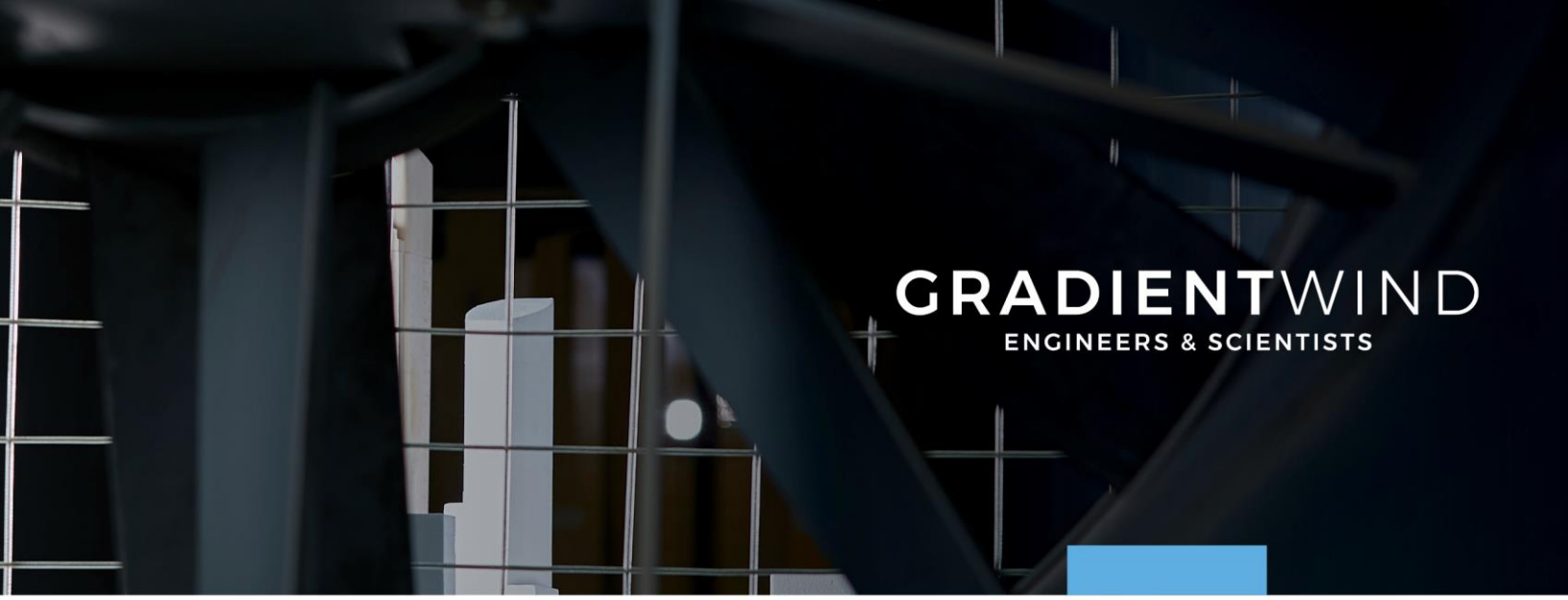


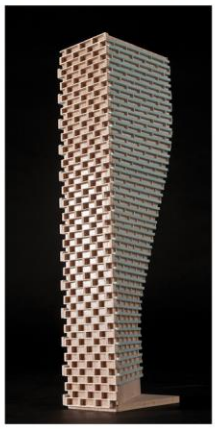
GRADIENTWIND
ENGINEERS & SCIENTISTS

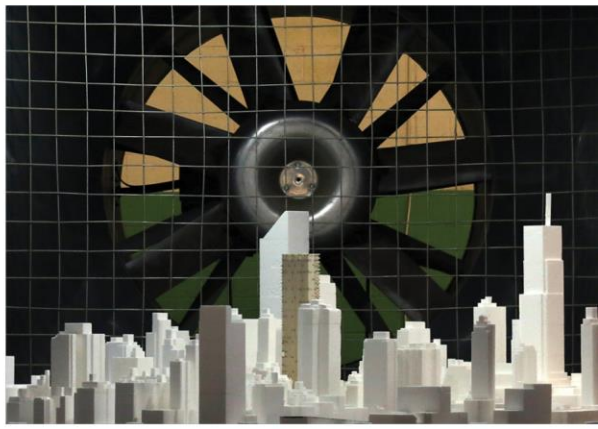
# LAND USE COMPATIBILITY ASSESSMENT

**OPA/ZBLA Resubmission v2**

50 Speers Road
Oakville, Ontario

Report: 22-209 – LUC





February 27, 2024

PREPARED FOR

**Helberg Properties Limited**
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# EXECUTIVE SUMMARY

This report describes a land use compatibility assessment in support of Official Plan and Zoning By-Law Amendment (ZBA) applications for the proposed development located at 50 Speers Road Oakville, Ontario (hereinafter referred to as the "subject site", "study site", or "proposed development"). The proposed development comprises a 27-storey residential tower topped by a mechanical penthouse and served by three levels of underground parking. The tower rises on a nominally 'H'-shaped 2-storey and, above it, a 'T'-shaped 5-storey podia. The development site is bordered by Speers Road to the northwest, high-rise residential buildings to the northeast and southwest, and low-rise residential and Oakwood Public School to the southeast.

Our survey revealed that there are several Class I and II facilities around the study site, however, they are not within the potential influence areas defined in MEPC's "Guideline D-6 Compatibility Between Industrial Facilities and Sensitive Land Uses". No Class III industry was identified within 1000 m of the study site. Therefore, no nearby facilities are expected to have adverse impacts on the site with regard to emissions, noise and vibrations, dust or odour. No land compatibility issues or conflicts with the existing or future employment lands are expected. The details on the surrounding commercial or industrial facilities can be seen in Section 4.4.

A GO Metrolinx Rail Line runs approximately 260 metres to the northwest of Speers Road. Kerr Street is located approximately 100 metres to the southwest of the development site. The primary transportation noise and vibration sources impacting the development are the GO Metrolinx Rail Line and Speers Road. GO Metrolinx Rail Line is not a concern for ground vibrations as it is located farther than 75 metres[1] from the study site. A transportation noise impact assessment on the study site revealed that the noise levels will exceed the provincial guideline, NPC-300 levels on the façades facing Speers Road and GO Metrolinx Rail Line. In addition, the 60 dBA criterion of the guidelines in outdoor living areas (OLA) will be exceeded in terraces most exposed to transportation noise sources. Therefore, noise mitigation measures; namely upgraded building components, central air conditioning, and higher parapet walls surrounding the terraces; should be applied. In addition to the mitigation measures, Type B and D warning clauses as well

[1] Dialog and J.E. Coulter Associates Limited, prepared for The Federation of Canadian Municipalities and The Railway Associated of Canada, May 2013

as a Metrolinx warning clause will be required in all Lease, Purchase and Sale Agreements. The requirements are summarized in Section 5.2.

The proposed development is considered compatible with existing Traffic-Related Air Pollution (TRAP) sources as it will incorporate mitigation measures. The incorporated mitigation measures can be seen in Section 6.

