



DRAFT Land Use Compatibility Study: Noise

Premier Gateway Employment Area Phase 2B Halton Hills
Project # WW20101004

Prepared for:

Macaulay Shiomi Howson Ltd.

600 Annette Street, Toronto, Ontario, M6S 2C4

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Executive Summary

Wood Environment and Infrastructure Solutions, a Division of Wood Canada Limited (Wood) was retained to prepare a Land Use Compatibility Studies for Air Quality, Light and Noise Effects for the Premier Gateway Phase 2B Employment Area Secondary Plan (the “study area”). The objective of this document is to assess the potential noise effects of the proposed development in the context of land use compatibility with the existing sensitive land uses within the study area and in the vicinity.

The Ministry of the Environment, Conservation and Parks (MECP) (formerly MOECC) D-6 Guideline “Compatibility Between Industrial Facilities and Sensitive Land Uses” (D-6 Guideline) (MECP, 1995) is a tool for informed municipal planning to prevent issues that may arise from incompatible development. The guideline specifies both minimum separation distances and areas of influence in which compatibility issues may arise depending on facility size and nature of operations. The guideline rates facility operations as ranging from Class 1 (low potential impact) to Class 3 (highest potential impact).

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 area of influence, in the absence of information on specific facilities. The potential for environmental effects (Noise) 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 (ECA), Environmental Activity and Sector Registrations (EASR), or Environmental Assessments (EA).

One of the most common land use compatibility issues associated with land development are nuisance effects resulting from the new sources of noise 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 the nuisance effects depending on the type of facility. Class I facilities are unlikely to result in significant land use compatibility issues, however Class II and III facilities have the potential to result in incompatibilities, nuisance effects, and complaints.

The development 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, dust or noise effects to prepare land use compatibility studies specific to their operations to determine the actual area of influence as the potential area of influence cited in MECP’s D-6 Guidelines may be overly conservative. This is consistent with the Land Use Compatibility Guidelines published by Halton Region (Halton Region, 2014).

Effective communication with residents during the planning and construction phases has proven beneficial for other redevelopment projects, with consideration given to establishing a public liaison committee to encourage resident participation. There may be opposition to any development that might amplify potential nuisances. The ability to become actively involved, contribute to managing the noise effects, and be provided with a clear mechanism for resident complaints and feedback, may help avoid land use compatibility issues.

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1.0 Introduction

Wood Environment and Infrastructure Solutions, a Division of Wood Canada Limited (Wood), was retained to prepare a Land Use Compatibility Studies for Air Quality, Light and Noise Effects for the Premier Gateway Phase 2B Employment Area Secondary Plan (the “study area”).

This document is one of a series of Land Compatibility Studies prepared by Wood to assess the proposed development in the context of land use compatibility with the existing sensitive land uses within the study area and in the vicinity. The Preferred Land Use Concept figure is provided in Section **Error! Reference source not found.** to illustrate the existing and proposed land uses. This Land Use Compatibility Study focuses on the potential noise effects of the study area.

2.0 Land Use Compatibility Guidelines

There are provincial, regional and municipal guidance materials published to assist in discussions and decision making processes surrounding land-use compatibility. Of particular relevance to this study are The Ministry of the Environment, Conservation and Parks (MECP) (formerly MOECC) D-6 Guidelines and the Halton Region Land Use Compatibility Guidelines (MECP, 1995) (Halton Region, 2014).

The MOECC D-6 Guideline “Compatibility Between Industrial Facilities and Sensitive Land Uses” (D-6 Guideline) is a tool for informed municipal planning to prevent issues that may arise from incompatible development. The guideline specifies both minimum separation distances and areas of influence in which compatibility issues may arise depending on facility size and nature of operations.

2.1 Ontario Ministry of the Environment and Climate Change

The Guideline D-6, “Compatibility Between Industrial Facilities and Sensitive Land Uses”, was published in 1995 to assist in the land use planning process to prevent or minimize 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 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 noise effects from the Premier Gateway Phase 2B Employment Area on sensitive land uses.

