

Municipality of Clarington



Municipality of Clarington

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Record of Revisions

Revision	Date	Description
0	January 30, 2024	Initial Submission to Municipality of Clarington and
		Farewell Heights Landowners Group
1	November 21, 2024	Final Phase 1 Submission to Municipality of
		Clarington and Farewell Heights Landowners
		Group

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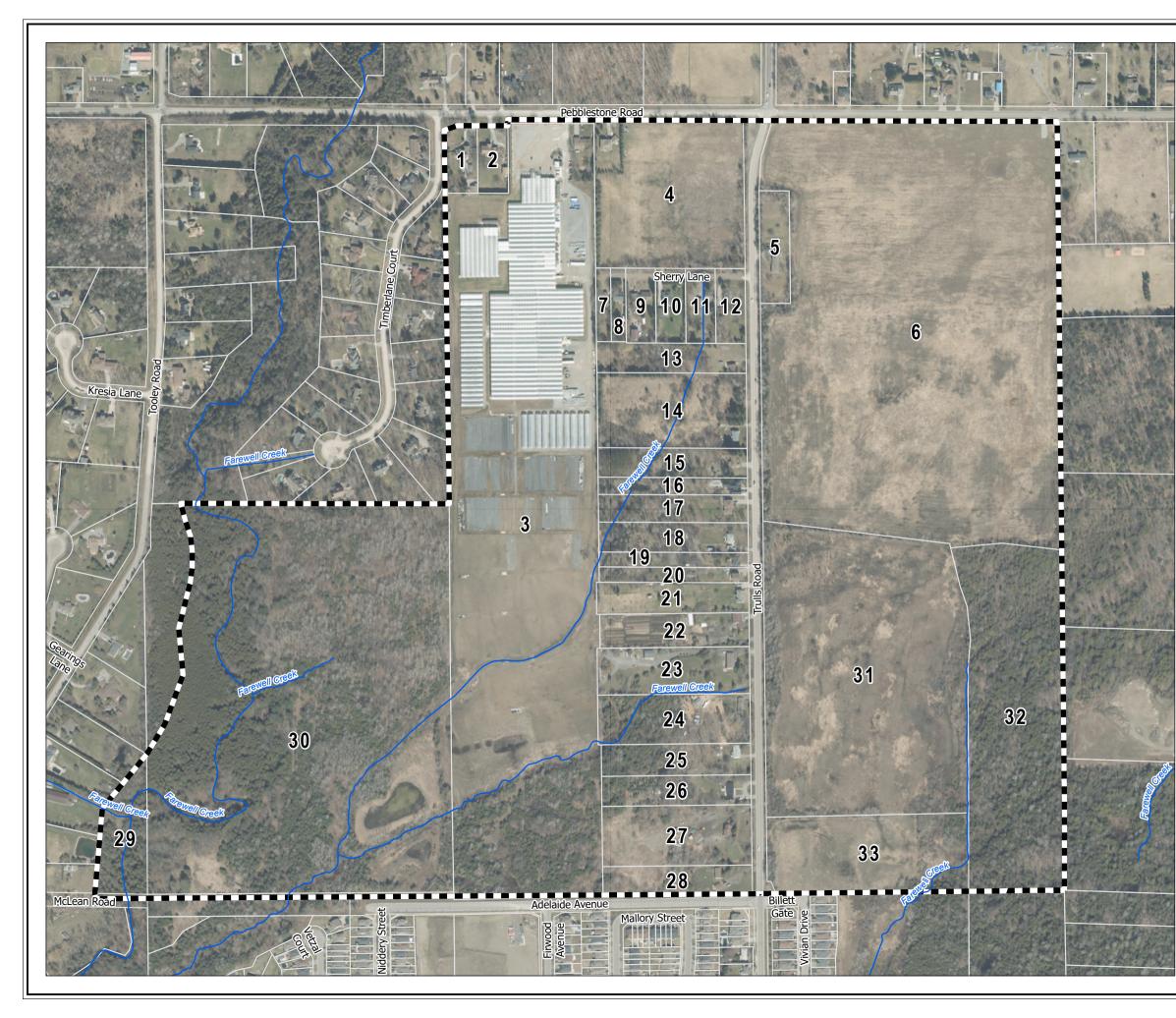
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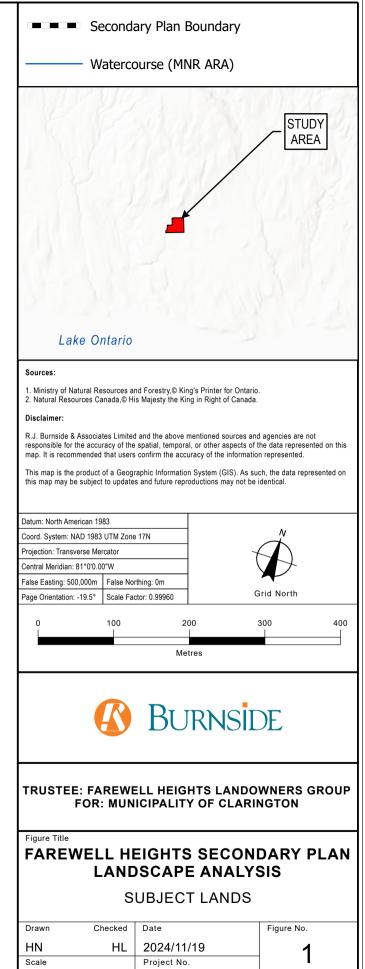
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1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by the Farewell Heights Landowners Group on behalf of the Municipality of Clarington to prepare a Landscape Analysis Report in support of the Farewell Heights Secondary Plan being led by Clarington. The Secondary Plan Area (herein referred to as the "subject lands") is generally located east of Tooley Road, south of Pebblestone Road, west of Courtice Road, and north of the Adelaide Avenue extension in north Courtice in the Municipality of Clarington, Region of Durham (Region). The subject lands are bound by rural residential properties and / or farmland to the north, west and east, and a subdivision to the south. The Secondary Plan Area is approximately 107 ha in size. Location and limits of the Secondary Plans Area are shown in Figure 1.





