional objectives".	
Region of Peel Climate Change Master Plan (2019)	Chapter 4: Be Prepared	
	Subsection 12.3	"Install or improve cooling solutions (passive and active) for buildings which are currently or are projected to be vulnerable to overheating".
	Subsection 13.1	"Assess infrastructure for risks associated with extreme weather events and future climate conditions and integrate knowledge into asset management".
	Subsection 14.3	"Implement tree planting and management program for new and existing trees".
Subsection 14.6	"Require buildings undergoing applicable state of good repair work to consider green infrastructure opportunities".	

Plan	Section	Specific Policies Relevant to the Project
The Living City Policies (2014)	Section 8.4: General Regulation Policies	
	Subsection 8.4.5	<p>“That development, interference or alteration within a regulated area may be permitted where it can be demonstrated to the satisfaction of TRCA, through appropriate technical reports, assessments, site plans and/or other documents as required by TRCA, that:</p> <ul style="list-style-type: none"> a) the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected; b) the risk to public safety is not increased; c) susceptibility to natural hazards is not increased and no new hazards are created; f) negative or adverse hydrological or ecological impacts on natural features and functions, including wetlands, are avoided or mitigated; g) intrusions on natural features, areas and systems contributing to the conservation of land, including areas providing ecological functions and hydrologic functions, are avoided or mitigated; i) groundwater recharge which supports natural features and areas or hydrologic or ecological functions on-site and other sites hydrologically connected to the site will be maintained; j) access for emergency works and maintenance of flood or erosion control works is available; and k) TRCA’s stormwater management criteria (water quantity, water quality, erosion control and water balance for groundwater and natural features) have been met, where applicable, based on the scale and scope of the project”.
	Subsection 8.4.8	<p>“That notwithstanding supplementary policies or stand-alone policies as specified in Sections 8.5 through to 8.12, development within a regulated area shall be set back from the greater of the following:</p> <ul style="list-style-type: none"> a) Valley and Stream Corridors: 10 metres from the long-term stable top of slope, stable toe of slope, Regulatory flood plain, meander belt and any contiguous natural features and areas that contribute to the conservation of land”.
Town of Caledon Official Plan (2024)	Subsection 8.4.13	<p>“All development, including new parking facilities (above ground and underground structures and at-grade parking lots), must meet the minimum requirements for safe access for the nature of the development as outlined in the policies in Section 8 in accordance with Provincial and TRCA Standards, and demonstrate to the satisfaction of TRCA that:</p> <ul style="list-style-type: none"> a) risks due to both flooding and erosion have been addressed”.
	Section 3.1: Sustainability	
	Subsection 3.1.3.9	<p>“3.1.3.9.4 Proponents of new development shall be encouraged to minimize the percentage of impervious surfaces as well as adopt Low Impact Development (LID) or similar standards so as to reduce rates of surface water flow and run-off”.</p> <p>“3.1.3.9.6 The Town shall encourage development proposals that maximize water capture and re-use (e.g., grey-water capture) and promote the use of storage facilities throughout the Town”.</p>



Plan	Section	Specific Policies Relevant to the Project
		"3.1.3.9.7 The Town shall promote landscaping practices that are responsive to local climate and ecological conditions, and which minimize the need for irrigation and the use of chemicals which could contaminate surface and groundwater resources".
Resilient Caledon Community Climate Change Action Plan (2021)	Section 1: Establish Climate-Friendly Planning and Building Policies	
	Subsection 1.2	"Create a sustainable development standard to ensure all new residential and commercial buildings are net zero and climate resilient by 2030, and promote efficient, green, and livable community design".
	Section 2: Protect Communities from Flood Risks	
	Subsection 2.1	"Prohibit new development in high-risk flood zones and maintain sufficient setbacks along water bodies and near natural features".
	Subsection 2.2	"Increase the amount of green space incorporated into all new communities to provide green infrastructure, stormwater management, and recreation services".
	Section 11: Restore and Enhance Natural Features on Public and Private Land	
	Subsection 11.2	"Expand restoration efforts on private land (residential, commercial, rural, and marginally productive agricultural), including tree planting, wetland restoration, stream rehabilitation, etc.".
Subsection 11.3	"Increase tree planting and restoration of wetlands, streams, and meadows on public lands including Town-owned Parks, Conservation Areas, public right of ways, and other areas".	
Town of Caledon Green Development Standard (2024)	Section 1: Community Design and Mobility	
	Metric 1.3: Light Pollution	<ul style="list-style-type: none"> All lighting fixtures must be DarkSky approved. If a DarkSky Fixture Seal of Approval is not available, fixtures must be full-cutoff (0 BUG upright) and with a colour temperature rating of 3000 K or less. Street and walkway/bikeway lighting must have NEMA 7-pin ANSI 136.41 receptacle and photocells, and all other fixtures must have photocells or astronomic time clock operations. Sites adjacent to protected natural features shall have no lateral light trespass into the feature.
	Section 2: Green Infrastructure	
	Metric 2.1: On-Site Green Infrastructure	<ul style="list-style-type: none"> Meet a minimum green cover target of 0.2 by completing the Green Factor Tool. Eligible green infrastructure features must comply with specifications in the GDS and other Town standards and guidelines.
Metric 2.2: Healthy Soils	<ul style="list-style-type: none"> Provide access to a minimum of 30 m³ soil volume for newly planted trees or tree-specific soil volume indicated in municipal tree species guide. Where two or more trees share the same soil volume, 20 m³ per tree is sufficient. Provide a minimally compacted topsoil layer/upper horizon. 	

