MACAULAY SHIOMI HOWSON LTD.

### PREMIER GATEWAY PHASE 2B SECONDARY PLAN LAND USE COMPATIBILITY STUDY (AIR QUALITY) REVISION 1

PROJECT NO.: WW20101004 DECEMBER 2022



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PROJECT NO.: WW20101004 DECEMBER 2022

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### EXECUTIVE SUMMARY

Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited (Wood) was retained by Macaulay Shiomi Howson Ltd. to prepare a study of the potential for air quality effects associated with the Premier Gateway Phase 2B 'Employment Area' Secondary Plan, hereafter referred to as the Land Use Compatibility Study (Air Quality).

The objective of the study was to assess the Phase 2B proposed development in the context of land use compatibility with the existing sensitive land uses. The scope of this report includes potential air contaminant emissions, nuisance odours, nuisance dust, and light effects; a study of potential noise effects and land use compatibility was prepared under separate cover.

The Ministry of the Environment, Conservation and Parks (MECP) D-6 Guideline "Compatibility Between Industrial Facilities and Sensitive Land Uses" (D-6 Guideline) and the Halton Region Land Use Compatibility Guidelines outline the approach to land use compatibility studies with the intention that the findings may be used for informed municipal planning to prevent, or minimize, issues that may arise from incompatible development. The guidelines specify both the minimum separation distances, and the potential influence areas, in which compatibility issues may arise depending on facility size and nature of operations. The D-6 Guideline assigns a ranking for facilities based upon the potential for effects, ranging from Class 1 (low potential) to Class 3 (highest potential).

The study findings are based upon existing knowledge of the proposed development and the sensitive land uses both within the bounds of the study area and those proximate to the study area that may fall within the potential influence area.

The potential for health or environmental effects associated with the facilities that will be located in the study area would be addressed by provincial permitting and review tools such as Environmental Compliance Approvals, EASR registration, or Environmental Assessments. Odour and fugitive dust are also considered by the MECP, though it may not be explicit.

The *Prestige Industrial Area* would not include Class III facilities which have the highest potential for nuisance effects. It may be prudent to require Class II facilities with the potential for odour or dust effects to prepare land use compatibility studies specific to their operations to determine the actual influence area as the potential influence area cited in MECP's D-6 Guidelines may be overly conservative. This is consistent with the Land Use Compatibility Guidelines published by Halton Region.

The most common land use compatibility issue associated with land development are nuisance effects resulting from the new sources of dust, odour, and light introduced to the study area.

There are measures that can be taken by both the Town of Halton Hills and by the occupants of the new employment area to mitigate these nuisance effects. It is recommended that the requirement to identify, avoid, or mitigate potential nuisance effects be discussed with proposed prestige industrial facilities as part of the site plan approval process or through other mechanisms available to the Region or municipality.

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### 1 INTRODUCTION

WSP E&I Canada Limited (WSP) was retained by Macaulay Shiomi Howson Ltd. to prepare a study of the potential for air quality effects associated with the Premier Gateway Phase 2B 'Employment Area' Secondary Plan, hereafter referred to as the Land Use Compatibility Study (Air Quality).

The objective of the study was to assess the Phase 2B proposed development in the context of land use compatibility with the existing sensitive land uses. The scope of this report includes potential air contaminant emissions, nuisance odours, nuisance dust, and light effects; a study of potential noise effects and land use compatibility was prepared under separate cover.

The proposed Development Area and the Study Area are presented in Figure 1.1.

### 2 LAND USE COMPATIBILITY GUIDELINES

There are provincial and municipal guidance materials published to assist in discussions of land-use compatibility. Of particular relevance to this study are the Ministry of the Environment, Conservation and Parks (MECP) Guideline D-6 and the Halton Region Land Use Compatibility Guidelines.

#### 2.1 ONTARIO MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS

Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses", hereafter referred to as Guideline D-6, was published in 1995 to assist in the land use planning process by preventing or minimizing future land use problems due to encroachment of sensitive land uses and industrial land uses on one another. Rather than taking a regulatory approach, the MECP provides guidance and recommendations as a tool for informed decision making by land use approval authorities.

The MECP recommends air quality studies for noise, dust, and odour be provided by the proponent to the approving authority in support of proposed land use changes. The focus of this study will be identifying the potential for air quality effects from the Premier Gateway Phase 2B 'Employment Area' on sensitive land uses.

Guideline D-6 defines two parameters that are in place to help assess the likelihood of adverse air quality effects from changes in land use:

- Potential influence area areas within which adverse effects may be experienced; and
- Recommended minimum separation distance no incompatible development should occur within this area except where infilling, urban redevelopment, and/or transition to mixed use is taking place.





The definition of Sensitive Land Use is also a key component of the D-6 Guidelines:

"Sensitive Land Use: A building, 'amenity area' or outdoor space where routine or normal activities occurring at reasonably expected times would experience 1 or more 'adverse effect(s)' from contaminant discharges generated by a nearby 'facility'. The 'sensitive land use' may be a part of the natural or built environment. Depending upon the particular 'facility' involved, a sensitive land use and associated activities may include one or a combination of:

- (i) residences or facilities where people sleep (e.g., single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.). <u>These uses are considered to be sensitive 24 hours/day</u>.
- (ii) a permanent structure for <u>non-facility related</u> use, particularly of an institutional nature (e.g., schools, churches, community centres, day care centres).
- (iii) certain outdoor recreational uses deemed by a municipality or other level of government to be sensitive (e.g., trailer park, picnic area, etc.).
- (iv) certain agricultural operations (e.g., cattle raising, mink farming, cash crops and orchards).
- (v) bird/wildlife habitats or sanctuaries."

Guideline D-6 defines three classes of industrial facilities as follows:

• Class I - A small scale, self-contained plant or building with no outside storage that produces and stores a packaged product. There are daytime operations only and infrequent truck movement.

Examples of Class I facilities may be electronics manufacturing and repair, furniture repair and refinishing, small food manufacturing and packaging, and beverage bottling.

• Class II - A medium scale processing or manufacturing facility with outdoor storage, shift work, and frequent truck movements, however movements are predominantly during daytime hours.

Examples of Class II facilities may be commercial printing, surface coatings (paint spray booths or electrostatic painting), and dairy product manufacturing.

 Class III - A large scale processing and manufacturing facility with outdoor storage, large production volumes, open processes, significant probability of fugitive dusts or odours, and continuous movement of products and employees during shift operations. Frequent outputs result in major annoyance and there is high probability of fugitive emissions.

Examples of Class III facilities may be breweries, chemical manufacturing plants, and automotive manufacturing.

MECP recommends that no sensitive land uses occur within the minimum distances and only be allowed within the potential influence area if studies indicate that air quality effects are not likely to be excessive or cause a nuisance. The definition does not reference specific zoning classifications. Though residential zoning would be considered a sensitive use, certain specific uses in other zoning classifications could also be considered sensitive. The key aspect of the definition is that sensitive land uses occur where there can be activities that could be impacted or affected by emissions from the industry.

The potential influence areas and the recommended minimum separation distances for each facility class are provided in the Table 2.1.

Facility Class	Extent of Potential Influence Area (m)	Recommended Minimum Separation Distance (m)	
Class I	70	20	
Class II	300	70	
Class III	1,000	300	

#### Table 2-1: Guideline D-6 Land Use Compatibility Separation Distances by Facility Class

Note: The guideline defines the distance as property line to property line.