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2.0 Objective

The primary objective of this Landscape Analysis Report is to highlight the existing conditions of the subject lands and investigate the context of surrounding lands to characterize the existing landscape within the study area. This information will be used to determine the land use level of change that is appropriate within the area. The report describes and evaluates the existing topography, built form and natural features to inform the design of the land use options. The background information summarized in this report will provide a preliminary assessment of opportunities and challenges to development. In general, the purpose of the Secondary Plan will be to provide more detailed direction for the subject lands regarding land uses, transportation, infrastructure, natural heritage, phasing and urban design. The area is anticipated to support residential units with an internal road network, stormwater features and open space features resulting from retained natural features and their buffers. Currently, the subject lands are comprised of a mix of parcel sizes and existing land uses, including large agricultural parcels, smaller residential properties, and a large commercial property (Witzke's Greenhouses Ltd.). The lands also contain several natural heritage features, including significant woodlands and portions of the Harmony-Farewell Iroquois Beach Provincially Significant Wetland (PSW) Complex, three branches of Farewell Creek and associated floodplain.

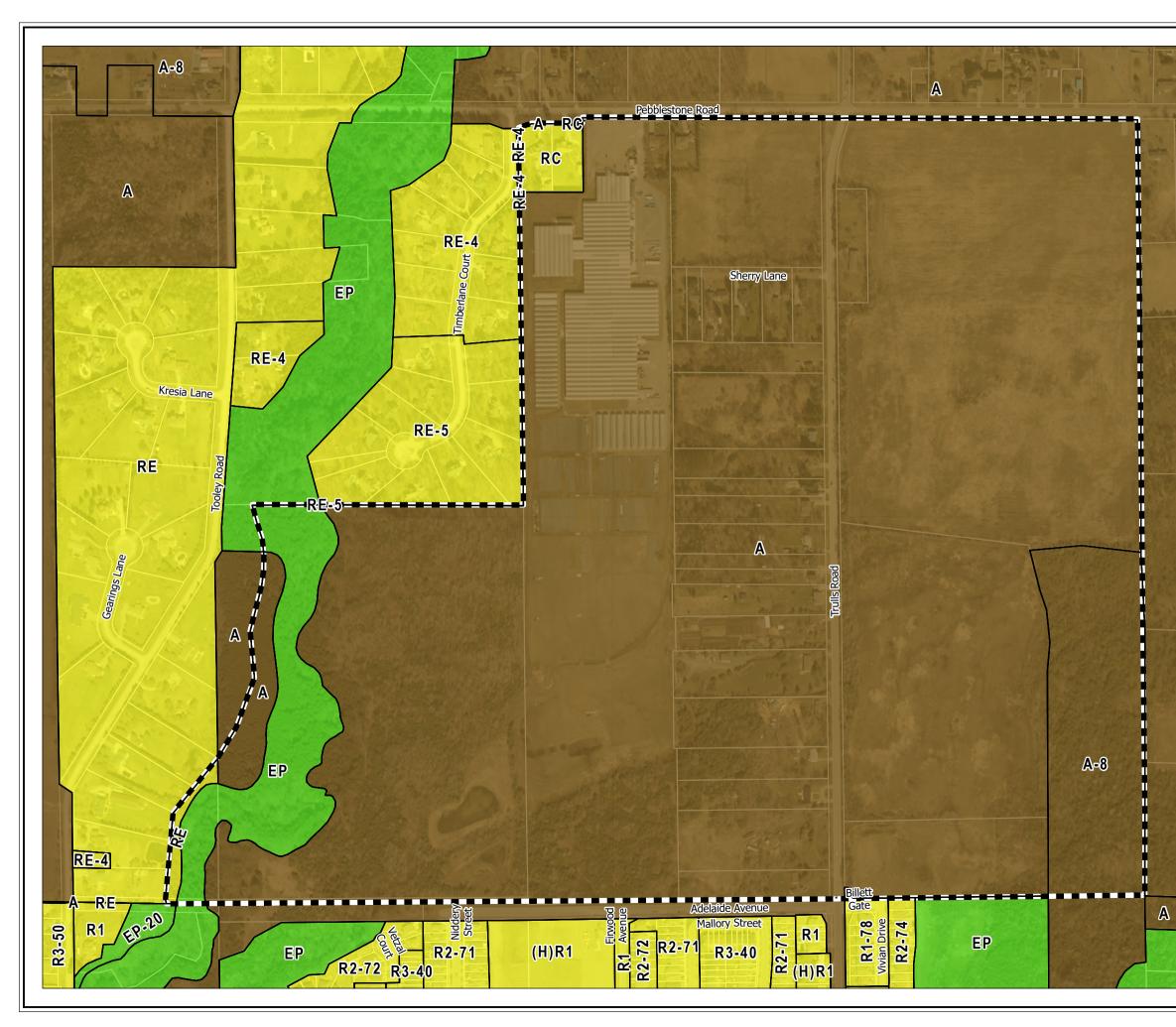
A desktop Landscape Analysis is the review of the existing landform, natural heritage systems, transportation corridors, solar exposure and built form. This Analysis is being completed concurrently with Burnside's Natural Heritage Evaluation (NHE), Existing Conditions Hydrogeology Report and Floodplain Mapping Analysis, prepared under separate covers.