The Guidelines define two parameters that are in place to help assess the likelihood of adverse noise effects from changes in land use:

- Potential area of influence - 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.). These uses are considered to be sensitive 24 hours/day.
- (ii) a permanent structure for non-facility related 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.

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

Table 2.1: Guideline D-6 Land Use Compatibility Separation Distances by Facility Class

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

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

The MECP recommends that no sensitive land uses occur within the minimum separation distances and only be allowed within the influence zones if studies indicate that impacts are acceptable. 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.

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.

3.0 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.

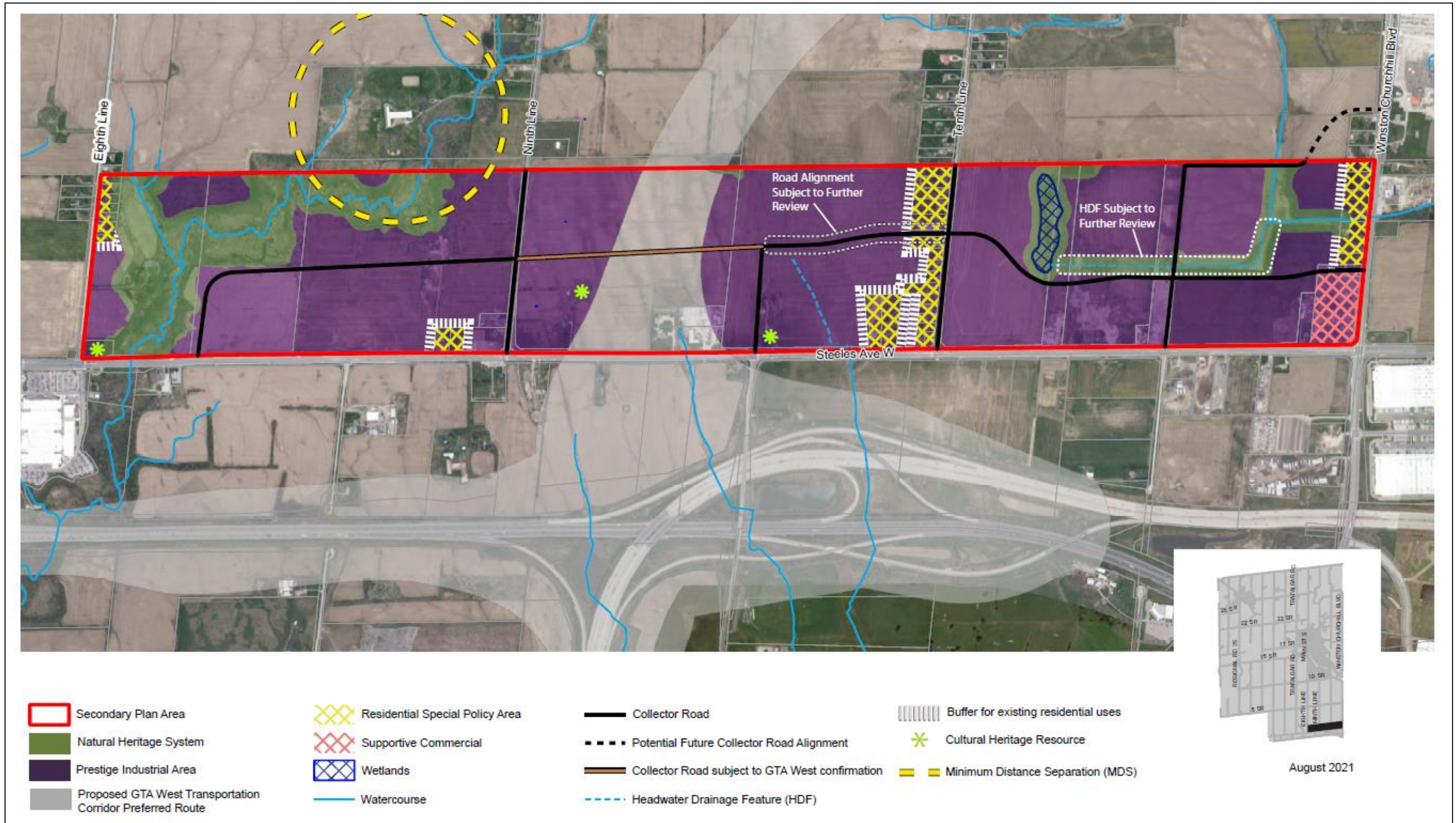


Figure 3.1: Premier Gateway Employment Area Phase 2B Preferred Land Use Concept

3.1 Sensitive Land Uses

There are a number of residential dwellings, community lands, commercial uses, and institutions within and in the vicinity of the study area. It is these sensitive land uses that may result in land use compatibility issues related to 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 east side of Eighth Line, on the west side of Steeles and Ninth Line, along the west side of Tenth Line, and on the west side of Winston Churchill Blvd at the northeast corner of the study area;
- St. Stephen's Hornby Anglican Church with a residential dwelling located in the same lot; and
- Residential lot along Ninth Line north-west of the study area.

The sensitive land uses identified in the study area are shown in Figure 3.2. The Phase 2B Employment Area Secondary Plan requires the consideration of the impacts of any future development on existing and potential cultural heritage resources. The following existing cultural heritage resources on the Town of Halton Hills Heritage have been identified in the study area:

- Hornby Presbyterian Cemetery; and
- Two residential dwellings located on Steeles Ave between Ninth Line and Tenth Line.

3.2 Other Land Uses

3.2.1 Maple Lodge Farms

Maple Lodge Farms operates a poultry processing facility producing fresh chicken products primarily for bulk distribution at 8301 Winston Churchill Blvd in Brampton, 200 metres east of the study area. An example of a Class III facility, Maple Lodge Farms operates under an Environmental Compliance Approval.