Plan	Section	Specific Policies Relevant to the Project
		<ul style="list-style-type: none"> • Where feasible and appropriate, use selective grading techniques that reduce soil compaction and preserve the natural landform as much as possible. • Stockpiled soils used for planting areas must be tested and amended to achieve the soil properties outlined in the Town's Planting Medium Terms of Reference.
	<p>Metric 2.3: Plant Species</p>	<ul style="list-style-type: none"> • Include no invasive species and a minimum of 50% native plant species in the Landscape Plan. • For sites adjacent to natural features where buffer areas are required, the Landscape Plan must show the site and surrounding area, highlighting natural features and their buffer areas and labelling the native plant species to be planted in the buffers.
	<p>Metric 2.4: Urban Heat Island</p>	<ul style="list-style-type: none"> • Install cool roof over 90% of available roof area (excluding HVAC and other equipment) except if installing solar PVs and/or green roof over a minimum of 50% of the available roof area. Cool roof materials and/or coatings should have an SRI rating of 78 or higher and an emissivity equal to or greater than 0.9. • Paved areas (excluding loading bays, freight parking, and fire lanes) are to be treated with a minimum of two of the following strategies, covering at least 50% of the total paved area: <ul style="list-style-type: none"> ○ High-albedo paving materials with an initial solar reflectance of at least 0.33 or an SRI of 29; ○ Canopy of large-growing shade trees planted in landscape islands at regular intervals or in hedgerows to maximize both shading and ecological value. Canopy coverage to be calculated at 75% maturity (also contributes to, and can be demonstrated through, the On-Site Green Infrastructure metric); ○ Shade from architectural structures that are vegetated or have an initial solar reflectance of at least 0.33 at installation or an SRI of 29; ○ Shade from structures with energy generation; and ○ Open-grid pavement with at least 50% perviousness (can be demonstrated through the On-Site Green Infrastructure metric).
	<p>Metric 2.5: Stormwater Quantity and Quality</p>	<ul style="list-style-type: none"> • Control the infiltration deficit per the criteria identified in the water balance assessment through stormwater retention low impact development (LID) practices <u>OR</u> Control, to the greatest extent possible, the 27 mm event using a hierarchical application of LID measures to achieve the target beginning with (1) retention, followed by (2) filtration, in accordance with site constraints outlined in the GDS Guidebook. • Ensure 80% Total Suspended Solids (TSS) removal, to the greatest extent possible through a hierarchical approach identified using (1) retention, (2) filtration, and (3) conventional stormwater management, where each step is exhausted before proceeding to the next.



Plan	Section	Specific Policies Relevant to the Project
	Metric 2.6: Bird Friendly Design	<ul style="list-style-type: none"> • Use the Canadian Standards Association CSA A460:19 Bird-Friendly Design Standards (2019 or later) to design treatment of glazing materials, building integrated permanent structures, and overall building and site design, including, at minimum, treating glazing up to 16 m above grade or to the top of the mature tree canopy, whichever is greater. • Treat a minimum of: <ul style="list-style-type: none"> ○ 85% of glazing with collision deterrent markers ○ All glazing that creates fly-through conditions, including glass railing systems; ○ All glazing adjacent to natural areas; and ○ All non-vision glazing, including spandrels. • Collision Deterrent markers shall meet the following requirements: <ul style="list-style-type: none"> ○ Size: Minimum 4 mm in diameter. ○ Density: Maximum 50 mm between markers. ○ Contrast: High contrast under varying daylight conditions. ○ Surface: Must be applied to the first (exterior) surface of glass. • Where there is glazing adjacent to green roofs and/or other rooftop vegetation, the bird collision mitigation strategy shall be applied to a height of 4 m from the surface of the green roof or the height of the adjacent mature vegetation, whichever is greater. Provide a buffer of at least 2.5m on either side of the feature using strategies from Bird-Friendly Glazing. • Ensure ground level ventilation grates have a porosity of less than 20 mm x 20 mm (or 10 mm x 50 mm).
	Section 4: Higher Performance Buildings	
	Metric 4.1: Higher Performance Buildings	<ul style="list-style-type: none"> • The Higher Performance Buildings metric is a voluntary additional metric that allows applicants to demonstrate ways in which they are going above and beyond the Town's GDS or using innovative practices. This metric is optional to complete and will not be used to approve applications but may be recognized as part of a future awards/recognition program. See the GDS for examples of high-performance measures.