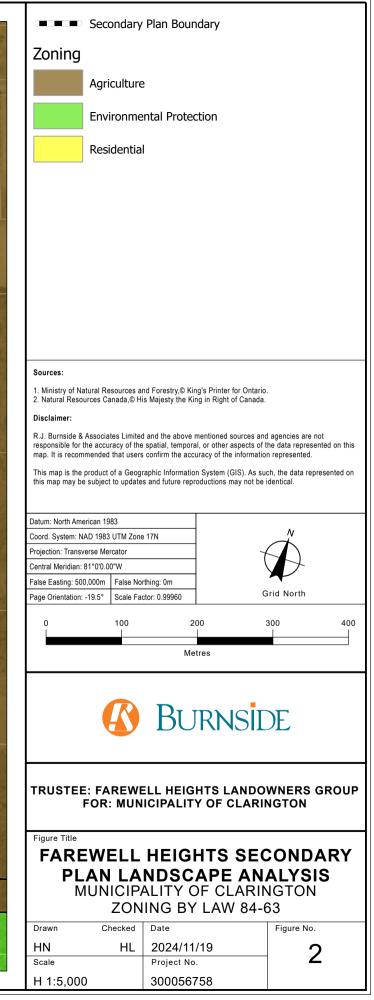
3.0 Background Information

The following background information was gathered, reviewed, and updated, where applicable, to prepare this report, beginning from a larger context to site specifics.

3.1 Land Use

According to Clarington's Official Plan (OP) (2018), the subject lands are within the Urban Boundary and are currently designated as Environmental Protection Area (EPA) and Urban Residential zones as shown in Figure 2. The Natural Heritage System (NHS) is generally coincident with the forest and wetland features onsite and within the EPA but have been further investigated by Burnside ecologists as detailed in the NHE Report (Burnside, 2024), prepared under separate cover. The subject lands are bound by rural residential properties and / or farmland to the north, west and east, and a subdivision to the south.





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Official Plan

Clarington's OP (2018) outlines Clarington's vision for growth and development up to 2051. It includes policies to create urban communities, walkable neighborhoods, and public spaces, while protecting environmental and agricultural lands. The plan is reviewed every five years to ensure compliance with provincial and regional planning documents.