To obtain an Environmental Compliance Approval (ECA) from the MECP the facility would have been required to complete a noise assessment, depending on the proximity to sensitive receptors, as part of the ECA Application process. The noise or acoustic assessment would have been required to demonstrate compliance with the noise criteria outlined in the MECP Environmental Noise Guideline NPC-300 "Stationary and Transportation Sources – Approval and Planning" (MECP, 2013). Directly south of Maple Lodge Farms are a number of employment areas with mainly Class I and II facilities that do not pose a significant risk of noise effects to the Study Area.

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

This facility is a 683-megawatt natural gas-fired power plant located approx. 2.2 kms west of the Study Area at Steeles Ave and Sixth Line. It has been in service as of September 2010.

Although proximate to the study area, the HHGS has tall stacks on the emission points and would have been required to complete a noise assessment, depending on the proximity to sensitive receptors, as part of the Class Environmental Assessment and to obtain the Environmental Compliance Approval to operate.

The noise or acoustic assessment would have been required to demonstrate compliance with the noise criteria outlined in the MECP Environmental Noise Guideline NPC-300 “Stationary and Transportation Sources – Approval and Planning” (MECP, 2013)). Also, the separation distance of 2.2 km reduces the likelihood of significant noise emissions from the facility upon the study area. Therefore, noise emissions from HHGS should not affect development in the study area unless elevated receptors are introduced such as multi-storey buildings.

3.2.3 Pits and Quarries

There are two quarries operated by Dufferin Aggregates located approximately 10 kilometres 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 (Ontario Ministry of Natural Resources, 2019). Given the distance, these are unlikely to have any impact in terms of noise on the study area.

3.2.4 Commercial

Toronto Premium Outlets and Amazon Fulfilment Centre are located along Steeles Avenue at the south-west and south-east corner of the Study Area, respectively. Due to the nature of these facilities and the character of the existing and proposed land uses; noise emissions from the facilities should not present any impacts on the existing commercial or the proposed commercial/employment lands within the Study Area.

3.2.5 Infrastructure

In Halton Region, it was recommended that sensitive land uses not be located closer than 150 m to major highways for the protection of human health (Halton, 2009). The Study Area is approximately 500 metres north of Highway 401 and approximately 300 metres north of the Highway 407/401 interchange. Though vehicular traffic on major arterial roads and highways can be a substantial source of noise emissions, these emissions are typically sufficiently attenuated at these distances.