#### 2.2 HALTON REGION LAND USE COMPATIBILITY GUIDELINE

The stated goal of the Halton Region Land Use Compatibility Guideline is to identify how municipalities may address land use compatibility issues related to development to minimize the effects of noise, vibration, odour, or air pollution from industrial, transportation, and utility uses on existing land uses. These guidelines support the use of the Potential Influence Area and Recommended Minimum Separation Distances cited in MECP D-6 (Table 2.1).

The Halton Region guidelines are more general than the MECP's Guideline D-6, but do suggest a number of required studies for new Class III industrial facilities proposed near existing sensitive land uses. A provision exists for facilities to prepare a site-specific study by a qualified Professional Engineer to determine the actual influence area based upon specific processes and activities, to support land use compatibility. The actual influence area may be smaller than the potential influence area stipulated.

An Industrial Facility Classification Table is provided in Appendix 3 of the Halton Region guidelines that provides specific criteria to be used to categorize an industrial facility as Class I, Class II, or Class III.

### **3** GEOGRAPHIC CONTEXT

The Premier Gateway Phase 2B covers a parcel of land with an area of approximately 257 hectares (635 acres) and is located north of Steeles Avenue, between Eighth Line and Winston Churchill Boulevard. The Premier Gateway Phase 2B 'Employment Area' is strategically located along the Hwy 401 and 407 ETR and to the east of the Phase 1B 'Employment Area'. Figure 3.1 below outlines the preferred land use concept for Phase 2B, including the Prestige Industrial Area indicated in purple. The Prestige Industrial Area of the proposed Premier Gateway Phase 2B development will not include Class III facilities.

The majority of the lands are currently held under corridor protection to accommodate the GTA West Corridor, a provincial highway corridor extending from Highway 400 in the Regional Municipality of York to the vicinity of the Highway 401/407 ETR interchange in the Regional Municipality of Halton.

The Study Area includes the Sixteen Mile Creek and Credit Valley Conservation Watersheds, agricultural lands, the Toronto Premium outlets, Highways 401 and 407, various residences and light commercial and industrial operations.



![](_page_12_Picture_1.jpeg)

![](_page_12_Picture_6.jpeg)

![](_page_12_Picture_8.jpeg)

![](_page_12_Figure_10.jpeg)

![](_page_12_Picture_11.jpeg)

#### 3.1 IDENTIFICATION OF SURROUNDING SENSITIVE RECEPTORS

#### Sensitive Land Uses

There are a number of residential dwellings, community lands, commercial uses, and institutions in the vicinity of the study area. It is these sensitive land uses that may result in land use compatibility issues related to air quality and noise, depending upon the separation distance and the nature of the emissions.

Within the study area the following sensitive land uses are noted:

- Residential lots along Steeles Avenue, and on Eighth Line, Ninth Line, Tenth Line, and Winston Churchill Boulevard;
- Hope Place Centre, a residential addiction treatment facility; and
- Agriculture and dairy farming (former), characterized as an area in transition.

There are also two sites within the Study Area that are listed on the Town's Heritage Registry but are not designated under the Ontario Heritage Act. A full list of sensitive land uses within a maximum influence area of 1,000 metres (m) from the property line of the study area is included in Appendix A.

The surrounding sensitive land uses, as well as other commercial and institutional uses are presented in Figure 3-2.

#### 3.2 OTHER LAND USES

The following are large facilities and operations that would discharge air contaminants and potentially influence ambient air quality in the Study Area:

#### Maple Lodge Farms Ltd.

Maple Lodge Farms Ltd. (MLF) operates a poultry processing facility located at 8301 Winston Churchill Boulevard in Brampton, within 1,000 m of the east boarder of the Study Area. As a Class III facility, Maple Lodge Farms Ltd. operates under an Environmental Compliance Approval that demonstrates compliance with the standards of Ontario Regulation 419/05 including meeting POI standards at or beyond the property line. The activities at MLF have the potential to generate odours, with the potential for odour effects beyond the facility fenceline.

The 2019 total annual air releases from Maple Lodge Farms Ltd., as reported to the National Pollutant Release Inventory (NPRI), are summarized in Table 3.1.

The MLF facility is presented relative to the Development Area in Figure 3-3, which presents the section of the Development Area that lies within 1000 metres of the MLF property.

Contaminant	2019 Total Air Release (tonnes)
Particulate Matter PM <sub>2.5</sub>	3
Particulate Matter PM <sub>10</sub>	25
Total Particulate Matter	98
Volatile Organic Compounds	70
Carbon Monoxide	5
Nitrogen Oxides, as NO <sub>2</sub>	10
Sulphur Dioxide	-

#### Table 3-1: Maple Lodge Farms Ltd. NPRI Reported Air Releases

#### TransCanada Energy Ltd. - Halton Hills Generating Station (HHGS)

This facility is a 683-megawatt natural gas- fired power plant located within 1,000 m of the southwestern corner of the Study Area at Steeles Ave and Sixth Line. It has been in service as of September 2010. The contaminants emitted include particulate matter, nitrogen oxides (NO<sub>X</sub>), carbon monoxide, sulphur dioxide (SO<sub>2</sub>), and some volatile organic compounds (VOCs) created during the combustion of natural gas.

Although proximate to the Study Area, the HHGS has tall stacks on the emission points and completed air quality assessments as part of the Class Environmental Assessment and to obtain the Environmental Compliance Approval to operate. These works would require HHGS to demonstrate compliance with the standards of Ontario Regulation 419/05 including meeting point of impingement (POI) standards at or beyond the property line. The air emissions from HHGS should not affect development in the Study Area unless elevated receptors are introduced such as multi-storey buildings.

The 2019 total annual air releases from HHGS, as reported to the National Pollutant Release Inventory (NPRI), are summarized in Table 3.2.

Contaminant	2019 Total Air Release(tonnes)
Particulate Matter PM <sub>2.5</sub>	2
Particulate Matter PM <sub>10</sub>	2
Total Particulate Matter	2
Volatile Organic Compounds	6
Carbon Monoxide	49
Nitrogen Oxides, as NO2	138
Sulphur Dioxide	0.3

#### Table 3-2: Halton Hills Generating Station (HHGS) NPRI Reported Air Releases

#### **ROXUL Inc.**

ROXUL Inc. (ROXUL) operates a mineral wool insulation manufacturing facility at 805 Steeles Avenue East in Milton, 5 km west of the Study Area. An example of a Class III facility, ROXUL operates under an Environmental Compliance Approval that demonstrates compliance with the standards of Ontario Regulation 419/05 including

meeting POI standards at or beyond the property line. The air emissions from ROXUL Inc. should not affect development in the Study Area.

The 2019 total annual air releases from ROXUL, as reported to the National Pollutant Release Inventory (NPRI), are summarized in Table 3.3.

Contaminant	2019 Total Air Releases (tonnes)
Ammonia	126
Particulate Matter PM <sub>2.5</sub>	49
Particulate Matter PM <sub>10</sub>	49
Total Particulate Matter	49
Volatile Organic Compounds	41
Sulphur Dioxide	648
Carbon Monoxide	74
Nitrogen Oxides, as NO2	95

#### **Table 3-3: ROXUL NPRI Reported Air Releases**

#### **Other Permitted Facilities**

A review of the MECP's Access Environment portal showed one other facility in the Study Area with an air permit; Re-Flex 2000 Incorporated, at 729 Eighth Line, operates a garment design facility with heat transfer. Emissions from this operation are expected to be minor.