Regarding stationary noise impacts, no adverse impacts from the surrounding buildings are anticipated on the proposed development. Impacts from the development on the surroundings can be minimized by judicious placement of mechanical equipment or the incorporation of silencers and noise screens as necessary.

Provided that the comments elaborated in Section 9 under 'Conclusion' be incorporated into the design of the building, the proposed development will keep with standard building construction and good engineering practice, as well as the Town of Oakville and MECP guidelines and is acceptable as per Land Use Compatibility criteria. The proposed development is also planned to be built in an "RH – Residential High" zoning area with similar residential buildings already in the surrounding parcels and it will cause no constraints placed upon the existing buildings or planned developments.

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## 1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) has been retained by Helberg Properties Limited to undertake a land use compatibility study for a development located at 50 Speers Road in Oakville, Ontario in support of Official Plan and Zoning By-Law Amendment (ZBA) applications.

The scope of work within our mandate for this study includes a preliminary review and a professional opinion in terms of anticipated noise, vibration, odour, and air pollution impacts on the development, such as the noise and vibration impacts from the transportation sources and emissions from nearby commercial and industrial sources, as applicable. The study is based on the Ontario Ministry of Environment, Conservation and Parks (MECP) Land Use Compatibility Guidelines (D-Series) and other relevant MECP guidelines, as well as digital maps retrieved from the Town of Oakville Zoning By-law.

## 2. TERMS OF REFERENCE

The proposed development comprises a 27-storey residential tower topped by a mechanical penthouse and served by three levels of underground parking. The tower rises on a nominally 'H'-shaped 2-storey and, above it, a 'T'-shaped 5-storey podia.

The development site is bordered by Speers Road to the northwest, high-rise residential buildings to the northeast and southwest, and low-rise residential and Oakwood Public School to the southeast. A GO Metrolinx Rail Line runs approximately 260 metres to the northwest of Speers Road, separated by high-rise residential and mixed-use buildings, and low-rise commercial buildings. Queen Mary Drive is approximately 150 metres to the northeast, and Kerr Street is located approximately 100 metres to the southwest of the development site. Throughout this report, the Speers Road façade of the building is referred to as north.

The ground floor of the development contains residential occupancies, an indoor amenity space, an outdoor amenity area located to the south of the building, a property management office, service rooms, and a loading area and parking access ramp at the northeast corner of the building. Access to the building is provided from the north side of the tower fronting Speers Road. Levels 8 and 27 feature indoor amenity spaces besides the residential suites. The remaining building areas are reserved for residential occupancies.

Levels 3, 8, and 26 feature floorplate changes. The floor plate sets back on Level 3 on the west side and the northeast corner, and on Level 8, from the east and west sides creating residential terraces as well as green roofs. On Level 26, the floor plate sets back from all directions creating residential terraces.

The development will replace an existing midrise multi-tenant residential building. The intent is to add a high-rise residential apartment building. The Town of Oakville's Zoning By-law 2014-014 designates the study site's area as an "RH - Residential High", which already permits sensitive land uses. The site is bordered by a "CU - Commercial Use" zone to the east (Oakwood Public School) and an "RL - Residential Low" zone to the south. The remaining zoning areas surrounding the study site are "RH - Residential High".

The primary sources of transportation noise impacting the development are Speers Road, the GO Metrolinx Rail Line, and Kerr Street. GO Metrolinx Rail Line is not a concern for ground vibrations as it is located farther than 75 metres[2] from the study site. An assessment of the noise impacts of the transportation sources on the study site is included in this study, however, a more detailed analysis is represented in Gradient Wind's Transportation Noise & Vibration study.

The current land use compatibility assessment also provides commentary on the potential impact of existing nearby stationary sources on the subject sites.

## 3. OBJECTIVES

The main goals of this work are to (i) identify critical points of impingement and sources of emissions (odour, dust), (ii) identify transportation and stationary noise sources, (iii) identify sources of vibration, and (iv) provide measures to comply with the requirements of Ministry of the Environment, Conservation and Parks (MECP) *Guideline D-6 – Compatibility Between Industrial Facilities and Sensitive Land Uses*, and Section 9 of the *Environmental Protection Act* (EPA) R.S.O 1990 and *Ontario Regulation* (O. Reg.) 419/05 - *Air Pollution and Local Air Quality*.

[2] Dialog and J.E. Coulter Associates Limited, prepared for The Federation of Canadian Municipalities and The Railway Associated of Canada, May 2013

# 4. METHODOLOGY

The assessment is based on the desktop review of satellite imagery, street views, official plan and zoning maps, and a search of the MECP "Access Environment" database of registered Environmental Compliance Approval (ECA) and Environmental Activity and Sector Registry (EASR) permit holders.

It should be noted that information regarding complaints and/or concerns with regard to air quality, odour, and/or noise and vibrations are predominantly obtained via a Freedom of Information (FOI) request made to the Ministry of Ontario Freedom of Information Office. Complaint history gathered from this request is typically a useful tool during the preliminary evaluation stage of the nearby facilities. However, taking into account the exceptionally long processing time necessary for each FOI request, in addition to the intrinsic nature of the focus area and its surroundings, Gradient Wind concluded that the information gathered from the FOI request would not be a crucial aspect of the analysis and would likely have a negligible impact on the overall findings.

## 4.1 Identifying Critical Points of Impingement

The critical points of impingement for this study include fresh-air intakes, public sidewalks, walkways, building entrances, balconies, and terraces/green roofs devoted to common amenity space. Different receiver location types can have varying exposure times and sensitivities to pollutants. For instance, fresh-air intakes continuously provide air to the building's mechanical systems and can affect a large number of the building's occupants, making them the most sensitive. Main entrances operate intermittently, predominantly during daytime hours; therefore, the sensitivity of these locations is lower.

## 4.2 Identifying Sources of Emissions

Following the definition of the critical points of impingement, a review of the study area was conducted to locate sources of airborne pollutants and odours. In general, emission sources that are considered potentially influential to residential properties include nearby, existing commercial/industrial facilities.

Industrial processes are bound by the requirements of **Section 9** of the **Environmental Protection Act (EPA) R.S.O 1990** and **Ontario Regulation (O. Reg.) 419/05 - Air Pollution and Local Air Quality**. Section 9 of the Environmental Protection Act states that "*No person shall, except under and in accordance with an environmental compliance approval, use, operate, construct, alter, extend or replace any plant, structure, equipment, apparatus, mechanism or thing that may discharge or from which may be discharged a contaminant into any part of the natural environment other than water*". Despite compliance with Section 9 of the EPA, a facility may be liable under Section 14 of the EPA if they permit the discharge of a contaminant, including odour, which causes an adverse effect. Under O. Reg 419/05 "*a person shall not discharge a contaminant or cause or permit the discharge of a contaminant into the natural environment, if the discharge causes or may cause an adverse effect*".