The preferred land use concept does not propose any new sensitive land uses. However, the Ministry of Transportation (MTO) intends to widen Highway 401 and improve area interchanges in the next 10 years. MTO’s Proposed GTA West Transportation Corridor Preferred Route (GTA Express Freeway), the area shaded grey in Figure 3.1, will pass north-south through the study area and connect with the Highway 401/Highway 407 Interchange. The grey area encompassed by the GTA Express Freeway in the study area would not have any development permitted unless MTO cancels their plans for the freeway. However, it would have a significant impact on how traffic would move in and around the study area. The implementation of GTA Express Freeway is yet to be approved or funded with no published timeline for delivery (Paradigm, 2021). Consequently, the impact from the GTA West freeway in terms of increased noise from vehicular traffic is not evaluated in this Land Use Compatibility Study.

The study area will also be served by the following new roads:

- A new collector road, “East-West Collector Road” running from the west end of the study area from Steeles Ave and connecting to Winston Churchill Blvd;
- An extension of Ninth Line connecting north to the East-West Collector Road (known as “Road A”); and

- An extension of Tenth Line running north past the East-West Collector Road to the north edge of the study area, then connecting eastwards to Winston Churchill Blvd (known as "Road B").

The predicted noise emissions from these roadway additions are addressed in Sections 5.0 and 6.0.

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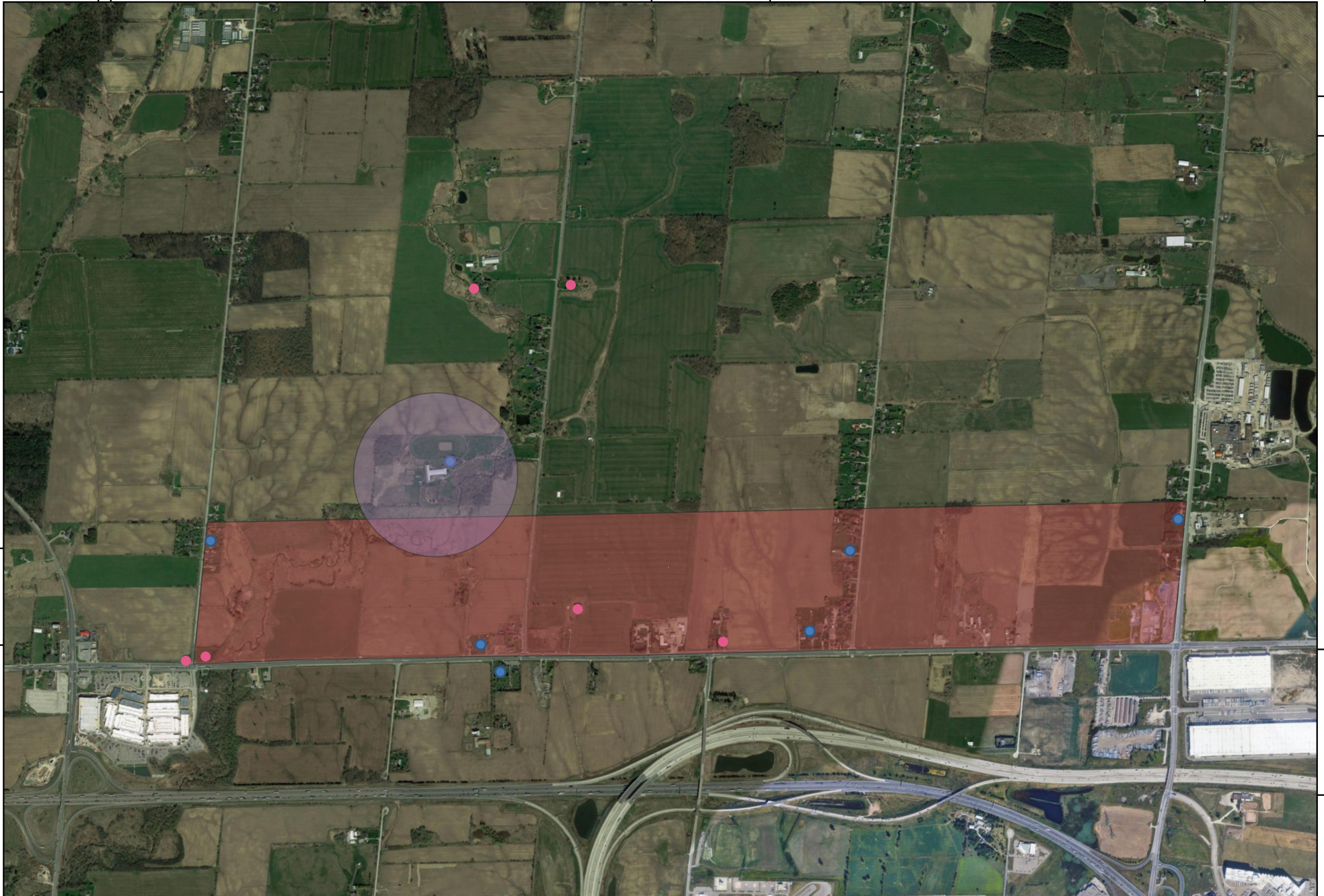