In the vicinity of ROXUL are a number of industrial and commercial facilities that are mainly Class I and II, and would not result in air quality effects at this distance.

#### **Pits and Quarries**

There are two quarries operated by Dufferin Aggregates located approximately 10 kilometres (km) to the west between Hwy. 25 and Sixth Line, one active pit on the north side of Hwy. 401 between Appleby Line and Guelph Line, and one Class A License near the active pit that is currently vegetated and is traversed by a hydro transmission line. Given the distance, these are unlikely to have an impact on the Study Area.

#### Commercial

Directly to the south of the Study Area are the Toronto Premium Outlets along Steeles Avenue. This complex would be a minor source of criteria air contaminants from natural gas combustion for heating purposes, and potential light effects from signage and lighting.

#### Infrastructure

Transportation sources (roads, rail) are sources of Criteria Air Contaminants from vehicle tailpipe emissions, as well as light effects. Highway 401 and Highway 407 currently pass through the Study Area. The proposed GTA West Corridor would connect to these highways at ramps constructed between Winston Churchill Boulevard and Trafalgar Road, and within the study area.

There is a rail corridor approximately 800 metres south of the study area, at which setback distance air quality effects are not expected.

![](_page_16_Figure_0.jpeg)

![](_page_17_Picture_0.jpeg)

### 4 POTENTIAL AIR QUALITY EFFECTS

#### 4.1 AIR POLLUTANTS

With few exceptions, facilities that discharge pollutants to the atmosphere would be required to either obtain an ECA or register their activities to the EASR. It should be noted that as of January 2017 the list of facilities that are subject to the EASR requirements and registration increased significantly with the introduction of Ontario Regulation (O.Reg.) 1/17.

In all cases, a facility must ensure that the discharge to the atmosphere does not contravene the Environmental Protection Act (EPA) and does not result in an adverse effect off-property. This would require facilities to demonstrate compliance with all air quality standards of Regulation 419/05. Irrespective of which approach is required by the facility, it will still be necessary for the facility to comply.

#### 4.2 NUISANCE EFFECTS

The potential for nuisance effects must be considered when industrial facilities are sited proximate to residences or other sensitive land uses. The most common air quality nuisances are odour and fugitive dust. In addition, attention should be given to potential light pollution effects on sensitive land uses. Municipal by-laws under the *Municipal Act* can assist municipalities in addressing nuisance effects during the land use compatibility planning process. Section 129 provides municipalities with the authority to develop by-laws in response to noise, vibration, odour, dust, and outdoor illumination.

#### Odour

Odour has a high potential to become a nuisance to people that live near industrial facilities, or those that frequent sports fields, community centres, or other sensitive land uses. What prompts odours to be a nuisance varies widely from person to person, as there are varying degrees of sensitivity and opinions about what is considered offensive. Five factors that contribute to odour nuisance have been defined to help deal with the complex and subjective nature of odours. These are referred to as the FIDOL factors, and consist of:

- Frequency how often odour is detected;
- Intensity how strong is the odour;
- Duration are odours very brief or are episodes lengthy;
- Offensiveness the hedonics or descriptors (putrid, solvent, etc.); and
- Location is someone present to smell the odour.

All five of the FIDOL effects contribute to the likelihood that odours may become a nuisance and affect the enjoyment of the use of property. If odour effects are frequent, lengthy, and offensive, nuisance effects and complaints are more likely than if there are infrequency odours, or if the odours are characterized as 'good' smells such as cookies, bread, or candy operations.

The MECP has drafted the Guideline to Address Odour Mixtures in Ontario which can be utilized in the compatibility study to determine the likelihood of causing an adverse effect, and the best approach to manage that risk. Outcomes from the study can range from no further assessment required, to the requirement of a minimization/mitigation plan. This Guideline can also be utilized by municipalities in addressing nuisance effects through by-law regulations.

#### **Fugitive Dusts**

Fugitive dust generally refers to dust generated from open sources that is not captured and discharged to the atmosphere from a point source (a stack). Common sources of fugitive dust include unpaved roads, aggregate storage piles, and heavy construction operations, although there may be other site-specific sources such as crushing, screening, and material handling.

It is the larger size fractions of particulate matter, namely total suspended particulates (TSP) and particulates less than 10 micron in diameter (PM<sub>10</sub>) that constitute the nuisance fugitive dusts through dust deposition and visibility impairment. The smaller respirable particle PM<sub>2.5</sub> size fraction is of greater concern with respect to health and usually is emitted from combustion activities including vehicular tailpipe and diesel engine exhaust. It is emphasized that that these particle size fractions are not separate compounds, nor are they additive. The smaller particle sizes are a subset of the large particulate matter size fractions.

The MECP has set criteria for airborne dust, the Ambient Air Quality Criteria (AAQC). For fugitive dusts, it is the coarse particles that are most relevant. For suspended particulate matter the AAQC is 120  $\mu$ g/m<sup>3</sup> based upon potential effects on visibility over a 24-hour period. PM<sub>10</sub>, which includes smaller particles that may be inhaled, currently have an interim-AAQC of 50  $\mu$ g/m<sup>3</sup> for the 24-hour averaging time. For the respirable particulate fraction PM<sub>2.5</sub>, its 24-hour AAQCs and Canadian Ambient Air Quality Standards are 27  $\mu$ g/m<sup>3</sup> to be protective of human health. PM<sub>2.5</sub> is associated with fossil fuel combustion from stationary heating and power and transportation sources.

The assessment of fugitive dust effects is not required for all facilities to obtain an ECA or register to the EASR, however fugitive dusts must be prevented or minimized. Maintaining a setback distance equal to, or greater than, the Minimum Separation Distances (MSD) described in Guideline D-6 can help prevent nuisance dust effects.

Where there are outdoor stockpiles, unpaved areas, or material handling activities that may be a source of dusts, a Fugitive Dust Control Plan or Best Management Practices Plan (BMPP) is an effective management tool, with a framework provided in the MECP *Technical Bulletin: Management Approaches For Industrial Fugitive Dust Sources*.

#### Lighting

The development in the Study Area may affect ambient light conditions. Light pollution is not limited to Class II or III facilities. Class I facilities, parking area lighting, as well as new or modified street lighting, may be a nuisance to neighbours.

The potential effects associated with the following three aspects of light pollution are considered in the assessment of light effects:

- Light intrusion or light trespass of unwanted light onto adjacent properties;
- Timing of lighting; and
- Light intensity, spectrum, clutter, and glare.

Since the Study Area is not located near a dark sky site, as designated by the Royal Astronomical Society of Canada or other organization, and is proximate to urban centres, light pollution is considered a potential nuisance effect if the artificial light is excessive, obtrusive, or misdirected.

The addition of lighting in the development would alter the current light patterns, particularly to the north, east, and west where there currently is minimal street lighting and the residences are set back from developed areas.

There are no guidance materials specific to light pollution assessment published by the MECP. Lighting plans and design are generally considered through site plan controls and approval processes.

#### 4.3 TRANSPORTATION EFFECTS

Vehicular traffic and rail corridors are sources of Criteria Air Contaminants. The introduction of new Prestige Industrial land uses will increase car and truck volumes on roads within the Study Area. There is also the potential for fugitive dusts associated with road silt.

A traffic assessment was completed by Paradigm Transport Solutions to forecast truck traffic demands, with the findings summarized in Table 4.1. The assessment is based on the assumption that the proposed development would be limited to Prestige Industrial facilities, assumed to be Class I and Class II facilities according to the Guideline D-6 criteria.