In order to obtain and maintain an Environmental Compliance Approval (ECA) (formerly referred to as a Certificate of Approval (CoA)), the emitting source must show compliance with O. Reg. 419/05. Compliance with O. Reg. 419/05 for air emissions is shown through an Emissions Summary and Dispersion Modelling (ESDM) report. An ESDM report quantifies all emissions from a facility and must demonstrate, through air dispersion modelling, that contaminant concentrations are below standards prescribed in O.Reg 419/05 at all points of impingement.

To minimize the potential for adverse impacts of industrial activities on sensitive land uses, the MECP has provided guidelines for adequate buffering of incompatible land uses under "Guideline D-6 Compatibility Between Industrial Facilities and Sensitive Land Uses". The minimum separation distances are based on both the size of a facility and the scope of industrial activities within the facility, classified as Class I, II, or III, for light, medium and heavy industrial uses, respectively. Table 1 summarizes the recommended separation distance and potential area of influence for each class (see Figure 1). A sensitive development may be permitted within an industrial influence zone if appropriate air quality studies are undertaken, and potential causes of adverse effects are mitigated.

**TABLE 1: D-6 RECOMMENDED SEPARATION & INFLUENCE AREA**

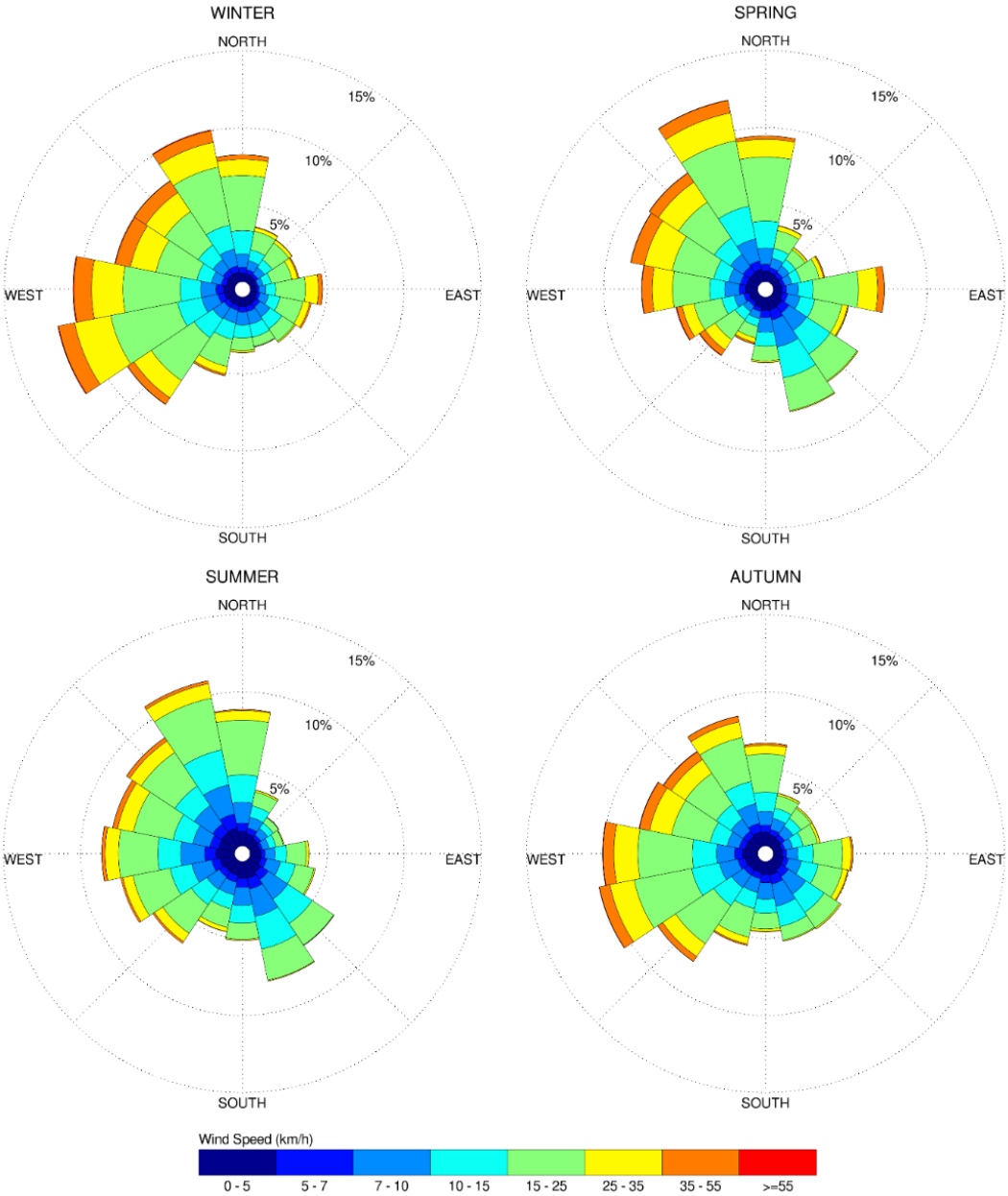
| Class | Minimum Recommended Separation Distance (m) | Potential Influence Area (m) |
|---|---|---|
| I | 20 | 70 |
| II | 70 | 300 |
| III | 300 | 1000 |

## 4.3 Meteorological Data Analysis

A statistical model for winds in the Toronto area was developed from approximately 40 years of hourly meteorological wind data recorded at Lester B. Pearson International Airport and obtained from Environment and Climate Change Canada. Wind speed and direction data were analyzed for each month of the year in order to determine the statistically prominent wind directions and corresponding speeds, and to characterize similarities between monthly weather patterns. Based on this portion of the analysis, the four seasons are represented by grouping data from consecutive months based on the similarity of weather patterns, and not according to the traditional calendar method.

The statistical model of the area's wind climate, which indicates the directional character of local winds on a seasonal basis, is illustrated on the following page. The plots illustrate the seasonal distribution of measured wind speeds and directions in kilometres per hour (km/h). Probabilities of occurrence of different wind speeds are represented as stacked polar bars in sixteen azimuth divisions. The radial direction represents the percentage of time for various wind speed ranges per wind direction during the measurement period. The common wind speeds and directions can be identified by the longer length of the bars. For the area, the most common winds concerning pedestrian comfort occur from the southwest clockwise to the north, as well as those from the east. The directional preference and relative magnitude of the wind speed vary somewhat from season to season, with the summer months displaying the calmest winds relative to the remaining seasonal periods. As the prevailing winds are westerly and northwesterly, they are favourable for the subject site, which will force emissions from the industries to the north, away from critical points of impingement on the subject site.

## SEASONAL DISTRIBUTION OF WIND
## LESTER B. PEARSON INTERNATIONAL AIRPORT, TORONTO, ONTARIO




**Notes:**

1. Radial distances indicate the percentage of time of wind events.
2. Wind speeds are mean hourly in km/h, measured at 10 m above the ground.

## 4.4 Sources of Emission in the Vicinity of the Subject Site

We conducted a survey of the surrounding facilities within the potential influence areas via aerial imagery and a search of the MECP "Access Environment" database of registered ECA and Environmental Activity and Sector Registry (EASR) permit holders.