Figure 3.2: Sensitive Land Uses

Premier Gateway Employment Area Phase 2B

Halton Hills, Ontario

P. No. WW20101004

Date: 10/2021

- Legend**
- Study Area
 - Cultural Heritage Resources
 - Sensitive Land Uses

Notes:

- Imagery obtained from Google Earth
- Coordinate system: WGS84 Pseudo-Mercator
- Not to scale



4.0 Potential Effects

The establishment of the Phase 2B Secondary Employment Area lands and long-term implementation of the preferred land use concept as illustrated in Figure 3.1 will have two substantial outcomes. The first outcome will be the establishment of additional employment and commercial land uses in proximity to existing residential land uses. Once these new land uses are established the second outcome will be increase transportation traffic into and throughout the study area.

Facilities that discharge contaminants as defined in the EPA, including noise, into the atmosphere would be required to either obtain an ECA or register their activities to the EASR. In all cases, a facility must ensure that the discharge to the atmosphere does not contravene the EPA and does not result in an adverse effect off-property. This would require facilities to ensure that the off-site contaminants emitted are below the applicable MECP criteria.

5.0 Existing Conditions

Noise levels within a study area this large would be expected to have significant variations with spatial location and temporal context. The noise environment is likely to be characterized by natural environmental sound, infrequent anthropogenic sources, and predictable anthropogenic sources. The predictable anthropogenic noise can be expected from existing facilities (stationary sources) and transportation sources within and in the vicinity of the study area.

The existing facilities within the study area were discussed in Section 3.2. Also, the obligations of facilities to meet appropriate noise emission standards were further discussed in Section 4.0. The existing and potential transportation sources within the study area are roadways. The existing traffic network and traffic volumes are discussed in the Premier Gateway Phase 2B Transportation Report (the "Transportation Study") for the study area (Paradigm, 2021). Table 5.1 displays the extracted traffic volume for the roadways the and the estimated Average Annual Daily Traffic (AADT) from the Transportation Study. The truck proportion estimates are calculated based on the volumes presented for "Site Generated Truck Volumes (base case) for both AM and PM peak hour in the Transportation Study. It is assumed that the truck compositions for existing roads will remain unchanged for both existing and future scenarios with implementation of Phase 2B Secondary Employment Area.

These existing traffic volumes would produce spatially and temporally varying noise levels throughout the study area. These noise levels could be predicted using computerized noise models along with reasonable traffic-time distribution assumptions. However, the information would be far more detailed than necessary for the purposes of assessing the potential impacts of the undertaking. Instead, the relative change in traffic volumes due to implementation of the project can be used directly to estimate the maximum traffic noise change to be expected. This will be discussed further in Section 6.0.