Period New Trips		Trips In	Trips Out
Weekday AM 141		89	53
Weekday PM 199		121	76
Saturday	31	21	9

#### Table 4-1: Estimated Trucking Traffic Demands for the Premier Gateway Phase 2B Development

Reference: PTSL 2021

### 5 LOCAL METEOROLOGICAL DATA AND BACKGROUND AIR QUALITY

Local weather patterns play an important role in air quality. Parameters such as wind speed, wind direction, and precipitation affect the degree and extent of dust impact in a given area. Weather stations are located in various parts of the province collecting data which, in most cases, are publicly available.

For the Study Area, the Environment and Climate Change Canada (ECCC) climate normals and hourly meteorological data from the Toronto INTL A station (Climate ID:6158731) was determined to be representative of local conditions, at a distance of approximately 20 km northeast of the Study Area.

#### 5.1 WIND SPEED, WIND DIRECTION, AND CLIMATE DATA

Local weather conditions may contribute to land use incompatibility. Wind direction dictates the frequency at which sensitive lands are downwind of industrial sources, while wind speed, temperature, and relative humidity affect how far odours or particulate matter is carried off-site and how well it is dispersed before reaching sensitive land uses. There are no significant natural terrain features that may influence local winds, and buildings are generally less than two stories.

A five-year climate data set (2016 to 2020) for Toronto Pearson Airport was used as representative of local weather. A review of the climate normals generated for the past 50 years suggest that there have been minor changes in average wind speeds measured at Toronto Pearson, however the maximum wind gusts are higher in the more recent data set, particularly during the summer months. Discussions of wind direction consider the cardinal directions based upon true north.

A wind rose is a useful figure in discussing wind speed and wind direction. It depicts the relative frequency of wind direction on a 16-point compass (with north, east, south, and west directions going clockwise) whose value is listed adjacent to each of the compass points. Each ring on the wind rose represents the frequency of time wind is blowing from any particular direction (i.e., the longest wind rose petals represent the direction the wind is blowing from most often within a certain speed range). A wind rose prepared using five years of weather data from Toronto Pearson Airport is provided in Figure 5.1. Figure 5.2 details the seasonal variation in wind direction and speed for the same data set.

The summer months are generally the most common months that nuisance complaints are received. During these months, the prevailing winds are from the north, west, and south-southeasterly quadrants.

Precipitation, relative humidity, and temperatures may also influence the transport of air pollutants and the location of nuisance effects. However, without specific information on the location of the emissions source or the use of dispersion modelling, any predictions on how these weather parameters would affect local air quality are limited. In general, hot weather combined with low wind speeds and dry periods during the summer months tend to result in the most significant nuisance effects. This is worsened by the fact that people spend much more time outdoors during the summer months and are more likely to be inconvenienced by any potential impacts.

At the current level of detail available for the development, meaningful discussion about how wind direction may influence nuisance effects is not possible. On-site observations and discussion about wind direction relative to facilities and receptors is appropriate at the detailed site-specific study phase. Additionally, information can be requested from the MECP on complaints from the public within the vicinity of the study area on dust and odor for the site-specific study phase.

![](_page_22_Figure_0.jpeg)

Figure 5-1: Wind Direction and Speed (Toronto Pearson Wind Rose)

![](_page_23_Figure_0.jpeg)

![](_page_23_Figure_1.jpeg)

![](_page_23_Figure_2.jpeg)

#### 5.2 BACKGROUND AMBIENT AIR QUALITY

#### 5.2.1 AIR ZONE AND TRANSBOUNDARY AIR POLLUTANTS

The Canadian Council of Ministers of the Environment established the Air Quality Management System with a mechanism for air zone management by delineating smaller geographical areas within each province or territory. Ontario has delineated the province into three Air Zones:

- Zone 1 Areas with limited pollution from either point or non-point sources or transboundary influence; where the air quality management activities are focused on maintaining good air quality. Included in this Zone is the majority of Northern Ontario.
- Zone 2 Areas under pressure from multiple sources including some or all of the following: non-point sources, smaller point sources, individual large industrial point sources, transboundary influences; where air quality management activities are focused on multiple broad-based initiatives targeting many sources. This Zone includes most of Southern Ontario, including the Study Area, Sudbury, and Sault. Ste. Marie.
- Zone 3 Areas with a concentration of large industrial sources; where air quality management activities are focused on the abatement of local industrial emissions as well as non-industrial sources. This Zone includes the City of Hamilton and the Sarnia area.

The Study Area is located in Zone 2, however it is near enough to the City of Hamilton that under southwesterly winds the air quality may be influenced by sources there; these effects would be similar at the Brampton, Guelph, and Milton MECP air monitoring stations and likely reflected in the background monitoring data presented in Section 4.2.3.

Transboundary influences are also expected, notably from the Ohio Valley to the southwest. About half of the nitrogen oxides and VOCs that form smog in southern Ontario originate in the United States Midwest and are carried by prevailing winds through the Ohio Valley (www.ec.gc.ca) to the north-east. Fine particulate matter (PM<sub>2.5</sub>) is also affected by transboundary sources (Giovanni et al, 2009). Note that both primary and secondary particulate matter may have transboundary contributions; primary particulate matter is released directly from tailpipes and industrial processes, and secondary particulate matter is formed in the atmosphere due to the presence of precursor gases such as SO<sub>2</sub>, NO<sub>x</sub>, and VOCs.

#### 5.2.2 AMBIENT AIR QUALITY MONITORING DATA

Local air quality may be influenced by anthropogenic sources located proximate to the Study Area, which may not be monitored at the MECP Air Quality stations in Brampton, Guelph, or Milton such as the local industries identified in Section 3.2 and the interchange of two major highways, Hwy. 401, and Hwy. 407.

The 2006 Clarkson Airshed Study included air monitoring stations located proximate to the QEW/403 junction, which is similar to the Study Area location in relation to the Hwy 401 and 407 interchange. The study concluded that vehicular traffic along major roadways contributed measurably to elevated PM<sub>2.5</sub>, NO<sub>2</sub>, and NO, and decrease by up to 75 to 80% at a distance of 300 m from the roadways. While the southeastern portion of the Study Area is within 300 m of the Hwy 401 and 407, the background concentrations measured at Brampton, Guelph, and Milton should be considered reasonable estimates of the Study Area ambient air quality as the area is otherwise

surrounded by rural land uses; further, the Brampton, Guelph, and Milton air monitoring sites also have arterial roadways nearby.

The Guelph and Brampton ambient air quality monitoring data collected by the MECP for PM<sub>2.5</sub> and NO<sub>2</sub> was reviewed, and it was found that for 2017 to 2021, with a very limited number of exceptions, the 24-hour average concentrations were well below the respective criterion. The ambient air quality monitoring station located in Milton was only commissioned in 2018, therefore only a 3-year dataset was collected from 2019-2021. The MECP data from the Milton monitoring station from 2019-2021 was reviewed, and similarly to the Guelph and Brampton station data, with a very limited number of exceptions, the 24-hour average concentrations were well below the respective criterion. For PM<sub>2.5</sub>, the 24-hour averages were compared to the Canadian Ambient Air Quality Standard (CAAQS) of 27 µg/m<sup>3</sup>, and the NO<sub>2</sub> was compared to the AAQC of 100 ppb and the 1-hour average was compared to the CAAQS. This is indicative of air quality that is not under more stress when compared to stations in other parts of southern Ontario that record notably higher PM<sub>2.5</sub> and NO<sub>2</sub> concentrations. A summary of the statistical averages for the air quality data from the Brampton, Guelph, and Milton monitoring stations for NO<sub>2</sub> and PM<sub>2.5</sub> compared to the relevant AAQC and CAAQS standards is presented in Table 5-1. The data is presented in Figures 5.3 to 5.8 as box and whisker plots by month. This is a useful depiction of the monitoring data as the boxes show the 25<sup>th</sup> and 75<sup>th</sup> percentiles; the 'x' indicates the average value, and the whiskers show the maximum and minimum measured concentrations. Outliers are indicated by the plots outside of the box and whisker figures.