Our survey revealed that there are several Class I and II facilities around the study site, however, they are not within the potential influence areas and only one of the Class II industries is still active. No Class III industry was identified within 1000 m of the study site. Some of the notable Class II facilities that are identified within 1000 metres of the site are described below. The Class II facilities listed below can also be seen in Figure 1.

### 4.4.1 Class I Industries

No Class I industries were identified within the Potential Influence Area of 70 metres.

### 4.4.2 Notable Class II Industries out of the Potential Influence Area

#### 165 Wyecroft Road – Greif Brothers Canada Inc.:

**Industry:** Steel Drum Manufacturing Facility
**Environmental Compliance Approval (ECA) No/Date:** 6993-9LMJ53 / July 11, 2014
**Distance from the Proposed Development:** Approx. 700 metres

The ECA approval consists of the following processes and support units: rolled steel cutting, drum forming (shaping and welding), drum body and parts painting and lining (paint spray booths), drum body and parts curing and baking (ovens), drum finishing (silk screening, touch-up painting, use of solvents, adhesives and seam compounds), including the Equipment and any other ancillary and support processes and activities.

**Potential Impact:** The facility is located more than 700 metres to the west of the study site which is beyond the potential influence area. Moreover, the facility is not currently active. Therefore, no adverse noise, vibration, dust, emissions or odour impact from the facility is expected to impact the study site.

**656 Kerr Street – Dana Canada Corp.:**

**Industry:** Manufacturing, Research, Development and Testing Centre

**Environmental Compliance Approval (ECA) No/Date:** 4354-93HMEV / May 5, 2014

**Distance from the Proposed Development:** Approx. 340 metres

The manufacturing, research, development and testing centre for the automotive heat exchanger products facility holds an ECA including the following activities: Nickel Plating; Stamping, Forming and Pre-Assembly; Brazing; and Testing Laboratories. The facility previously was approved for an exhaust system serving an aluminum fines operation with an Environmental Compliance Approval (ECA # 6652-4KSQFU), dated June 13, 2000, for Long Manufacturing Ltd.

**Potential Impact:** The facility is located approximately 340 metres to the northwest of the study site which is beyond the potential influence area. Therefore, no adverse noise, vibration, dust, emissions or odour impact from the facility is expected to impact the study site.

### 4.4.3 Class III Industries

No Class III industries were identified within the Potential Influence Area of 1000 metres.

## 5. TRANSPORTATION NOISE & VIBRATION IMPACTS

### 5.1 Roadway and Railway Noise Criteria

For roadways, the $L_{eq}$ is commonly calculated on the basis of a 16-hour ($L_{eq16}$) daytime (07:00-23:00) / 8-hour ($L_{eq8}$) nighttime (23:00-07:00) split to assess its impact on residential buildings. NPC-300 guidelines specify that the recommended indoor noise limit range (that is relevant to this study) is 45 dBA for living areas of residences both daytime and nighttime while it is 45 and 40 dBA for sleeping quarters during daytime and nighttime, respectively, as listed in Table 2.

**TABLE 2: INDOOR SOUND LEVEL CRITERIA (ROAD & RAIL)** [3]

| Type of Space | Time Period | $L_{eq}$ (dBA) | |
|---|---|---|---|
| | | Road | Rail |
| General offices, reception areas, retail stores, etc. | 07:00 – 23:00 | 50 | 45 |
| **Living/dining/den areas of residences**, hospitals, schools, nursing/retirement homes, day-care centres, theatres, places of worship, libraries, individual or semi-private offices, conference rooms, etc. | 07:00 – 23:00 | 45 | 40 |
| Sleeping quarters of hotels/motels | 23:00 – 07:00 | 45 | 40 |
| **Sleeping quarters of residences**, hospitals, nursing/retirement homes, etc. | 23:00 – 07:00 | 40 | 35 |

## 5.2 Transportation Noise

A GO Metrolinx Rail Line runs approximately 260 metres to the northwest of Speers Road. Kerr Street is located approximately 100 metres to the southwest of the development site. The primary transportation noise and vibration sources impacting the development are the GO Metrolinx Rail Line and Speers Road. GO Metrolinx Rail Line is not a concern for ground vibrations as it is located farther than 75 metres[4] from the study site. A transportation assessment of the transportation noise impacts on the study site revealed that the noise levels on façades facing Speers Road and GO Metrolinx Rail Line will rise to 70-71 dBA.

As the noise levels exceed the noise level criteria for roadways and railways, 65 and 60 dBA respectively, defined by NPC-300, upgraded building components will be required for the exterior windows and walls of the study building. The Results of the study also indicated that the development will require central air conditioning or a similar mechanical system, which will allow occupants to keep windows closed and maintain a comfortable living environment. In addition to upgraded building elements and ventilation requirements, a Type D Warning Clause will also be required in all Lease, Purchase and Sale Agreements, as summarized below:

[3] Adapted from Table C-2, Part C, Section 3.2.3 of NPC-300
[4] Dialog and J.E. Coulter Associates Limited, prepared for The Federation of Canadian Municipalities and The Railway Associated of Canada, May 2013

*"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."*

## TABLE 3: WINDOW & WALL STC REQUIREMENTS SUMMARY

| Window STC Requirements | | | |
|---|---|---|---|
| **Building Section** | **Façade** | **Room** | **STC Requirement** |
| 2-Storey Podium & Residential Tower | North | Bedroom | STC 35 |
| | | Living Room | STC 30 |
| Residential Tower | Northwest | Bedroom | STC 35 |
| | | Living Room | STC 30 |
| Podium Levels 3-7 | North | Bedroom | STC 33 |
| | | Living Room | STC 28 |
| 2-Storey Podium | East | Bedroom | STC 33 |
| | | Living Room | STC 28 |
| Residential Tower | Northeast | Bedroom | STC 33 |
| | | Living Room | STC 28 |
| 2-Storey Podium & Podium Levels 3-7 | West | Bedroom | STC 31 |
| | | Living Room | STC 26 |
| • All other windows to satisfy Ontario Building Code (OBC 2020) requirements. | | | |
| **Wall STC Requirements** | | | |
| • Exterior wall components on all façades will require a minimum STC of 45. | | | |
| **Warning Clause Requirement** | | | |
| Type D | | | |

The noise levels exceed 60 dBA in terraces most exposed to transportation noise sources. Consequently, a noise barrier/parapet wall or solid railing surrounding those terraces will be required to reduce the noise levels to 60 dBA. Our study showed that the noise levels can be reduced to 60 dBA in most of the terraces except the Level 3 northeast terrace which requires a 2.4-metre high barrier. As it will not be technically and administratively feasible to build a noise barrier that high, we recommend reducing the noise levels with a 1.5-metre high noise barrier/parapet wall or solid railing for this area. The noise level in the at-grade outdoor living area is compatible with provincial noise guidelines as the area is not directly exposed to transportation noise.