APPENDIX C



**Climate Change Adaptation
Recommendations**

 = Mandatory recommendations
 = Voluntary recommendations



ID	Recommendation	Climate Change Adaptation Theme	Requirement	Development Phase	Relevant Planning Document
1.	Maintain required development setbacks of at least 10 metres around identified watercourses and floodplain boundaries on Site.	Floodplain Management	Mandatory	Planning, Construction	The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (2014)
2.	Consider the implementation of vegetation and green infrastructure within development setback areas to minimize the risk of flooding on Site.	Floodplain Management	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
3.	Avoid development in areas in close proximity to development setback limits to minimize the risk of flooding on Site due to climate change.	Floodplain Management	Voluntary	Planning, Construction	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
4.	Maintain the required 30 metre setback buffer around staked feature limits for key natural heritage features part of the Greenbelt Plan Natural Heritage System.	Natural Heritage	Mandatory	Planning, Construction	The Greenbelt Plan (2017)
5.	Review and implement mitigation measures and obtain required permits that are identified in the Comprehensive Environmental Impact Study and Management Plan prepared by Stantec (2024).	Natural Heritage	Mandatory	Planning, Construction, Operations & Maintenance	Town of Caledon Official Plan (2024)
6.	Avoid development on areas designated as Environmental Policy Areas as required by the Town of	Land Use Planning	Mandatory	Planning, Construction	Town of Caledon Official Plan (2024)

 = Mandatory recommendations
 = Voluntary recommendations



ID	Recommendation	Climate Change Adaptation Theme	Requirement	Development Phase	Relevant Planning Document
	Caledon to support the conservation of natural heritage features on Site.				
7.	Manage lateral light trespass into the adjacent protected natural features on the Site, as established as a requirement in the Town of Caledon Green Development Standard (2024).	Land Use Planning	Mandatory	Planning, Construction, Operations & Maintenance	Town of Caledon Green Development Standard (2024)
8.	Review and implement mitigation measures proposed in the <i>Cultural Heritage Impact Statements (2024)</i> to protect and preserve built heritage resources present on the Site.	Land Use Planning	Mandatory	Planning, Construction	Town of Caledon Official Plan (2024)
9.	Avoid dense development in areas adjacent to lands designated as Environmental Policy Area and Greenbelt Plan Area, and ensure appropriate buffers are maintained.	Land Use Planning	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
10.	Explore opportunities to implement additional open, green spaces on Site to encourage a pedestrian-friendly urban realm.	Land Use Planning	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
11.	Ensure SWM ponds on Site meet water quality, water quantity, water balance, and erosion control requirements as outlined in Stantec's Functional Servicing and Stormwater Management Design Report (2024).	Stormwater and Surface Water Management	Mandatory	Planning, Construction, Operations & Maintenance	Town of Caledon Official Plan (2024)

 = Mandatory recommendations
 = Voluntary recommendations



ID	Recommendation	Climate Change Adaptation Theme	Requirement	Development Phase	Relevant Planning Document
12.	As established in the Town of Caledon Green Development Standard (2024), the proposed development should control the infiltration deficit per the criteria identified in the water balance assessment through stormwater retention low impact development (LID) practices <u>OR</u> Control, to the greatest extent possible, the 27 mm event using a hierarchical application of LID measures to achieve the target beginning with (1) retention, followed by (2) filtration, in accordance with site constraints outlined in the GDS Guidebook.	Stormwater and Surface Water Management	Mandatory	Planning, Operations & Maintenance	Town of Caledon Green Development Standard (2024)
13.	As established in the Town of Caledon Green Development Standard (2024), the proposed development should ensure 80% Total Suspended Solids (TSS) removal, to the greatest extent possible through a hierarchical approach identified using (1) retention, (2) filtration, and (3) conventional stormwater management, where each step is exhausted before proceeding to the next.	Stormwater and Surface Water Management	Mandatory	Planning, Operations & Maintenance	Town of Caledon Green Development Standard (2024)
14.	Explore opportunities to integrate low impact development (LID) and green infrastructure approaches for stormwater management on Site, including but not limited to, implementing a green roof on the proposed building, rainwater harvesting, rain gardens, and permeable pavement.	Stormwater and Surface Water Management	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)