There are no  $PM_{10}$  data from monitoring stations in reasonable proximity to the Study Area, therefore the  $PM_{10}$  concentration was estimated based upon an assumed  $PM_{2.5}/PM_{10}$  ratio of 0.54 (Lall et.al. 2004). Similarly, there is no TSP data from monitoring stations in reasonable proximity to the Study Area, therefore the TSP concentration was estimated based upon an assumed  $PM_{2.5}/TSP$  ratio of 0.30 (Lall et.al. 2004).

		24-Hour Averaging Time			1-Hour Averaging Time			
Air Contaminant	Station	Measured	Ontario Ambient	Canadian Ambient	Measured	Ontario Ambient	Canadian Ambient	
	Location	Concentration -	Air Quality	Air Quality	Concentration –	Air Quality	Air Quality	
		Average	Criterion AAQC	Standard CAAQS	90 <sup>th</sup> Perceintile	Criterion AAQC	Standard CAAQS	
Nitrogen Dioxide NO <sub>2</sub>	Brampton	7.6 ppb			18 ppb			
	Guelph	5.5 ppb	100 ppb	—	11 ppb	200 ppb	60 ppb	
	Milton	8.2 ppb			18 ppb			
Fine Particulate Matter	Brampton	7.0 μg/m³			_			
PM <sub>2.5</sub>	Guelph	7.2 μg/m³	27 μg/m³	27 μg/m³	_	_	_	
	Milton	7.4 μg/m³			—			
Inhalable Particulte	Brampton	13.0 μg/m³			_			
PM <sub>10</sub> <sup>2</sup>	Guelph	13.3 μg/m³	50 μg/m³	—	_	_	—	
	Milton	13.7 μg/m³			_			
Suspended Particulate	Brampton	23.3 μg/m³			—			
SP or TSP <sup>3</sup>	Guelph	24.0 μg/m³	120 μg/m³	—	_	_	—	
	Milton	24.7 μg/m³			_			

#### Table 5-1: Summary of Background Ambient Air Quality Data

Notes:

1 24-hour concentrations were averaged over a 5-year period from 2017-2021 for the Brampton and Guelph data, and a 3-year period from 2019-2021 for the Milton data.

2 PM<sub>10</sub> data is not available from monitoring stations in reasonable proximity to the study area, therefore the PM<sub>10</sub> concentration was estimated based upon an assumed PM<sub>2.5</sub>/PM<sub>10</sub> ratio of 0.54 (Lall et.al. 2004).

3 TSP data from monitoring stations in reasonable proximity to the Study Area, therefore the SP concentration was estimated based upon an assumed PM<sub>2.5</sub>/TSP ratio of 0.30 (Lall et.al. 2004).

![](_page_27_Figure_0.jpeg)

Figure 5-3: Background PM<sub>2.5</sub> Concentrations at MECP Guelph

![](_page_27_Figure_2.jpeg)

#### Figure 5-4: Background PM<sub>2.5</sub> Concentrations at MECP Brampton

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![](_page_28_Figure_0.jpeg)

#### Figure 5-5: Background PM<sub>2.5</sub> Concentrations at MECP Milton

![](_page_28_Figure_2.jpeg)

#### Figure 5-6: Background NO<sub>2</sub> Concentrations at MECP Guelph

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![](_page_29_Figure_0.jpeg)

#### Figure 5-7: Background NO<sub>2</sub> Concentrations at MECP Brampton

![](_page_29_Figure_2.jpeg)

#### Figure 5-8: Background NO<sub>2</sub> Concentrations at MECP Milton

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### 6 **DISCUSSION**

Based upon the background air quality, as measured at Brampton and Guelph MECP stations, the new facilities in the employment area would not be introducing new sources of air emissions into an overly stressed area. With very few exceptions, the ambient air quality is well within the AAQCs. The proposed employment areas also lie in proximity to the HHGS, which went through an Environmental Assessment process that would have included public consultation; the project was approved and the HHGS is currently operational.

There are, however, a number of sensitive land uses within the potential influence areas and recommended exclusion zones for Class I and II facilities. These sensitive land uses might be impacted by nuisance effects such as odour, dust, and light.

Air releases of contaminants other than nuisance dust and odour are managed through MECP regulations and approvals. Facilities would have to comply with air quality regulations, such as O.Reg. 419 and EPA Sections 9 and 14, and obtain approval to construct and operate where there are sources that discharge to the air.

The employment area associated with the proposed development would not include Class III facilities which have the highest potential for nuisance effects and compatibility issues.

The minimum separation distance for Class I and Class II facilities is generally achieved within each parcel, with the only exceptions being the sensitive land uses that abut the parcels. There are sensitive land uses that are within the potential influence area for a Class II facility.

Where the separation between industrial and sensitive land uses is insufficient, there is a risk of air quality effects on these sensitive land uses. Mitigative measures may be required to prevent compatibility issues, to be defined at the site plan application and review process. All industrial facilities should be required to provide site-specific information on potential air emissions in the form of a feasibility or land use compatibility study; where the potential for air quality effects at sensitive land uses is identified in the study, an air quality assessment should be prepared that describes:

- The nature of operations;
- The potential sources of air emissions;
- Measures included in the facility design to mitigate air quality effects; and
- Commitment to the development and implementation of an air quality management plan for dust and/or odour.

#### 6.1 NUISANCE EFFECTS

In terms of industrial land uses, the Prestige Industrial Area will be tenanted by Class I and Class II facilities; it is assumed that Class III facilities will not be permitted. Other permissable land uses include a number that would fall under the D-6 Guideline definition of sensitive such as nursery schools and post secondary education institutions, as examples.

Class I facilities do not tend to have notable outdoor activities, and dust generation would be infrequent and of low magnitude with limited extent. Class II facilities may have sources of dust on their sites, and nuisance dust may be generated if the site does not implement effective fugitive dust management.

However, the effects of fugitive dusts tend to decrease quickly with distance from facility boundary. Dust effects beyond the potential influence area are not expected, and it is assumed the effects would not be excessive beyond the minimum separation distance.

Odorous emissions may occur from certain Class I and Class II facilities, with examples of food preparation, and printing activities. Caution should be used in assigning a facility as Class I and consideration should be given to the nature of the operations. Stacks (point sources) on these types of facilities that are designed to improve dispersion of air emissions may result in off-site odours at a distance from the facility.

There are various residences within the parcel and the Study Area, with some abutting the parcel and thus having no separation distance between the land uses (since the D-6 Guidelines consider the distance to be property line to property line). These sensitive land uses would previously have been subject to odours from agricultural and dairy farming, and the highways. These odours are, however, significantly different in hedonics from those of many industrial operations and therefore previous exposure to other odours would not necessarily suggest higher tolerance of the current residents.