Zoning By-laws

Clarington's zoning by-laws implement the policies of the OP by regulating land use on a day-to-day basis. There are two main zoning by-laws:

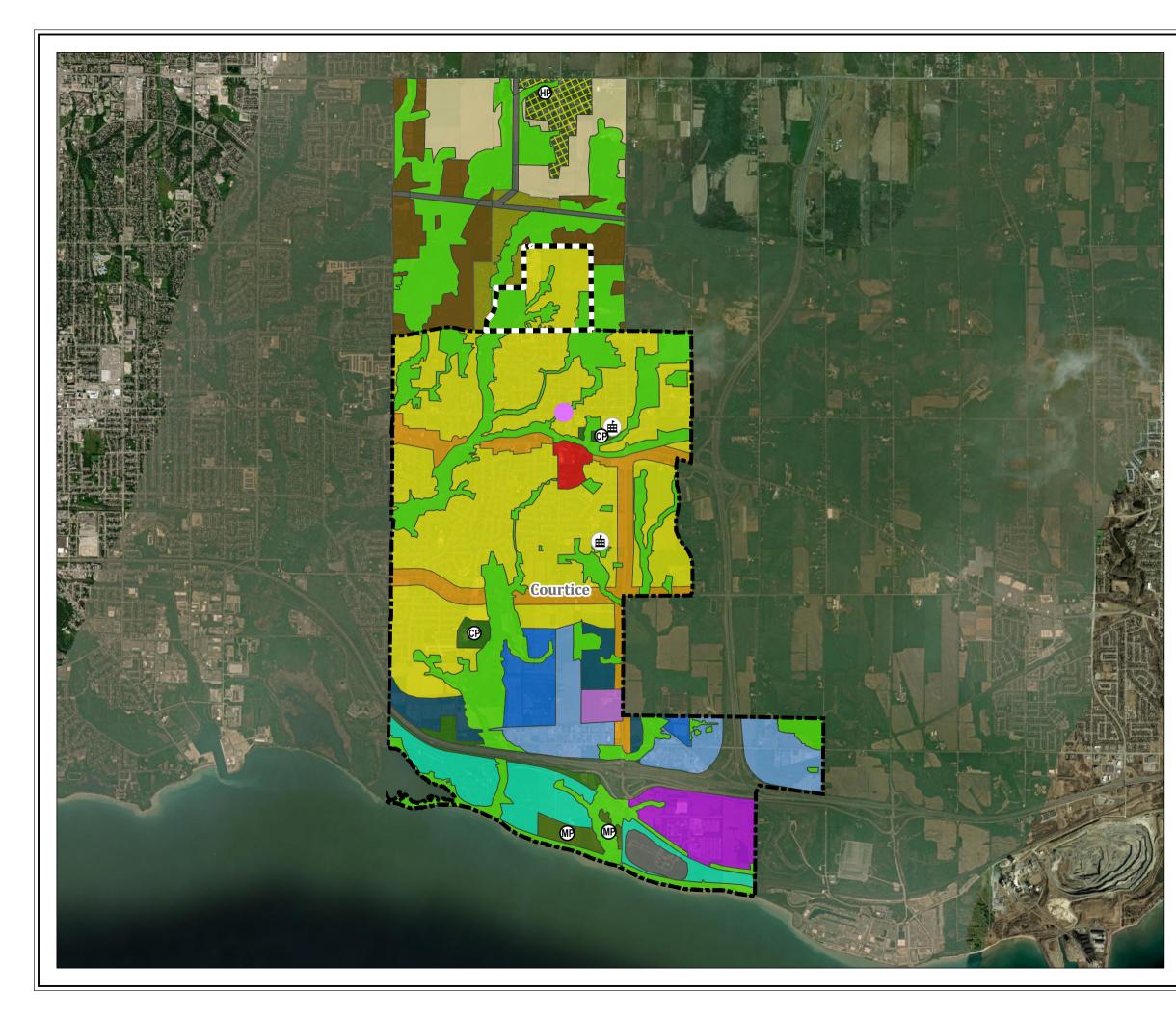
- 1. **Zoning By-law 84-63**: Applies to areas between Lake Ontario and the Oak Ridges Moraine.
- 2. **Zoning By-law 2005-109**: Applies to lands within the Oak Ridges Moraine.

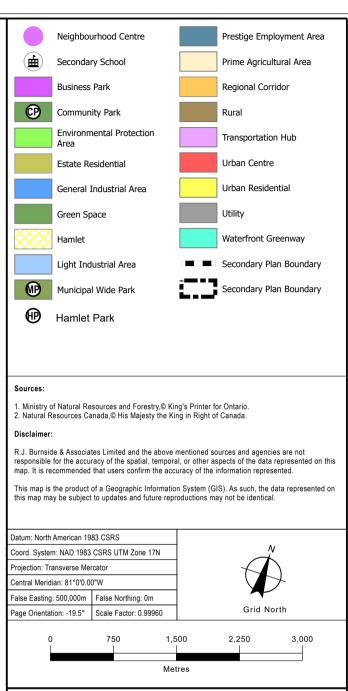
These by-laws control various aspects of land use, including the types of buildings allowed (residential, commercial, industrial), building heights, lot sizes, and other development standards.