 = Mandatory recommendations
 = Voluntary recommendations

ID	Recommendation	Climate Change Adaptation Theme	Requirement	Development Phase	Relevant Planning Document
15.	Avoid development activities that may cause harm or reduce the effectiveness of existing stormwater management on Site.	Stormwater and Surface Water Management	Voluntary	Planning, Construction	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
16.	Review and implement mitigation measures identified in the Arborist Report (2024), prepared by Stantec, to promote and protect tree canopy coverage on Site.	Public Health	Mandatory	Planning, Construction	Town of Caledon Official Plan (2024)
17.	Explore opportunities to implement additional trees and tree canopy coverage in the proposed amenity areas on the Site.	Public Health	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
18.	Ensure amenity areas are accessible for all users of the Site, maintaining that picnic tables and other recreational areas will be wheelchair accessible.	Public Health	Voluntary	Planning, Operations & Maintenance	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
19.	Explore opportunities to design the recreational trails on the Site in a way that encourages public safety through appropriate lighting, wayfinding, and away from flood-prone areas.	Public Health	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
20.	Consider including an emergency overflow spillway at the Regional storm level in the design of the stormwater management ponds on Site to safely convey the peak flow rate from a Regional storm event in case of blockage to the outlet structure.	Public Health	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)

 = Mandatory recommendations
 = Voluntary recommendations

ID	Recommendation	Climate Change Adaptation Theme	Requirement	Development Phase	Relevant Planning Document
21.	Explore opportunities to integrate an appropriate buffer area for the stormwater management ponds on Site to minimize and avoid risks to public safety. Vegetation and other forms of green infrastructure should be considered in the buffer area.	Public Health	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
22.	Review Site features periodically to ensure that public health standards are being maintained.	Public Health	Voluntary	Operations & Maintenance	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)
23.	Explore opportunities to achieve a minimum green cover target of 0.2 by completing the Green Factor Tool, as established as a requirement in the Town of Caledon Green Development Standard (2024).	Green and Grey Infrastructure	Mandatory	Planning	Town of Caledon Green Development Standard (2024)
24.	Consider providing access to a minimum of 30 m ³ soil volume for newly planted trees or tree-specific soil volume indicated in municipal tree species guide. Where feasible and appropriate, use selective grading techniques that reduce soil compaction and preserve the natural landform as much as possible.	Green and Grey Infrastructure	Mandatory	Planning, Construction	Town of Caledon Green Development Standard (2024)
25.	Consider options within the Landscape plan to include no invasive species and a minimum of 50% native plant species.	Green and Grey Infrastructure	Mandatory	Planning	Town of Caledon Green Development Standard (2024)

 = Mandatory recommendations
 = Voluntary recommendations

ID	Recommendation	Climate Change Adaptation Theme	Requirement	Development Phase	Relevant Planning Document
26.	<p>Explore opportunities to treat at least 50% of total paved areas (excluding loading bays, freight parking, and fire lanes) with two of the following strategies:</p> <ul style="list-style-type: none"> a. High-albedo paving materials with an initial solar reflectance of at least 0.33 or an SRI of 29; b. Canopy of large-growing shade trees planted in landscape islands at regular intervals or in hedgerows to maximize both shading and ecological value. Canopy coverage to be calculated at 75% maturity (also contributes to, and can be demonstrated through, the On-Site Green Infrastructure metric); c. Shade from architectural structures that are vegetated or have an initial solar reflectance of at least 0.33 at installation or an SRI of 29; d. Shade from structures with energy generation; and e. Open-grid pavement with at least 50% perviousness (can be demonstrated through the On-Site Green Infrastructure metric). 	Green and Grey Infrastructure	Mandatory	Planning	Town of Caledon Green Development Standard (2024)
27.	<p>Complete Submission Requirements identified in the Town of Caledon Green Development Standard to meet relevant GDS metric requirements. See Table 3-8 of the Climate Change Adaptation Study report for Submission Requirements.</p>	Green and Grey Infrastructure	Mandatory	Planning	Town of Caledon Green Development Standard (2024)
28.	<p>Explore opportunities to implement additional low impact development (LID) approaches on Site to address stormwater and surface water management and increase the availability of green space.</p>	Green and Grey Infrastructure	Voluntary	Planning	Town of Caledon Resilient Caledon Community Climate Change Action Plan (2021)

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