As an indication of the potential frequency of nuisance effects at these receptors, during the summer, sensitive land uses southeast of Steeles would be downwind of the development under winds from the northwest which occur approximately 12% of the time. Sensitive land uses to the northwest of the development would be downwind of the development under wind from the south-southeast which occur approximately 15% of the time. Through the winter, the prevailing south-southeasterly winds shift to the west such that winds prevail from the western quadrant.

The proximity of the existing residences to the proposed Prestige Industrial Area warrants that a land use compatibility study be prepared with the nature of the proposed facility or activity having the potential for air quality effects, including nuisance odour and dust effects.

#### 6.1.1 LIGHTING

Although the Study Area is not near an identified dark sky site, the current residents of the rural dwellings would not generally be subject to significant light pollution in the evening, other than sky glow from neighbouring Mississauga and Milton and lighting from the Premier Outlets signage and property. Some of the rural roads north of Steeles would currently have little or no streetlighting. These areas could therefore be sensitive to new light pollution sources.

Measures should be taken to mitigate light pollution, however other than potential glare and trespass into residences, the new light introduced with the employment zones would not be a land use compatibility issue in the same manner as odours or dust. Light effects are not discussed in the Halton Region Land Use Compatibility Guidelines or in the MECP D-6 Guidelines.

New developments such as this can benefit from recent developments in planning and engineering of lighting. A municipal strategic lighting master plan would be effective, good engineering in street lighting design should be incorporated to avoid excessive lighting, and directional lighting should be used to avoid light trespass to nearby residential properties.

There should be some mechanism of oversight (possibly through site plan approval or building permits) to ensure that facilities occupying the employment lands are mindful of light trespass onto neighbouring land uses, as well as

potential glare from lighting in a region that is generally darker, and that reduced night lighting is in effect when facilities are not operating.

#### 6.1.2 ROAD DUST AND TAILPIPE EMISSIONS

The introduction of new employment areas within the Study Area will increase the traffic along the local roadways. Traffic has the potential to affect air quality due to the tailpipe emissions from the trucks and fugitive road dust on the industrial properties or from public roadways as a result of trackout.

Though the increase in truck traffic volumes may be low compared with current volumes along the major highways in the study area, there are measures that can be taken on the part of the municipality such as enforcement of anti-idling, regular street cleaning, requiring paved yards, and effective road design that avoids sensitive land uses where possible.

#### 6.1.3 CONSTRUCTION PHASE

Construction activities are limited in duration; however, the associated air quality effects may be problematic for neighbouring residents and at other sensitive receptors. Excavations, grading, leveling and earth moving activities on newly disturbed ground surfaces may result in fugitive dusts that may be visible and may settle onto adjacent properties. Municipal oversight of the construction activities is recommended to limit potential effects, but the construction phase is not considered to be a factor in long-term land use compatibility.

### 7 SUMMARY OF FINDINGS

The following is a summary of our findings based upon existing knowledge of the proposed development and the sensitive land uses both within the bounds of the Study Area and those proximate to the Study Area that may fall within the potential influence area.

These findings are based upon the type of facility that would be expected in a Prestige Industrial Area, in the absence of information on specific facilities. It is recommended that all facilities are screened for potential odour or dust effects, and a Land Use Compatibility Study or Air Quality Assessment specific to their operations be required in support of their intended operations.

The key findings of the Secondary Plan Land Use Compatibility Study are as follow:

- The potential for health or environmental effects associated with the facilities that will be located in the Study Area would be addressed by provincial permitting and review tools such as Environmental Compliance Approvals, EASR registration, or Environmental Assessments. In some cases, these mechanisms also address odour and fugitive dust.
- The most common land use compatibility issues with air quality associated with land development are nuisance effects resulting from the new sources of dust, odour, and light introduced to the Study Area.
- Class I facilities are unlikely to result in significant land use compatibility issues, with the exception of odour releases from some facilities that may be classified as Class I.

- Class II facilities have the potential to result is incompatibilities, nuisance effects, and complaints. For the purposes of this study, distribution centres have been considered Class II due to the likelihood of large volumes of heavy truck traffic and 24-hour operations. As stated in Step 3 of the Halton Region's Land Use Compatibility Guidelines, if the proposed development falls within potential areas of influence of existing sources, studies should be carried out to determine actual land use compatibility conflicts. A Land Use Compatibility Study or Air Quality Assessment should be prepared unless it can be demonstrated using a screening that no potential air quality effects are likely. Steps 3 and 4 of the Halton Hills' Land Use Compatibility Guidelines should be followed for guidance and potential approaches to mitigation.
- The traffic volumes for both passenger vehicles and trucks will increase with the introduction of new employment and shipping/receiving associated with Premier Gateway Phase 2B. The incremental increase is, however, low in comparison to current traffic volumes on the major highways that are within the Study Area.
- Construction activities are also a source of air emissions, most commonly fugitive dusts, odours, lighting, and tailpipe emissions from diesel equipment and vehicles. Construction activities should be managed to control air quality effects, with consideration of scheduling, monitoring, and mitigation.
- There are measures that can be taken by both the Town of Halton Hills and by the occupants of the new employment area to mitigate these nuisance effects. It is recommended that the identification and mitigation of potential nuisance effects of proposed prestige industrial facilities be discussed as part of the site plan approval process or using other mechanisms available to the Region or municipality.

It is recommended that the measures include, at minimum, the following:

- Effective engagement with potentially affected residents during planning and construction phases.
- Facility-specific odour assessments, odour management plans and control measures to avoid odour release and off-site effects.
- On the part of the industrial, commercial, or warehousing / distribution facilities, there are a number of effective best management practices to minimize dust. Facilities that can be expected to generate fugitive dusts should be required to prepare a Dust Management Plan outlining procedures and practices to prevent nuisance effects and deposition.
- Paved surfaces at all facilities to avoid road dust from unpaved areas.
- Prohibiting of outdoor stockpiles or requiring enclosures to be built to mitigate dust emissions.
- Implementation of fugitive dust mitigation measures by the municipality including frequent street cleaning and road maintenance.
- Strategic siting of entrances and exits of distribution centres and a reasonable setback from sensitive land uses of 300 m or more will help to limit nuisance effects associated with the truck traffic.
- Design measures to avoid queuing or traffic congestion may be incorporated into site planning and layout.
- Requiring facilities and the municipality to adhere to a lighting plan that takes into account timing (reduced night lighting), directionality, intensity, and location.
- Develop and/or enforce a strategic lighting master plan that addresses both private lighting of facilities and municipal lighting of roadways and supporting facilities such as transit stops.

### 8 CLOSURE

The work was performed using generally accepted assessment practices. No other warranty, expressed or implied, is made. The limitations of this report are expressed in Appendix B.