Aerial imagery can aid in the collection of Land Use data as well when conducting desktop analyses of project sites. Items that were not picked up on the figure ground drawing but are integral to fully understanding the different land uses on site include the commercial greenhouse and nursery (Witzke's Greenhouses Ltd.). Site access to Witzke's Greenhouse is from Pebblestone Road. The property comprises approximately 12.5 ha of the subject lands. A small-scale nursery is located on the western side of Trulls Road. This property comprises approximately 3.5 ha of the subject lands.

As outlined in the above Zoning section of this report, minimum development can occur within areas designated as EPAs, PSWs, and within any other existing NHS. The subject lands currently have existing development located along Trulls Road. These existing built areas are prime for proposing future residential developments and fall into the general locational criteria as referenced from Clarington's OP (2018),) Table 4-3 as Edge of Neighbourhoods and Adjacent to Arterial Roads. This locational criterion approves ground related residential developments including low-rise apartments, townhouses, semi and fully detached dwellings.

Figure 3 shows the overall land use of the subject lands as depicted from Clarington's OP (2018).







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Figure Title

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3.2 Zoning

Currently, Clarington has two zoning by-laws, with reference to Zoning By-law 84-63. The majority of the subject lands are zoned as Agriculture (A) with a small area at the north-west corner along Pebblestone Road zoned as Residential / Rural Cluster (RC), and a corridor of Environmental Protection (EP) along the western portion and off Tooley Road. For properties directly adjacent to the subject lands, areas are zoned for residential estates to the west and residential hamlet development within Mitchell Corners. Figure 2 outlines the existing zoning footprint per Clarington's zoning schedule maps.

Agricultural zones are approved for certain residential uses as detailed below, properties can include:

- One single detached dwelling
- An additional single detached dwelling utilized by persons employed on the same lands
- For members of the same household
- A converted dwelling containing no more than two dwelling units that are occupied by persons employed on the land
- Final home occupational uses are considered acceptable land uses for properties zoned as Agriculture (A)

Approved non-residential uses include conservation and forestry, farming, wayside pits or quarries. No exemptions currently apply for this zoning category.

Rural cluster zones are a sub-type of Clarington's residential by-law characteristics. Rural cluster zones are approved for single detached dwellings and a home occupation use. No exemptions currently apply for this zoning category.

As stated above, the areas located along the western portion of the subject lands where Farewell Creek flows, is zoned as EP. Environmental protection zones are generally comprised of natural heritage features and hydrologically sensitive features. The subject lands fall within NHS limits of the Harmony-Farewell Iroquois Beach PSW. As stated in Clarington's By-law 84-63, residential land uses are prohibited for development within EPAs. Approved land uses include, greenbelt parks, golf courses, conservation, forestry, bird sanctuaries, wildlife reserves, farms exclusive of buildings or structures, and flood and erosion control work. No exemptions for this area currently apply.

The Region's Woodland Conservation and Management By-law 30-2020 states that woodlands refer to areas that are of one hectare in size or greater and has a minimum density of 1,000 trees of any size per hectare, 750 trees measuring over 5 cm DBH per hectare, 500 trees measuring over 12 cm DBH per hectare, or 250 trees measuring over 20 cm DBH per hectare.

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Clarington's Woodland Preservation By-law 97-35 applies to:

- All lands defined as "woodlots" by Section 2 of the By-law
- Any tree within lands designated EPA on Map A of the Official Plan
- Any tree within 120 m of a wetland as identified on Map C of the Official Plan