Noise barriers should be built with solid elements having a minimum surface mass of 20 kg/m² and should contain no gaps. The noise barrier for the terraces can be built as a parapet wall, a solid glass railing, or a combination of both. However, it should not contain gaps. Glass noise screens can be built as glass-to-glass. If balusters are used the screen should be designed without any gap between the glass and balusters. In addition to noise barriers, a Type B Warning Clause will be required in all Lease, Purchase and Sale Agreements, as summarized below:

> *"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing transportation noise may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."*

### TABLE 4: NOISE BARRIER REQUIREMENTS SUMMARY

| Outdoor Area Location | Recommended Barrier/Parapet Wall Height Above Walking Surface (m) | Daytime $L_{eq}$ Noise Levels (dBA) with the Recommended Barrier* | Warning Clause |
|---|---|---|---|
| OLA / Level 8 Northeast Terrace | 1.5 | 59 | Type B |
| OLA / Level 8 Northwest Terrace | 1.5 | 60 | |
| OLA / Level 3 Northwest Terrace | 1.5 | 60 | |
| OLA / Level 3 Northeast Terrace | 1.5 | 62 | |

*Noise barriers should be built with solid elements having a minimum surface mass of 20 kg/m² and should contain no gaps. The noise barrier for the terraces can be built as a parapet wall, a solid glass railing, or a combination of both. However, it should not contain gaps. Glass noise screens can be built as glass-to-glass. If balusters are used the screen should be designed without any gap between the glass and balusters.

Also, a Metrolinx warning clause will be required in all Lease, Purchase and Sale Agreements as per GO Metrolinx requirements since the development is within 300 m of the rail line, as summarized below:

> *"Metrolinx and its assigns and successors in interest operate commuter transit service within 300 metres from the land which is the subject hereof. In addition to the current use of these lands, there may be alterations to or expansions of the rail and other facilities on such lands in the future including the possibility that Metrolinx or any railway entering into an agreement with Metrolinx or any railway assigns or successors as aforesaid may expand their operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwellings. Metrolinx will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under these lands."*

The subject property is considered compatible with existing transportation noise sources with the inclusion of noise mitigation measures, such as upgrading building components, ventilation requirements, and parapet walls or solid railings (without gaps). Please see Gradient Wind's Transportation Noise & Vibration study for a detailed transportation noise analysis.

## 6. TRANSPORTATION SOURCES AIR QUALITY IMPACT

Similarly, the dominant sources of transportation emissions include Speers Road, the GO Metrolinx Rail Line, and Kerr Street. This is based on their distance relative to the subject site as well as their roadway classifications.

Roadways are not considered within the MECP D-Series guidelines. However, the City of Toronto has created a report detailing the impacts of roadway traffic pollution on sensitive buildings and ways to mitigate such impacts which also applies to Oakville as the town is part of the Greater Toronto Area. This report is titled "*Avoiding the TRAP: Traffic-Related Air Pollution in Toronto and Options for Reducing Exposure".*

Based on Gradient Wind's experience, emissions from roadways such as Speers Road and Kerr Street, and railways such as the GO Metrolinx Rail Line, may at times approach ambient air quality standards set out by the MECP. However, any trivial impacts can be addressed with filtration of the fresh air intakes and Energy Recovery Ventilators.

The following is a list of a few suggested mitigation strategies presented in the TRAP report to address air pollution impacts from transportation sources:

- Implementing barriers between sources and sensitive areas (i.e., physical or vegetation).
- Consideration for the location and orientation of individual buildings and outdoor amenity areas (i.e., position sensitive areas as far as possible from roadways and buffered by transitional uses).
- Mechanical building ventilation with Minimum Efficiency Reporting Value (MERV) 8 certification particulate filters.
- Where possible, only open windows on the side of buildings that face away from TRAP sources.
- Locating ventilation intakes away from transportation sources (i.e., the highest point of the building).*

* It should be noted that placing operable windows only on the façades of the building, which are not facing Traffic-Related Air Pollution (TRAP) sources, may not be feasible. Therefore, it is important to include appropriate ventilation systems such as centralized air conditioning, or a similar mechanical system, in sensitive spaces to allow residents to keep windows closed and achieve a comfortable indoor environment.

The mitigation measures incorporated in the proposed development are:

- Use of green roof on sides of the terraces facing Go Metrolinx Rail Line and Speers Road.
- Providing centralized air conditioning, or a similar mechanical system.
- A grade-level outdoor amenity protected from the TRAP sources, both for pollution and noise, by the podia.
- Utilizing Minimum Efficiency Reporting Value (MERV) 8 certification particulate filters to the building ventilation systems.

Based on the TRAP sources-related mitigation measures listed above, the proposed development is considered compatible with existing TRAP sources. Therefore, the TRAP sources are not a concern for dust or odour.

## 7. STATIONARY NOISE IMPACTS FROM THE SURROUNDINGS ON THE STUDY SITE

The subject site is surrounded by high-rise residential and mixed-use buildings, and low-rise commercial and residential buildings. Gradient Wind conducted a survey of the study site, using the satellite view of the area. Our survey revealed that the large mechanical equipment serving the high-rise buildings is already enclosed by noise screens and other mechanical equipment is relatively small. Therefore, we did not identify any significant existing sources of stationary noise impacting the development site.

There are no industrial or commercial properties within the proximity of the study site that can adversely impact the development. The noise impacts from the surrounding residential properties' mechanical equipment will also be addressed with upgraded building components recommended for transportation noise impacts. Therefore, no adverse impacts from the surrounding buildings are anticipated. Moreover, sources associated with these properties are expected to fall below ambient background noise generated by the surrounding transportation noise sources.

## 8. STATIONARY NOISE IMPACTS ON NEW & EXISTING BUILDINGS FROM THE STUDY SITE

The primary noise-sensitive properties within the close vicinity of the site are low-rise dwellings located to the southeast, Oakwood Public School to the east and mid to high-rise residential buildings surrounding the proposed development in all remaining directions. A review of the satellite and street imagery revealed that there is also a new condominium development at 62 Shepperd Road approximately 105 metres to the northwest of the study site. Impacts from the development on the surroundings can be minimized by judicious placement of mechanical equipment or the incorporation of silencers and noise screens as necessary. It is recommended that any large pieces of HVAC equipment, which is required to be situated outdoors, be placed closer to the penthouse avoiding the line of sight with the surrounding noise-sensitive buildings.

## 9. CONCLUSIONS AND RECOMMENDATIONS

The study site is bordered by Speers Road to the northwest. Also, a GO Metrolinx Rail Line runs to the northwest of the study site and Kerr Street is approximately 100 metres to the southwest. The site is surrounded by high-rise, mixed-use and residential buildings from northeast to southwest, counterclockwise, with Oakwood Public School to the east, and low-rise residential to the southeast. The site was assessed for noise, vibration, dust, odour, and air quality concerns. The conclusions of our assessment are summarized below.

### Emissions, Odour, and Noise and Vibration Impacts from the Industrial Facilities:

Our survey revealed that there are several Class I and II facilities around the study site, however, they are not within the potential influence areas defined in MEPC's "Guideline D-6 Compatibility Between Industrial Facilities and Sensitive Land Uses". No Class III industry was identified within 1000 m of the study site. Therefore, no nearby facilities are expected to have adverse impacts on the site with regard to emissions, noise and vibrations, and odour. No land compatibility issues or conflicts with the existing or future employment lands are expected.