Yours truly, WSP E&I Canada Limited

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## **Appendix A**

# Surrounding Land Uses and Receptors

![](_page_36_Figure_2.jpeg)

Designation	Receptor	UTM Coordinates Distance from WGS84, Zone 17T Secondary PI		Distance from Secondary Plan	Notes
		N (m)	E (m)	Area Boundary	
Industrial/Commercial	Laydown Area	4824893	594372	816	
Industrial/Commercial	Unknown 18	4824932	593774	1014	appears vacant
Industrial/Commercial	Bahr Saddlery	4825002	593799	948	
Industrial/Commercial	Unknown 6	4825121	594019	712	vacant
Industrial/Commercial	Unknown 7	4825161	594112	630	vacant
Industrial/Commercial	Brownfield (Potential Future Development)	4825178	594183	582	
Industrial/Commercial	Unknown 4	4825192	594092	613	
Industrial/Commercial	Pure Vibes Café (formerly)	4825198	594182	565	vacant
Industrial/Commercial	Unknown 5	4825201	594066	623	
Industrial/Commercial	Petro Canada 1	4825284	594054	563	
Industrial/Commercial	Shell 1	4825292	594177	484	
Industrial/Commercial	Tim Hortons 1	4825292	594040	566	inside Petro Canada
Industrial/Commercial	Ultramar 1	4825374	594087	474	
Industrial/Commercial	mechanic/autosales 1	4825405	594108	443	
Industrial/Commercial	mechanic/autosales 2	4825422	594026	488	
Industrial/Commercial	CBC	4825615	595601	1006	
Industrial/Commercial	Unknown 17	4825708	595536	895	small structure
Industrial/Commercial	Premium Outlets (Retail)	4825900	594664	79	
Industrial/Commercial	Reflex 2000	4826325	595183	229	screen printer
Industrial/Commercial	The Apparel Guys	4826327	595150	486	
Industrial/Commercial	Unknown 14	4826782	595455	155	vacant
Industrial/Commercial	Commercial Parking Lot	4828096	597570	1013	
Industrial/Commercial	Unknown 13	4828138	596535	168	appears vacant
Industrial/Commercial	Somal Transport	4828454	596743	135	
Industrial/Commercial	Unknown 12 (Transport)	4828492	596673	57	
Industrial/Commercial	Conestoga Cold Storage	4828552	597894	1006	
Industrial/Commercial	Indo Canadian Carriers	4828570	596727	53	trucking company
Industrial/Commercial	Safe Self Storage - Halton	4828639	597092	296	
Industrial/Commercial	Day to Day Logistics Yard	4828663	597275	430	
Industrial/Commercial	Clinton Commercial Outdoor Services	4828682	596915	130	
Industrial/Commercial	Emblem Logistics Inc.	4829008	597532	539	
Industrial/Commercial	Amazon Fulfilment Centre	4829072	597241	261	
Industrial/Commercial	Unknown 11	4829351	596720	56	vacant
Industrial/Commercial	S&S Transport International	4829377	596692	57	
Industrial/Commercial	Maple Lodge Factory Outlet Chicken Shop	4829404	596659	54	
Industrial/Commercial	Unknown 10	4829584	596585	161	vacant
Industrial/Commercial	Unknown 9	4829623	596444	234	residential building adjacent to Maple Lodge Farms site
Industrial/Commercial	Matrix Logistics Services	4829639	597661	924	
Industrial/Commercial	Zabina Halal butcher shop	4829709	596441	313	
Industrial/Commercial	Maple Lodge Farms	4829747	596303	418	Class I poultry

Designation	Receptor	UTM Coordinates WGS84, Zone 17T		Distance from Secondary Plan	Notes	
		N (m)	E (m)	Area Boundary		
Sensitive / Potentially Sensitive	Residential 1	4825140	593933	752		
Sensitive / Potentially Sensitive	Residential 2	4825159	593957	721		
Sensitive / Potentially Sensitive	Hornby Community Centre	4825167	594036	664		
Sensitive / Potentially Sensitive	Residential 3	4825246	593996	629		
Sensitive / Potentially Sensitive	Unknown 3.1	4825275	594007	602		
Sensitive / Potentially Sensitive	Barn 3.2	4825275	593891	682		
Sensitive / Potentially Sensitive	Unknown 3.2	4825298	593936	634		
Sensitive / Potentially Sensitive	Barn 2.1	4825298	593586	889		
Sensitive / Potentially Sensitive	Barn 3.1	4825349	593924	607		
Sensitive / Potentially Sensitive	Farmhouse 2	4825429	593602	785		
Sensitive / Potentially Sensitive	Hope Place Men's Centre	4825634	593654	597		
Sensitive / Potentially Sensitive	Signage business	4825668	594543	121		
Sensitive / Potentially Sensitive	Residential 4	4825688	594520	92	mixed residential/business	
Sensitive / Potentially Sensitive	Redwood Pet Resort	4825799	595469	783	pet lodging	
Sensitive / Potentially Sensitive	Residential 62	4825847	594653	102		
Sensitive / Potentially Sensitive	Residential 63	4825874	594609	50		
Sensitive / Potentially Sensitive	Residential 5	4825987	594050	65		
Sensitive / Potentially Sensitive	Residential 6	4826012	594013	73		
Sensitive / Potentially Sensitive	Residential 7	4826038	593987	73		
Sensitive / Potentially Sensitive	Residential 8	4826064	593957	75		
Sensitive / Potentially Sensitive	Residential 61	4826115	595304	459		
Sensitive / Potentially Sensitive	Residential 9	4826165	593994	19		
Sensitive / Potentially Sensitive	Residential 10	4826199	593964	62		
Sensitive / Potentially Sensitive	Residential 60	4826255	595157	251	adjacent to Reflex 2000, appears residential.	
Sensitive / Potentially Sensitive	Barn 7.1	4826447	595464	373		
Sensitive / Potentially Sensitive	Barn 7.2	4826457	595418	334		
Sensitive / Potentially Sensitive	Barn 7.3	4826502	595431	311		
Sensitive / Potentially Sensitive	unknown 7.2	4826545	595461	308		
Sensitive / Potentially Sensitive	Farmhouse 7	4826553	595436	285		
Sensitive / Potentially Sensitive	Unknown 7.1	4826561	595467	302		
Sensitive / Potentially Sensitive	Residential 11	4826579	593580	604		
Sensitive / Potentially Sensitive	Residential 12	4826624	593559	649		
Sensitive / Potentially Sensitive	Residential 13	4826646	593512	699	structure (large garage)	
Sensitive / Potentially Sensitive	Residential 14	4826676	593496	733	structure (large garage)	
Sensitive / Potentially Sensitive	St. Stephen's Hornby Anglican Church	4826703	595316	98	chapel, residential dwelling, cemetery and green space	
Sensitive / Potentially Sensitive	Residential 15	4826707	593462	777		
Sensitive / Potentially Sensitive	Residential 16	4826819	593333	948		
Sensitive / Potentially Sensitive	Residential 59	4826835	595417	94		
Sensitive / Potentially Sensitive	Residential 17	4826886	593282	1030		
Sensitive / Potentially Sensitive	Ninth Line Family Golf Academy	4826899	596435	858		