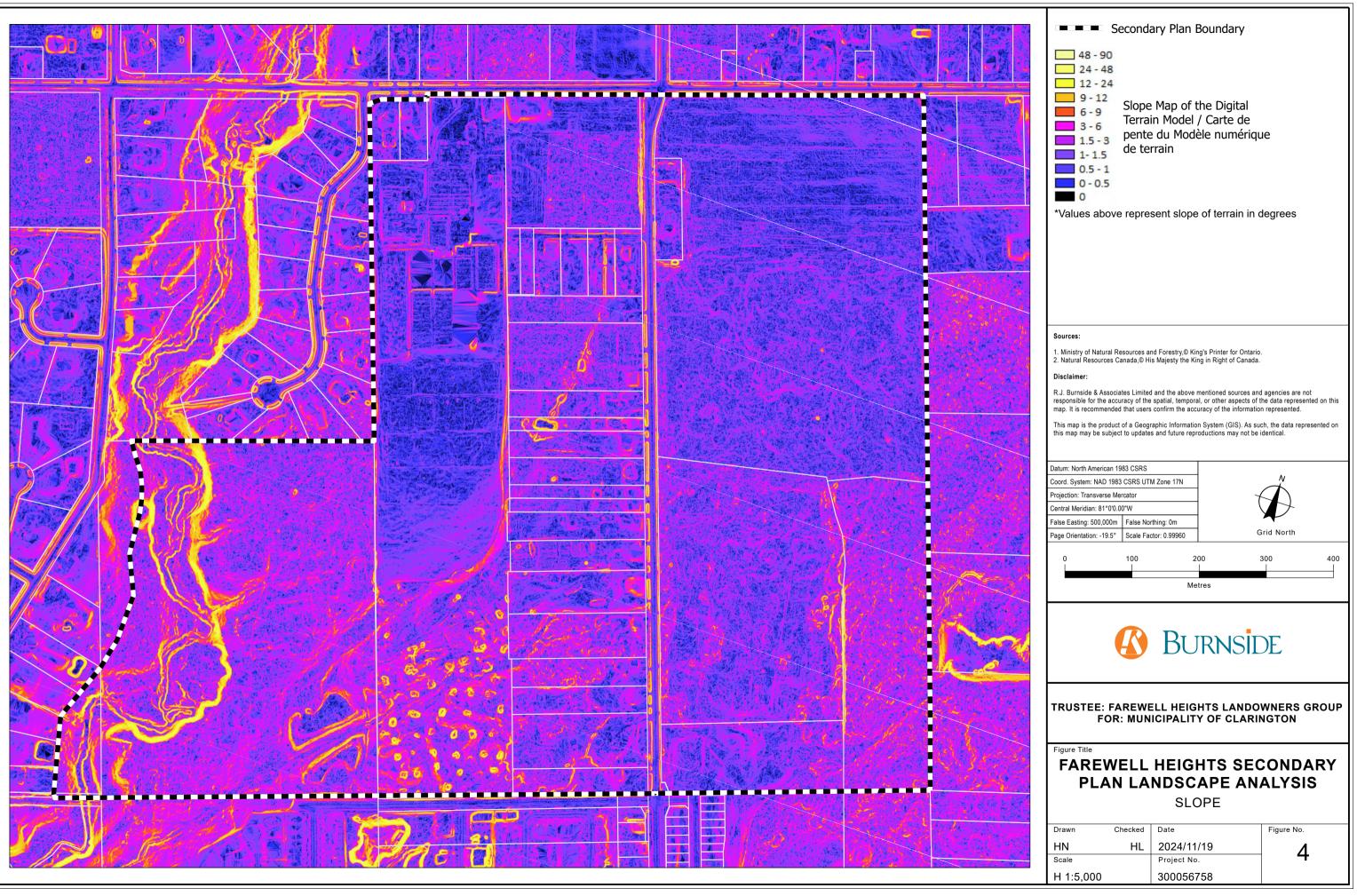
"Woodlots" are defined as an area 0.2 ha in area or greater having not less than:

- 200 trees of any size in a 0.2 ha area
- 150 trees measuring more than 5 cm dbh in a 0.2 ha area
- 100 trees measuring more than 12 cm dbh in a 0.2 ha area
- 50 trees measuring more than 20 cm dbh in a 0.2 ha area

Refer to Figure 2 and Figure 3 for further details regarding Clarington's zoning limits and overall land use for the subject lands per Clarington's Official Plan (2018).

3.3 Slopes and Aspects

The topography on the subject lands is generally gradual with overland drainage towards the tributaries of Farewell Creek. The overland flows are from the north-east corner of the subject lands towards the south-west and the tributaries for all overland conveyance. Figure 4 references the subject areas low points including several seasonal and permanent wetlands within the boundary of the Harmony-Farewell Iroquois Beach PSW. The darker colours of the map (blue and purple) depict the natural higher, leveled areas of the subject lands. These level, more arid areas can be found towards the northern portion of the subject lands just south of Pebblestone Road, as these areas include developments such as single detached houses and commercial establishments. The yellow hues shown in Figure 4 depict the low sloped areas on site. These areas are predominantly located in the south-east portion of the subject lands. Refer to the Floodplain Mapping Analysis Report prepared by Burnside (2024) for further information and data collection regarding floodplain mapping and drainage data.



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3.4 Natural Heritage System

Natural Heritage Systems operate as linkages between natural corridors and are significant in maintaining both biological and geological diversity within ecosystems. The subject lands are located within portions of the Harmony-Farewell Iroquois Beach PSW, a large wetland complex. Along with the wetlands, Farewell Creek (mainstem) flows north-south through the western portion of the subject lands with tributaries running east-west along the subject lands. Farewell Creek (mainstem) and the woodlots abutting the creek are protected within Clarington's NHS designation, as outlined in Clarington's OP (2018) Section 3.4 – Natural Heritage System Map D.