Table 5.1: Existing 2021 Traffic Data

Road	Segment	Total Traffic Volume ^[1]	Estimated AADT ^[2]	Truck Proportion Estimates		
				Total ^[3]	Heavy	Medium
Eighth Line	Steeles Ave	304	3040	7%	50%	50%
Steeles Ave	Eighth Line and Ninth Line	2,386	23860	14%	50%	50%
Steeles Ave	Ninth Line and Tenth Line	3,141	31410	6%	50%	50%
Steeles Ave	Tenth Line and Winston Churchill Blvd	2,337	23370	6%	50%	50%
Ninth Line	Steeles Ave	848	8480	3%	50%	50%
Tenth Line	Steeles Ave	943	9430	0%	0%	0%
Winston Churchill Blvd	Steeles Ave	3,278	32780	1%	50%	50%

Notes:

1. Traffic volume expressed in terms of total vehicles assumed per AM peak hour;
2. AADT – Average Annual Daily Traffic which represents the average 24 hour traffic volume; calculated based on the assumption that AM peak hour volume represents approximately 10% of the total daily traffic;
3. Truck volume (all trucks) as a percentage of AADT;
4. Heavy truck volume (more than 2 axles) as a percentage of Total truck volume; and,
5. Medium truck volume (2 axles only, buses included) as percentage of Total truck volume.

6.0 Effects Discussion

Future employment and commercial land uses are likely to generate noise emissions either via their operation or by generating additional vehicular traffic. In most cases commercial properties generate moderate noise emissions and these are relatively easy to mitigate during the design stages. Employment uses may generate varying levels of noise depending on the nature of their operations. However, as discussed in Section 4.0 it is the responsibility of the facility to obtain the necessary permits or authorizations (ECA, EASR, etc.) to operate legally. In all cases, regardless of permits, a facility must ensure that the discharge of a contaminant, including noise, into the atmosphere does not contravene the EPA and does not result in an adverse effect off-property. Therefore, new employment uses must consider their impacts on existing sensitive land-uses when designing their facility and/or operations. Appropriate design can be used to mitigate the effects of such land uses on each other even in cases where adherence to preventative setbacks are either impossible or undesirable.

The Transportation Study uses the terms 2031 Future Background and 2031 Future Total traffic and presents the AM & PM Peak Hour traffic volumes for both scenarios. 2031 Future Background represents the predicted traffic volume due to growth factors such as population growth within the existing transportation network. 2031 Future Total represents the predicted traffic from Future Background plus the effects of transportation network and land use changes. Noise impact is typically determined by comparing the difference between noise levels generated by the Total and Background traffic volumes for a given future year.

Table 6.1 and 6.2 shows the AM & PM Peak Hour traffic volumes for the 2031 Future Background and 2031 Future Total traffic scenarios, respectively, which were used to generate estimated AADT volumes which are provided in Table 6.3 for both scenarios. To convert AM & PM Peak Hour values to AADT it was



assumed that both AM & PM Peak Hour represent 10% of the AADT, which is a common assumption used when more detailed data is not available.

Since the vehicle fleet composition, the daily traffic distribution and the existing alignments are not expected to change, then the only variable changing is the traffic volume. Therefore, the expected change in noise levels throughout the study area, in the vicinity of existing roads, can be estimated based solely on comparison of the Future Total and Future Background traffic volumes. Table 6.3 also shows the ratio of Future Total to Future Background traffic along with the corresponding estimated noise increases. The results show that the maximum increase of 2.1 dB is expected in year 2031 along Tenth Line between the new East-West Collector and Steeles Ave. The Halton Region "Noise Abatement Guidelines" Section 3.0 (Halton Region, 2014) indicates that when noise impacts are between 0 and 5 dB no action is required. This is also consistent with the MTO/MOECC Protocol (MTO/MOECC, 1986) which is typically cited as the criteria for non-highway and Municipal Class Environmental Assessments despite being originally written in a highway context.

Noise levels generated by the other proposed collector roads segments Road A, Road B and East-West Collector will be less significant than noise generated by traffic along the major arterial roads with which they connect. These new roads will pass through green field areas where there are no existing established residential areas. They will only come into proximity to existing established sensitive land uses where they intersect with Tenth Line, Steeles Avenue, and Winston Churchill Blvd. Therefore, these larger more travelled roads are likely to dominate sound levels at these areas. However, it would be prudent to conduct analyses during detailed design in the vicinity of these three points of intersection to evaluate the need for mitigation measures based on the specific and detailed design proposals.