## Transportation Sources Noise and Vibration Impact:

As summarized in Section 5.2, the development will require upgraded building components as well as central air conditioning. Parapet walls or solid railings will be placed around terraces where noise levels exceed 60 dBA. Noise barriers should be built with solid elements having a minimum surface mass of 20 kg/m² and should contain no gaps. Glass noise screens can be used as noise barriers.

In addition to noise mitigation measures, Type B and D warning clauses and a Metrolinx warning clause will be required in all Lease, Purchase and Sale Agreements (see Section 5.2).

The subject property is considered compatible with existing transportation noise sources with the inclusion of the aforementioned noise mitigation measures. Please see Gradient Wind's Transportation Noise & Vibration study for a detailed transportation noise analysis.

## Transportation Noise Sources Air Quality Impact:

The required mitigation measures to control Traffic-Related Air Pollution (TRAP), which will be incorporated into the proposed development, are summarized below:

- Use of green roof on sides of the terraces facing Go Metrolinx Rail Line and Speers Road.
- Providing centralized air conditioning, or a similar mechanical system.
- A grade-level outdoor amenity protected from the TRAP sources, both for pollution and noise, by the podia.
- Utilizing Minimum Efficiency Reporting Value (MERV) 8 certification particulate filters to the building ventilation systems.

Based on the TRAP sources-related mitigation measures listed above, the proposed development is considered compatible with existing TRAP sources. Therefore, the TRAP sources are not a concern for dust or odour.

## Stationary Noise Source Impacts:

As the subject site is surrounded by high-rise residential and mixed-use buildings, and low-rise commercial and residential buildings and there are no industrial or commercial properties within the proximity of the study site that can adversely impact the development, no adverse noise or vibration impacts from the surrounding buildings are anticipated on the proposed development. Moreover, sources associated with these properties are expected to fall below ambient background noise generated by the surrounding transportation noise sources.

Impacts from the development on the surroundings can be minimized by judicious placement of mechanical equipment or the incorporation of silencers and noise screens as necessary. It is recommended that any large pieces of HVAC equipment, which is required to be situated outdoors, be placed closer to the penthouse avoiding the line of sight with the surrounding noise-sensitive buildings.

## Conclusion:

In keeping with standard building construction and good engineering practice, as well as the Town of Oakville and MECP guidelines, the following comments and recommendations are provided to be incorporated into the design of the building to ensure indoor air quality and noise levels are maintained to acceptable standards for the proposed development:

(i) Based on the findings of this report, Gradient Wind concludes that the residential sensitive land use is feasible, as the proposed building is within the “RH – Residential High” zoning area (see Appendix A) and there are already existing residential buildings in close vicinity of the property. Also, the study site is within the growth area in the adapted Liveable Oakville plan as per the Town of Oakville Zoning By-law 2014-014, Map 19 (7a) for Zoning within Kerr Village (See Figure A).

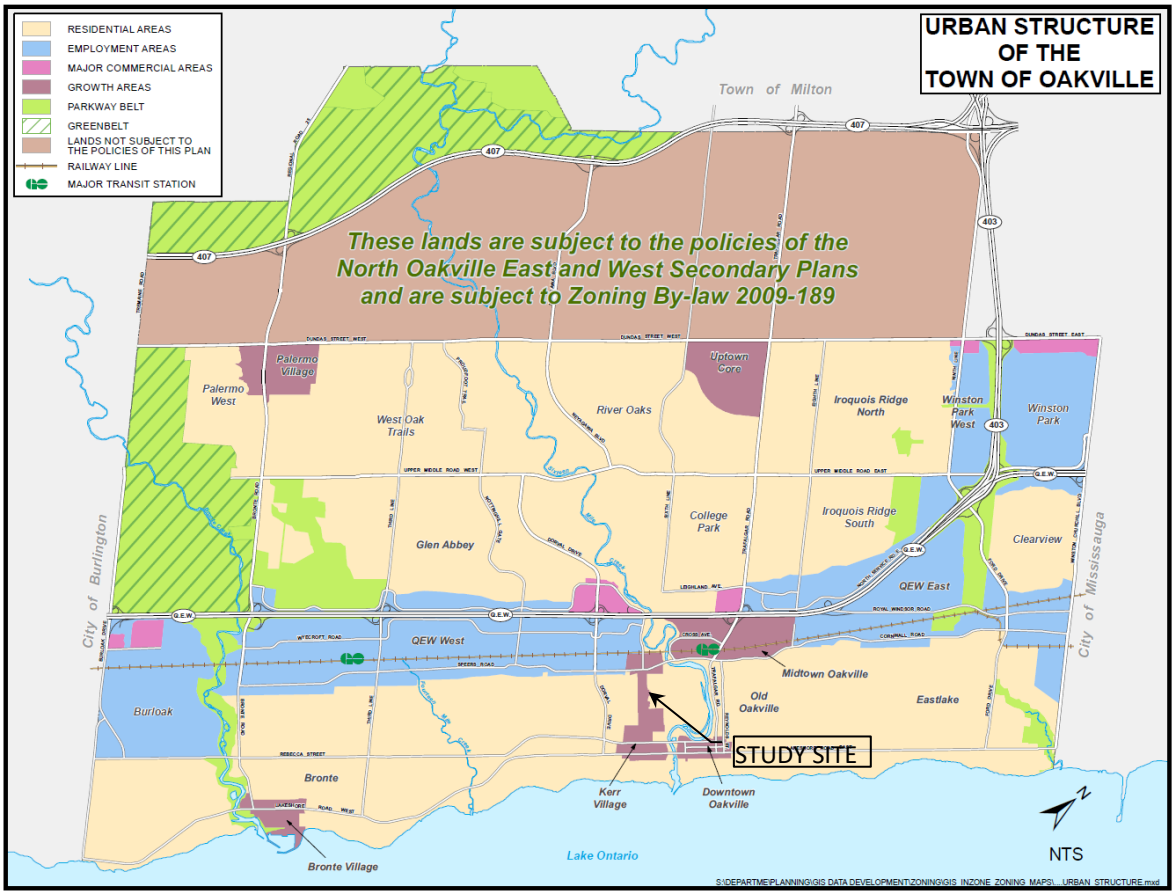



**FIGURE A: LIVABLE OAKVILLE PLAN MAP**

(ii) The identified industries operating with a valid ECA are out of the potential influence areas defined by Ontario Guideline D-6 Compatibility between Industrial Facilities.

(iii) The transportation noise concerns are required to be addressed with the mitigation measures listed in Section 5.2 and above (upgraded building components, noise barrier/parapet wall, central air conditioning or a similar mechanical system) and warning clauses. Provided that the mitigation measures are applied, the development will be compatible with the Ministry of the Environment, Conservation and Parks (MECP) NPC-300 Guidelines for existing transportation noise sources.