As referenced from the supporting Natural Heritage Evaluation (Burnside, 2024), a comprehensive desktop assessment and investigative field work was completed to review all existing natural heritage information available for the subject lands. Areas within a 120 m radius of the subject lands were reviewed as part of the high-level assessment to identify significant natural heritage features located within, or directly adjacent to the subject lands, that may become impacted by future developments. Through these investigations, Burnside staff documented a range of flora and fauna species on site.

As stated in Clarington's OP Section 14.4.1, EPAs are recognized as the most significant components of Clarington's natural environment. EPAs hold significance as they are often made up of significant natural heritage entities such as marshes, woodlands, wetlands, and meadows which aid in mitigating the effects of natural weather events such as flooding.

3.5 Climate

The existing topography of the subject lands is generally flat, allowing for optimum solar exposure for any proposed new development. The prevailing winds are from the north and north-west in this region. Local climate may be considered in the planning and orientation of built forms to take advantage of summer ventilation and cooling, and the mitigation of snow deposition and accumulation in the winter months.

The Region released a report titled Durham Region's Future Climate (2040-2049) Summary in January 2014. This report summarized the data that they observed regarding the forecasted future climate of each municipality that falls under their jurisdiction. Clarington is forecasted to have minor climate related changes over the next 20 years. The forecasted changes are compared against previously observed weather data from 2000-2009. Annual total precipitation is likely to increase from the 2000-2009 average of 883 mm/year. With the subjected raise in rainfall, recommendations should be made to conserve and enhance the natural heritage features within Clarington to allow for optimal infiltration rates to accommodate this

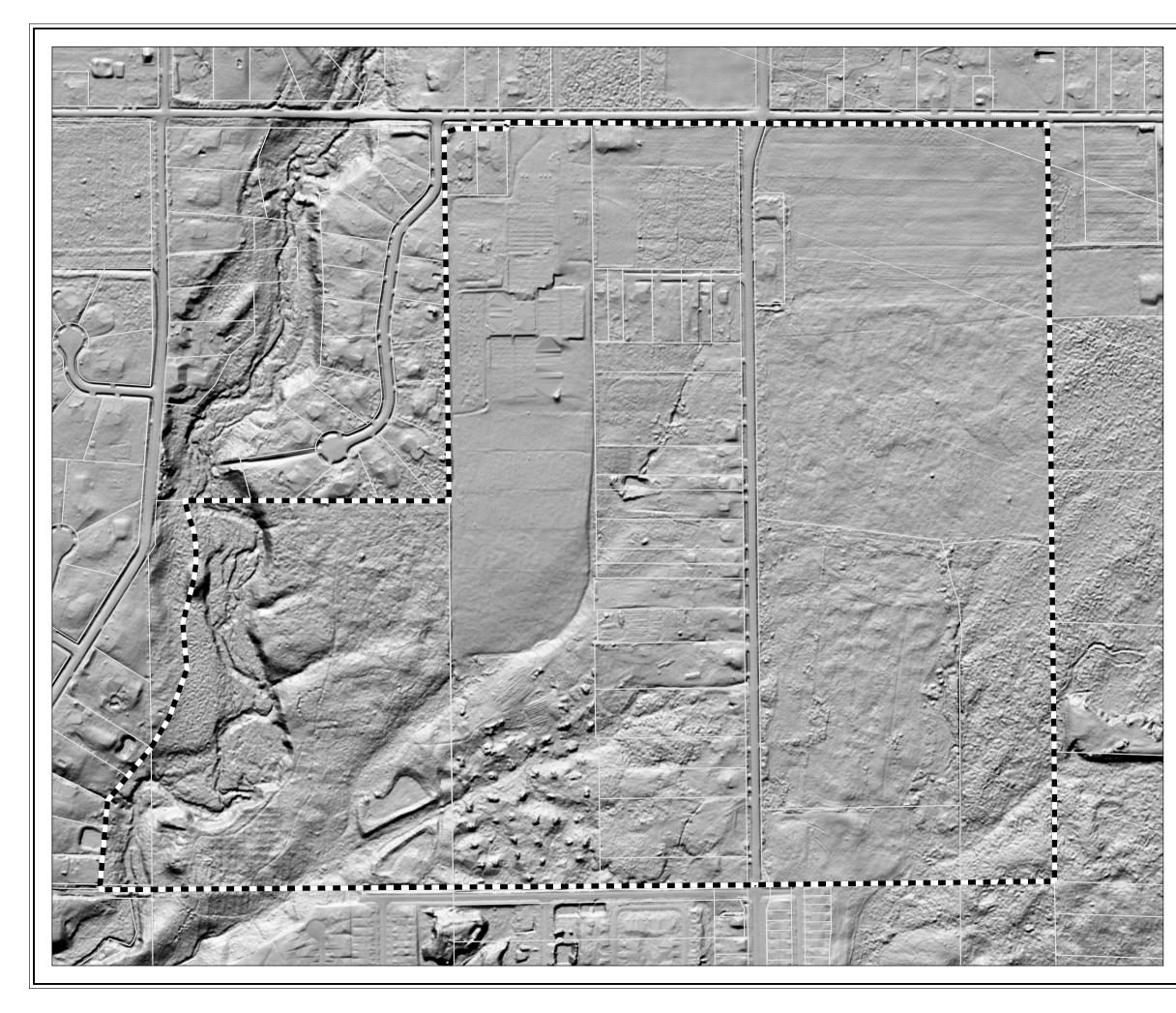
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projected increase. Additionally, in the forecasted climate for the Region and Clarington, temperatures are forecasted to slightly rise.