Significant increases in transportation noise levels due to the establishment of the Premier Gateway Phase 2B Secondary Plan Area are not expected. However, additional consideration may be warranted during the design phases based on the finalized alignments at the intersection points collector roads and the surrounding arterial roads. Although it is expected that the major arterial roads will dominate noise levels at these locations final alignment decisions may affect outcomes and unshielded side yard exposures are a possibility.

Table 6.1: AM/PM Peak Hour Traffic Volume Estimates – Future Background (2031)

Road	Segment	AM Peak Hour Traffic Volume		PM Peak Hour Traffic Volume	
		WB/NB	EB/SB	WB/NB	EB/SB
Steeles Ave	Eighth Line	47	353	260	92
Steeles Ave	Eighth Line and EW Collector	387	909	985	629
Steeles Ave	EW Collector and Eighth Line S	372	909	985	629
Steeles Ave	Eighth Line S and Ninth Line	373	787	987	634
Steeles Ave	Ninth Line and Road A	469	1,242	1,424	741
Steeles Ave	Road A and Tenth Line	537	1,069	1,234	875
Steeles Ave	Tenth Line and Road B	475	1,246	1,457	760
Steeles Ave	Road B and Winston Churchill Blvd	479	1,218	1,460	761
EW Collector	Steeles Ave and Ninth Line	0	0	0	0
EW Collector	Ninth Line and Road A	0	0	0	0
EW Collector	Road A and Tenth Line	0	0	0	0
EW Collector	Tenth Line and Road B	0	0	0	0
EW Collector	Road B and Winston Churchill Blvd	0	0	0	0
Winston Churchill	Road B and EW Collector	211	704	646	317
Winston Churchill	EW Collector and Steeles Ave	211	704	646	317
Road B	EW Collector and Winston Churchill Blvd	0	0	0	0
Road B	EW Collector and Steeles Ave	0	0	0	0
Tenth Line	EW Collector and Steeles Ave	40	319	299	56
Road A	EW Collector and Steeles Ave	0	0	0	0
Ninth Line	EW Collector and Steeles Ave	568	541	590	250



Table 6.2: AM/PM Peak Hour Traffic Volume Estimates – Future Total (2031)

Road	Segment	AM Peak Hour Traffic Volume		PM Peak Hour Traffic Volume	
		WB/NB	EB/SB	WB/NB	EB/SB
Steeles Ave	Eighth Line	93	361	275	143
Steeles Ave	Eighth Line and EW Collector	521	1,498	1,567	847
Steeles Ave	EW Collector and Eighth Line S	479	1,322	1,468	794
Steeles Ave	Eighth Line S and Ninth Line	480	1,200	1,470	798
Steeles Ave	Ninth Line and Road A	657	1,447	1,549	968
Steeles Ave	Road A and Tenth Line	742	1,165	1,365	1,089
Steeles Ave	Tenth Line and Road B	836	1,348	1,605	1,132
Steeles Ave	Road B and Winston Churchill Blvd	1,343	1,381	1,732	1,631
EW Collector	Steeles Ave and Ninth Line	176	28	54	99
EW Collector	Ninth Line and Road A	50	6	172	33
EW Collector	Road A and Tenth Line	164	129	129	164
EW Collector	Tenth Line and Road B	79	21	37	79
EW Collector	Road B and Winston Churchill Blvd	32	6	11	36
Winston Churchill	Road B and EW Collector	211	704	646	317
Winston Churchill	EW Collector and Steeles Ave	211	704	646	317
Road B	EW Collector and Winston Churchill Blvd	239	722	669	353
Road B	EW Collector and Steeles Ave	358	775	775	529
Tenth Line	EW Collector and Steeles Ave	199	36	62	202
Road A	EW Collector and Steeles Ave	542	100	172	546
Ninth Line	EW Collector and Steeles Ave	222	351	344	242