Designation	Receptor	UTM Coordinates WGS84, Zone 17T		Distance from Secondary Plan	Notes
		N (m)	E (m)	Area Boundary	
Sensitive / Potentially Sensitive	Barn 6.2	4826961	595563	129	
Sensitive / Potentially Sensitive	Garry W Morden Centre	4826961	596672	1007	emergency services training facility
Sensitive / Potentially Sensitive	Barn 6.1	4826970	595571	130	
Sensitive / Potentially Sensitive	Farmhouse 6	4826996	595538	88	includes additional structure/garage
Sensitive / Potentially Sensitive	Barn 1.1	4827004	594436	190	
Sensitive / Potentially Sensitive	Farmhouse 1	4827109	594464	234	
Sensitive / Potentially Sensitive	Unknown barn 1	4827360	594853	82	
Sensitive / Potentially Sensitive	Residential 58	4827366	595802	66	
Sensitive / Potentially Sensitive	Residential 18	4827393	594569	329	
Sensitive / Potentially Sensitive	Residential 19	4827502	594522	433	
Sensitive / Potentially Sensitive	Residential 20	4827555	594475	507	
Sensitive / Potentially Sensitive	Residential 21	4827593	594431	562	
Sensitive / Potentially Sensitive	Residential 22	4827605	594409	583	
Sensitive / Potentially Sensitive	Unknown barn 2	4827618	594752	317	barn at corner of field, roadways
Sensitive / Potentially Sensitive	Residential 23	4827629	594378	626	
Sensitive / Potentially Sensitive	Farmhouse 3	4827686	593959	995	
Sensitive / Potentially Sensitive	Residential 24	4827699	594306	722	includes additional structure/garage
Sensitive / Potentially Sensitive	Residential 25	4827728	594278	764	
Sensitive / Potentially Sensitive	Residential 26	4827761	594244	818	
Sensitive / Potentially Sensitive	Farmhouse 9	4827825	597136	838	includes several barns/structures
Sensitive / Potentially Sensitive	Place of worship (church)	4827955	597285	879	two churches located at same address
Sensitive / Potentially Sensitive	Residential 27	4827970	594186	994	old barn located on back of property
Sensitive / Potentially Sensitive	Barn 8.1	4828052	596787	424	
Sensitive / Potentially Sensitive	Farmhouse 8	4828161	596868	422	
Sensitive / Potentially Sensitive	Residential 46	4828309	595689	6	hay bales located on pack of property
Sensitive / Potentially Sensitive	Residential 45	4828337	595664	44	additional building on property
Sensitive / Potentially Sensitive	Residential 44	4828367	595631	87	
Sensitive / Potentially Sensitive	Residential 43	4828390	595612	118	additional buildings on property
Sensitive / Potentially Sensitive	Residential 42	4828433	595566	181	includes additional structure/garage
Sensitive / Potentially Sensitive	Residential 41	4828451	595515	235	
Sensitive / Potentially Sensitive	Residential 40	4828490	595475	286	
Sensitive / Potentially Sensitive	Residential 39	4828531	595425	353	
Sensitive / Potentially Sensitive	Bus Stop 6	4828599	597619	737	
Sensitive / Potentially Sensitive	Residential 38	4828605	595514	328	includes additional structure/garage
Sensitive / Potentially Sensitive	Residential 57	4828614	596777	63	potentially vacant
Sensitive / Potentially Sensitive	Residential 37	4828624	595491	360	includes additional structure/garage
Sensitive / Potentially Sensitive	Bus Stop 5	4828642	597615	712	
Sensitive / Potentially Sensitive	Residential 36	4828643	595470	387	includes additional structure/garage
Sensitive / Potentially Sensitive	Residential 34	4828644	595358	477	
Sensitive / Potentially Sensitive	Residential 35	4828666	595448	418	

Designation	Receptor	UTM Coordinates WGS84, Zone 17T		Distance from Secondary Plan	Notes
Ū		N (m)	E (m)	Area Boundary	
Sensitive / Potentially Sensitive	Residential 33	4828675	595331	522	includes large structure/garage
Sensitive / Potentially Sensitive	Residential 32	4828698	595310	549	
Sensitive / Potentially Sensitive	Residential 56	4828710	596835	50	
Sensitive / Potentially Sensitive	Residential 31	4828723	595286	582	includes large structure/garage
Sensitive / Potentially Sensitive	Residential 30	4828744	595266	616	
Sensitive / Potentially Sensitive	Residential 55	4828764	596903	73	
Sensitive / Potentially Sensitive	Farmhouse 5	4828805	597699	735	horse stable
Sensitive / Potentially Sensitive	Residential 29	4828879	595021	891	potential business (6ix Auto Spa)
Sensitive / Potentially Sensitive	Bus Stop 4	4828911	597083	115	
Sensitive / Potentially Sensitive	Residential 28	4828939	594996	949	
Sensitive / Potentially Sensitive	Bus Stop 3	4829044	597083	102	
Sensitive / Potentially Sensitive	Bus Stop 1	4829066	596970	29	
Sensitive / Potentially Sensitive	Unknown 8	4829130	595165	933	building and several structures/garages
Sensitive / Potentially Sensitive	Residential 53	4829423	596524	38	
Sensitive / Potentially Sensitive	Residential 52	4829455	596488	84	
Sensitive / Potentially Sensitive	Residential 54	4829457	596623	63	
Sensitive / Potentially Sensitive	Residential 51	4829485	596456	127	
Sensitive / Potentially Sensitive	Residential 50	4829501	596573	76	proximate to Maple Lodge Farms
Sensitive / Potentially Sensitive	Residential 49	4829569	596506	158	proximate to Maple Lodge Farms
Sensitive / Potentially Sensitive	Bus Stop 2	4829699	596318	373	
Sensitive / Potentially Sensitive	Barn 4.1	4829865	595674	979	
Sensitive / Potentially Sensitive	Farmhouse 4	4829935	595701	1006	horse stable
Sensitive / Potentially Sensitive	Residential 48	4829993	595932	859	
Sensitive / Potentially Sensitive	Residential 47	4830018	595906	895	

# **Appendix B**

### **Report Limitations**

![](_page_41_Figure_2.jpeg)

![](_page_42_Picture_0.jpeg)

#### Limitations

- 1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
  - a. The Standard Terms and Conditions which form a part of our Professional Services Contract;
  - b. The Scope of Services;
  - c. Time and Budgetary limitations as described in our Contract; and
  - d. The Limitations stated herein.
- 2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
- 3. The conclusions presented in this report were based, in part, on visual observations of the Site and attendant structures. Our conclusions cannot and are not extended to include those portions of the Site or structures, which are not reasonably available, in WSP's opinion, for direct observation.
- 4. The environmental conditions at the Site were assessed, within the limitations set out above, having due regard for applicable environmental regulations as of the date of the inspection. A review of compliance by past owners or occupants of the Site with any applicable local, provincial or federal bylaws, orders-in-council, legislative enactments and regulations was not performed.
- 5. The Site history research included obtaining information from third parties and employees or agents of the owner. No attempt has been made to verify the accuracy of any information provided, unless specifically noted in our report.
- 6. Where testing was performed, it was carried out in accordance with the terms of our contract providing for testing. Other substances, or different quantities of substances testing for, may be present on-site and may be revealed by different or other testing not provided for in our contract.
- 7. Because of the limitations referred to above, different environmental conditions from those stated in our report may exist. Should such different conditions be encountered, WSP must be notified in order that it may determine if modifications to the conclusions in the report are necessary.
- 8. The utilization of WSP's services during the implementation of any remedial measures will allow WSP to observe compliance with the conclusions and recommendations contained in the report. WSP's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
- 9. This report is for the sole use of the party to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or the part, or any reliance thereon or decisions made based on any information or conclusions in the report is the sole responsibility of such third party. WSP accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
- 10. This report is not to be given over to any third party for any purpose whatsoever without the written permission of WSP.
- 11. Provided that the report is still reliable, and less than 12 months old, WSP will issue a third-party reliance letter to parties that the client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on WSP's report, by such reliance agree to be bound by our proposal and WSP's standard reliance letter. WSP's standard reliance letter indicates that in no event shall WSP be liable for any damages, howsoever arising, relating to third-party reliance on WSP's report. No reliance by any party is permitted without such agreement.