A microclimate can be described as a small or compact area located within a recognized larger scaled area, that has a notable differing climate to what the average climate of the larger scaled area it is part of. Within the Secondary Plan area, the large woodlands can act as a wind break for heavy prevailing winds that may occur during weather events from the north-north-west portions of the subject lands. The marshes and existing damp low points of the subject lands naturally aid in stormwater management and work to infiltrate at higher rates than is able for a developed area.

Figure 5 outlines the overall shading of the subject lands in comparison to the existing topography.



Secondary Plan Boundary

Sources:

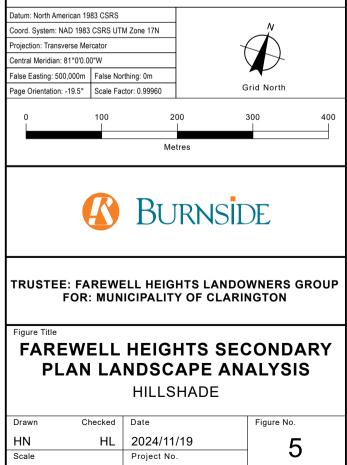
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3.6 Hydrology

According to mapping data sets shared by Central Lake Ontario Conservation Authority's (CLOCA) open data portal outlining information for the *Black / Harmony / Farewell Creeks Watershed – Water Resources Map* (2020), portions of the subject lands are significant for groundwater recharge areas. Additionally, portions of the site are flagged as having a high vulnerability aquifer and an ecologically significant groundwater recharge area. Any area can be considered as a significant groundwater recharge area if the lands infiltrate directly into an aquifer. The recharge areas help to maintain the water levels within aquifers to provide drinking water supply to its neighbouring communities.

Additionally, the subject lands fall within the Farewell Creek subwatershed, helping to drain approximately 3,773 ha. The subwatershed stretches from the headwaters within the Oak Ridges Moraine throughout the Oshawa Second Marsh, and outlets into Lake Ontario. Soil composition throughout the subject lands is generally comprised of silt loam which is known for having moderate infiltration potential. Located along the northern and southeastern boundary of the subject lands are sandy loam soils which have higher infiltration rates with lower runoff potential.

Further information pertaining to floodplain mapping, hydrology and hydraulic models can be found in the Floodplain Mapping Analysis report prepared concurrently by Burnside (2024).

3.7 Built Forms

There are several existing built structures within the subject lands. Many of the developed areas are adjacent to existing roadways. These include Witzke's Greenhouses south of Pebblestone Road, residential units along Pebblestone Road and the west side of Trulls Road. The remainder of the lands are farmland and natural systems, including EPA. Figure 6 depicts the approximate footprints of the existing built forms in white while the black indicates area of undeveloped lands. From this figure, it may appear that the subject lands have a significant amount of land available for development.



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4.0 Summary

This Landscape Analysis report has been prepared in support of the Farewell Heights Secondary Plan being led by Clarington.

The following summarizes the opportunities and challenges for the proposed development in the context of the landscape analysis presented in this report.

Opportunities

- The subject lands are regionally accessible from existing highways, regional and municipal road systems.
- The terrain is relatively flat to support land development.
- The lands are located within existing urban residential neighbourhoods with similar and supportive land uses which provides an opportunity to connect the local community with a variety of housing types.
- Integrate and protect natural heritage features to create a supportive and sustainable focused community (i.e., provide public access to nature via trails, open spaces).

Challenges

- Need to balance urban growth with the protection of existing natural heritage features.
- New roads and other infrastructure to consider the wetland complex and existing watercourse that bisects portions of the subject lands.

5.0 References

Central Lake Ontario Conservation Authority (CLOCA). 2020. Existing Watershed Conditions.

Region of Durham. 2014. Future Climate (2040-2049) Summary.

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