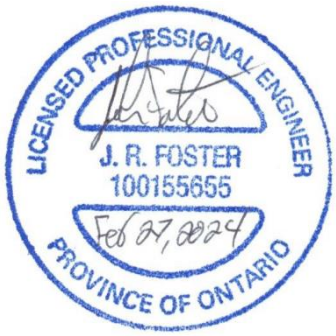
(iv) The development will incorporate mitigation strategies to address emission impacts from TRAP sources, as outlined in Section 6. Therefore, the TRAP sources are not a concern for dust or odour.

(v) In line with standard building practices, appropriate provisions include the design, installation, operation, and maintenance of air filtration at the fresh air intakes of the mechanical systems serving all habitable areas, including the addition of air conditioning. The areas that would not require filtered air would be parking garages and utility spaces. Minimum Efficiency Reporting Value (MERV) 8 certification filters should be used for this development in all occupied spaces. Details of the air filtration system will be designed by the mechanical engineers during the detailed design phase.

This concludes our assessment and report. If you have any questions or wish to discuss our findings, please advise us. In the interim, we thank you for the opportunity to be of service.

Sincerely,

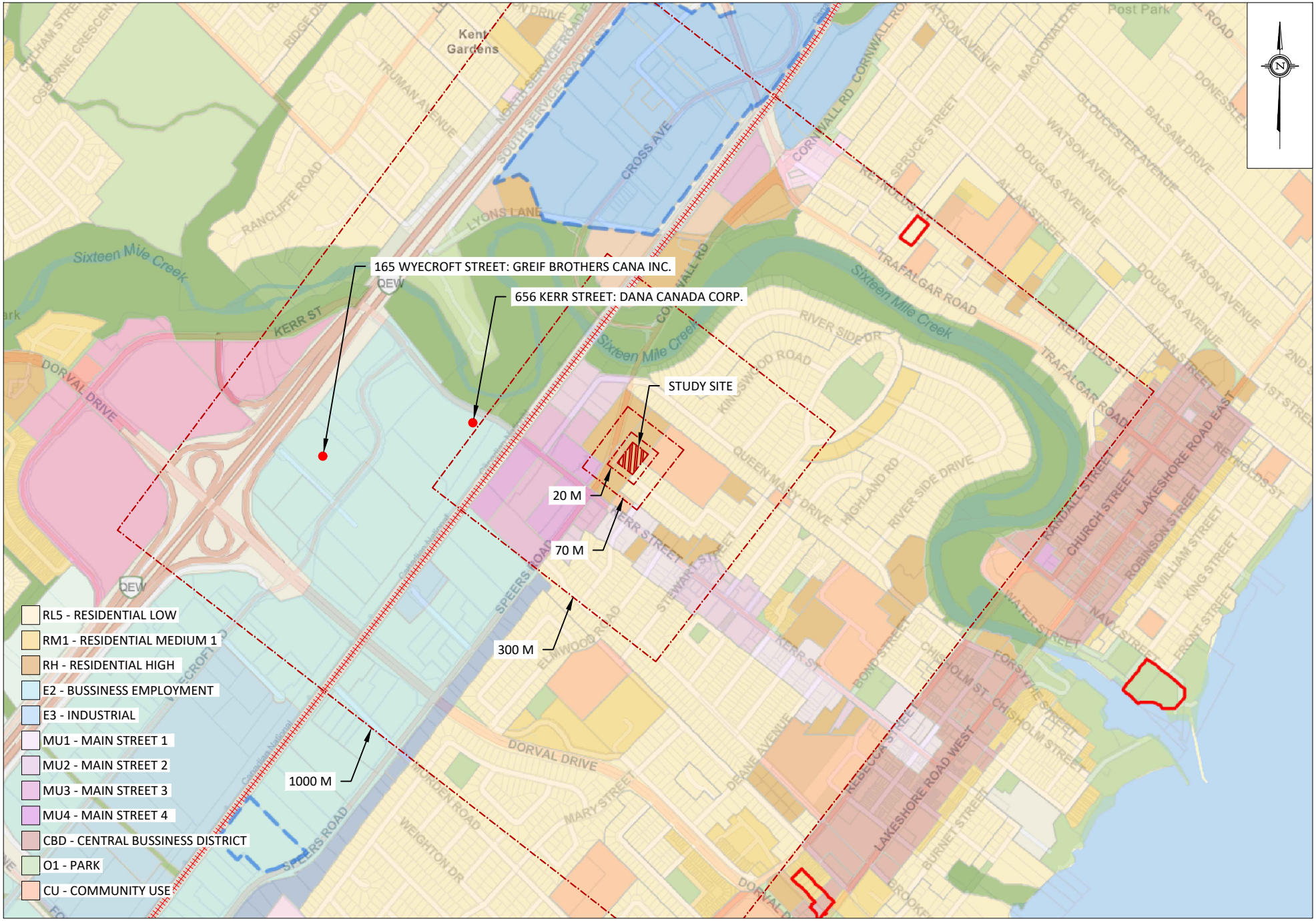
***Gradient Wind Engineering Inc.***




Efser Kara, MSc, LEED GA
Acoustic Scientist

Joshua Foster, P.Eng.
Lead Engineer

*Gradient Wind File #22-209 – LUC*




GRADIENTWIND
ENGINEERS & SCIENTISTS

127 WALGREEN ROAD, OTTAWA, ON
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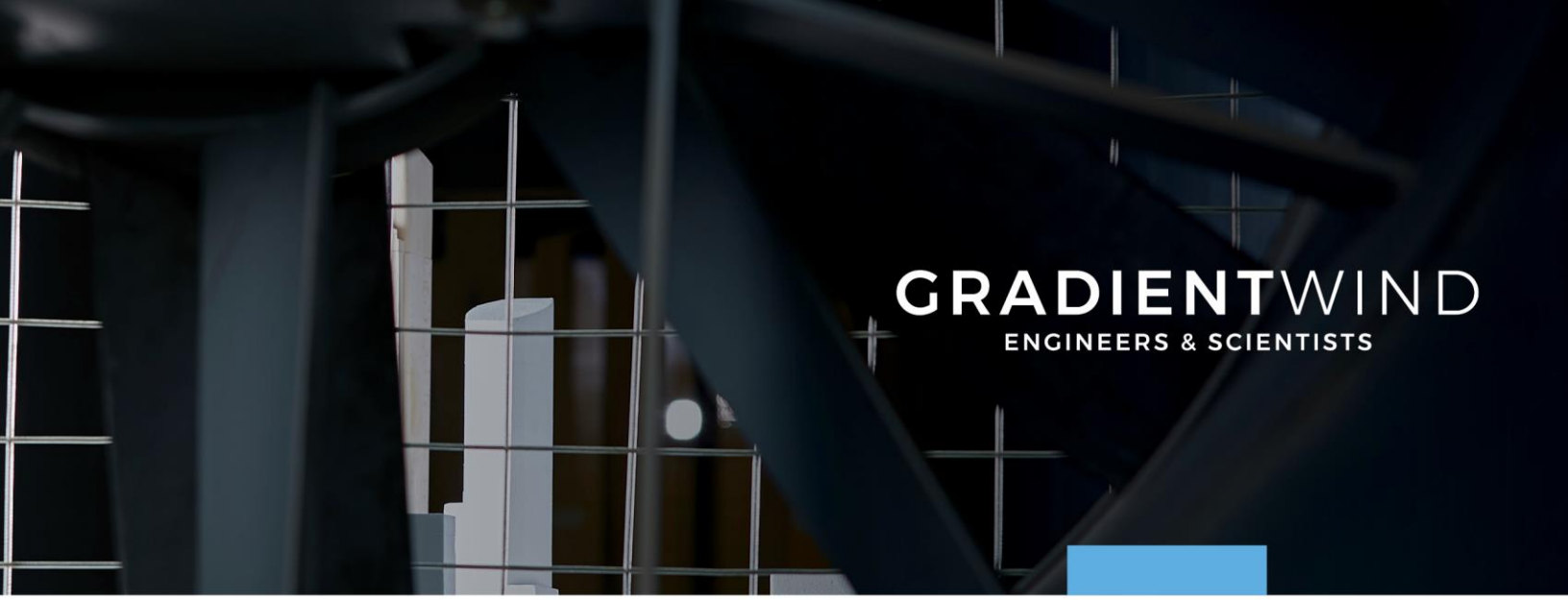
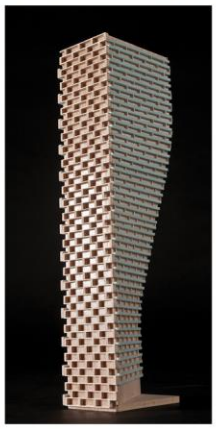
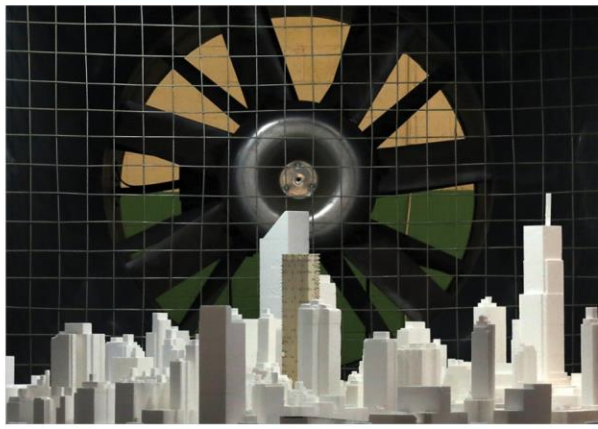
| | | | |
|---|---|---|---|
| PROJECT | 50 SPEERS ROAD, OAKVILLE<br>LAND USE COMPATIBILITY ASSESSMENT | | DESCRIPTION |
| SCALE | 1:14000 (APPROX.) | DRAWING NO. | GW22-209-1 |
| DATE | AUGUST 9, 2022 | DRAWN BY | E.K. |

FIGURE 1:
PROPERTY LINE AND SURROUNDING CONTEXT





# APPENDIX A

# ZONING MAP

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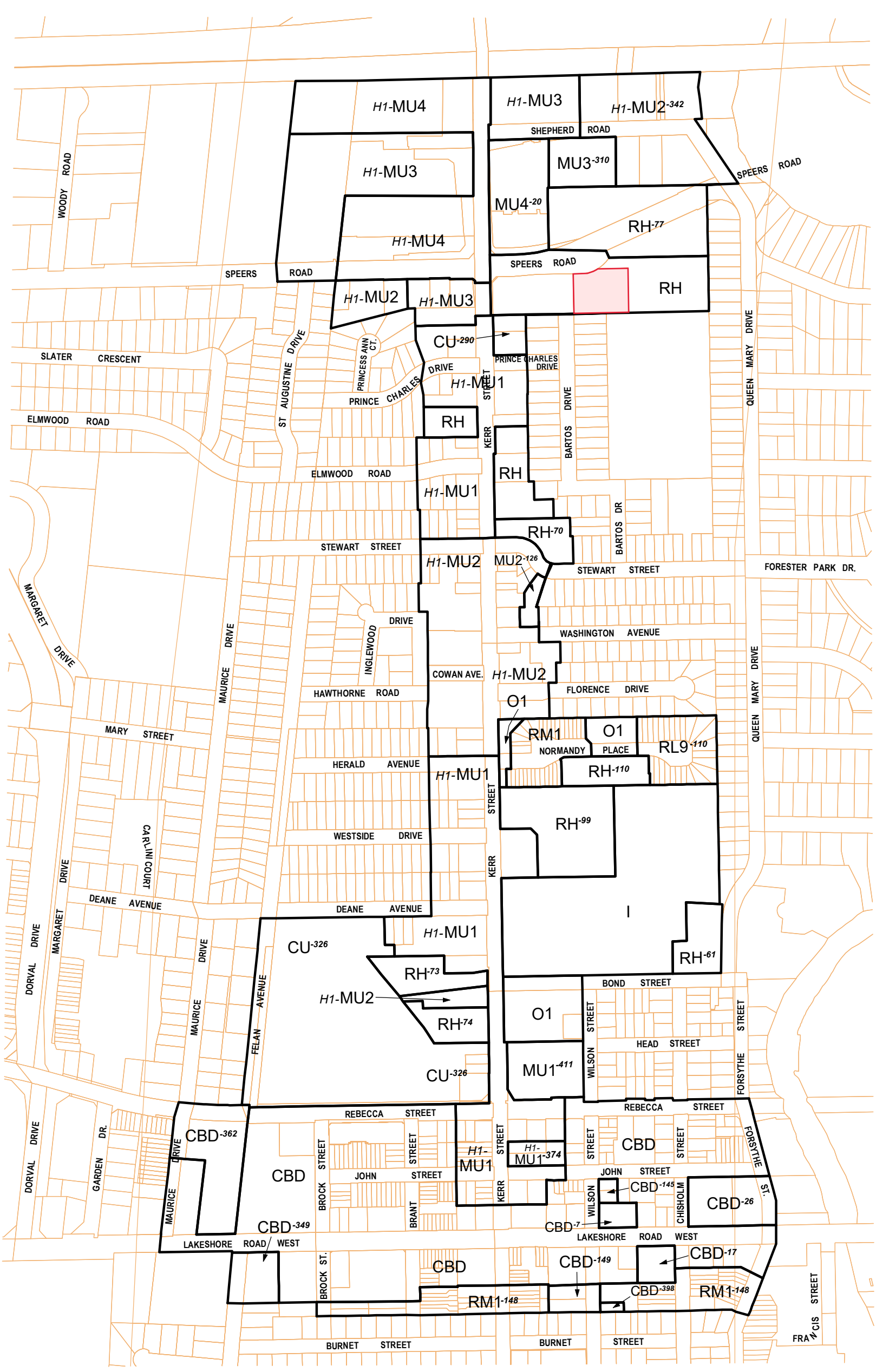


ZONING BOUNDARY

# TOWN OF OAKVILLE

**Zoning By-law 2014-014**

**Community Development Commission**
**Strategic Business Services**

0 125 250 375 500 Meters

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**19(7a)**