Table 6.3: Estimated AADT Volumes, Traffic Ratios and Noise Increases

Road	Segment	Total AADT ^[1]		Traffic Ratio	Estimated Noise Increase (dB)
		Future Background (2031)	Future Total (2031)		
Steeles Ave	Eighth Line	7,520	8,720	1.16	0.6
Steeles Ave	Eighth Line and EW Collector	29,100	44,330	1.52	1.8
Steeles Ave	EW Collector and Eighth Line S	28,950	40,630	1.40	1.5
Steeles Ave	Eighth Line S and Ninth Line	27,810	39,480	1.42	1.5
Steeles Ave	Ninth Line and Road A	38,760	46,210	1.19	0.8
Steeles Ave	Road A and Tenth Line	37,150	43,610	1.17	0.7
Steeles Ave	Tenth Line and Road B	39,380	49,210	1.25	1.0
Steeles Ave	Road B and Winston Churchill Blvd	39,180	60,870	1.55	1.9
EW Collector	Steeles Ave and Ninth Line	0	3,570	-	-
EW Collector	Ninth Line and Road A	0	2,610	-	-
EW Collector	Road A and Tenth Line	0	5,860	-	-
EW Collector	Tenth Line and Road B	0	2,160	-	-
EW Collector	Road B and Winston Churchill Blvd	0	850	-	-
Winston Churchill	Road B and EW Collector	18,780	19,830	1.06	0.2
Winston Churchill	EW Collector and Steeles Ave	18,780	24,370	1.30	1.1
Road B	EW Collector and Winston Churchill Blvd	0	4,990	-	-
Road B	EW Collector and Steeles Ave	0	13,600	-	-
Tenth Line	EW Collector and Steeles Ave	7,140	11,590	1.62	2.1
Road A	EW Collector and Steeles Ave	0	4,810	-	-
Ninth Line	EW Collector and Steeles Ave	19,490	26,260	1.35	1.3



7.0 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 areas of influence.

These findings are based upon the type of facility that would be expected in an employment area of this nature, in the absence of information on specific facilities:

- The potential for health or environmental effects (Air and Noise) 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 issue associated with land development are nuisance effects resulting from the new sources of noise introduced to the study area.
- Class I facilities are unlikely to result in significant land use compatibility issues.
- Class II facilities have the potential to result in 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.
- Construction activities are also a source of noise emission. Construction activities should be managed to control effects from these emissions, with consideration of scheduling, monitoring and mitigation.
- Road traffic generated by the proposed employment uses is expected to generate increased noise levels as compared to the Future Background. The maximum increases are expected along Tenth Line between the new East-West Collector and Steeles Ave. However, the maximum increases are predicted to be below 5 dB and therefore no action or mitigation is expected to be required.

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 nuisance effects, such as:

- Strategic siting of entrances and exits of distribution centres, and a reasonable setback from sensitive land uses of 300 metres 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.
- Noise and/or vibration studies should be requested for new employment uses at the early stages of municipal approvals. Often an early feasibility level study can help guide discussions regarding how to best, and most efficiently, mitigate noise emissions. Simple changes to the facility site plan such as building orientation can have a profound effect on noise impacts at nearby sensitive land uses. These initial studies can help ensure that the final proposed facility can meet the applicable MECP noise criteria without unnecessary, costly or operationally restrictive mitigation measures.

Effective communication with residents during planning and construction phases has proven beneficial for other redevelopment projects, with consideration given to establishing a public liaison committee to encourage resident participation. There may be opposition to any development that might amplify potential nuisances. The ability to become actively involved, contribute to managing possible sources of adverse effects, and to be provided with a clear mechanism for resident complaints and feedback, may help avoid land use compatibility issues.

8.0 Closure

This Land Use Compatibility Study was prepared for Macaulay Shiomi Howson Ltd by Wood. The quality of information and conclusions contained herein is consistent with the level of effort involved in Wood's services and based on: i) information available at the time of preparation; ii) data supplied by outside sources; and iii) the assumptions, conditions and qualifications set forth in this report.

Yours truly,

**Wood Environment & Infrastructure Solutions
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Appendix A
Statement of Limitations

Limitations

1. The work performed in the preparation of this report and the conclusions presented herein are subject to the following:
 - a. The contract between Wood and the Client, including any subsequent written amendment or Change Order duly signed by the parties (hereinafter together referred as the "Contract");
 - b. Any and all time, budgetary, access and/or site disturbance, risk management preferences, constraints or restrictions as described in the contract, in this report, or in any subsequent communication sent by Wood to the Client in connection to the Contract; and
 - c. The limitations stated herein.
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