REPORT

1 CLAIR ROAD EAST

GUELPH, ONTARIO

NOISE AND VIBRATION IMPACT STUDY

RWDI #2401100

August 2, 2024

SUBMITTED TO

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VERSION HISTORY

Index	Date	Description	Prepared by	Reviewed by
1	August 2, 2024	Submitted for OPA/ZBA	Caelan Weber-Martin	Ayman Shaaban

EXECUTIVE SUMMARY

RWDI was retained by FCHT Holdings (Ontario) Corporation, a subsidiary of First Capital REIT, to prepare a Noise and Vibration Impact Study for the proposed development located at 1 Clair Road East in Guelph, Ontario. The proposed development will consist of 4 blocks of mixed-use buildings. This assessment was completed to support the Official Plan and Zoning By-Law Amendment (OPA/ZBA) submissions as required by the City of Guelph.

The following noise control measures are recommended for the proposed development:

1. Installation of central air-conditioning so that all suites' windows can remain closed.
2. The inclusion of noise warning clauses related to:
    a. Transportation sound levels at the building façade and in the outdoor amenity areas
    b. Proximity to commercial/industrial land use
3. Minimum sound isolation performance:
    a. Suite window glazing with minimum sound isolation performance up to STC-29 for certain façade of the podiums of Blocks C and D and Tower D, as detailed herein.
4. Construction of perimeter noise barriers along some outdoor amenity areas, if feasible, to address transportation noise. Otherwise, the applicable warning clause should be included.
5. Construction of perimeter noise barriers for the west outdoor amenity area on the podium of Tower D and to its north to address surrounding stationary sources of noise.
6. Apply offsite on-source mitigation for the HVAC equipment associated with the commercial plaza to the immediate west, as detailed herein.

The potential noise levels from stationary sources of sound were investigated. Based on the noise modeling results and setback distances, the land use compatibility of the proposed development with respect to the nearby industrial land uses is considered acceptable from the noise assessment perspective with implementation of mitigation measures for adjacent stationary sources. Due to the proximity of the proposed development to commercial facilities, a warning clause is recommended to inform prospective occupants of the potential for audible noise from these facilities. Moreover, offsite on-source mitigation is required for the HVAC equipment associated with the commercial plaza, to the immediate west, as discussed in the study.

At this stage in design, the noise levels produced by the development on itself and its surroundings could not be quantitatively assessed. However, the effect on both the building itself and its surroundings is expected to be feasible to meet the applicable criteria. We recommend that the building design is evaluated prior to building permit to ensure that the acoustical design is adequately implemented in order to meet the applicable criteria.

Based on the results of the analysis, including implementation of the recommendations included with this assessment, the proposed development is feasible to meet the applicable sound and vibration criteria.

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1 INTRODUCTION

RWDI was retained by FCHT Holdings (Ontario) Corporation, a subsidiary of First Capital REIT, to prepare a Noise and Vibration Impact Study for the proposed development located at 1 Clair Road East in Guelph, Ontario. The proposed development will consist of 4 blocks of mixed-use buildings. The context site plan is shown in **Figure 1**.

The site is exposed to noise from road traffic from Clair Road to the north, Hawkins Drive to the east, Poppy Drive to the south, Farley Drive and Gordon Street to the west.

The nearest operational railway is more than 3 kilometres (km) to the east of the proposed development. The assessment of noise and vibration from the rail is not required per the Railway Association of Canada's Guidelines for New Development in Proximity to Railway Operations (RAC, 2013).

The development is surrounded by residential and commercial buildings in all directions, with no significant industrial facilities in the surrounding area within 1 km radius. A noise assessment of nearby stationary sources associated with commercial uses was conducted for buildings located within 70 m of the development, which aligns with the zone of influence for light Class I facilities as per Ontario Ministry of the Environment, Conservation and Parks (MECP) Guideline D-6 (MOE, 1995). Moreover, a car wash at approximately 120 m setback to the west was also included to assess for any potential sound impacts.

This assessment was completed to support the Official Plan and Zoning By-Law Amendment (OPA/ZBA) submissions as required by the City of Guelph. This assessment was based on design drawings received on and before August 1, 2024. A copy of the drawings is included in **Appendix A.**

2 APPLICABLE CRITERIA

Applicable criteria for transportation noise sources (road) and stationary noise sources are adopted from the MECP NPC-300 Environmental Noise Guideline (MOE, 2013) and from the Guelph Noise Control Guidelines (GNCG) (Guelph, 2018), with a summary of the applicable criteria included with **Appendix B**.

The proposed development site would be characterized as a "Class 1 Area", which is defined according to NPC-300 as an area with an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum."

3 SITE VISIT

A site visit was conducted by RWDI on November 30, 2023 to obtain a better understanding of the acoustic environment of the area and to take measurements and gather information regarding stationary sources located on adjacent rooftops to the west of the proposed development. During the site visit, an audible "urban hum" was noted, which is characteristic of a Class 1 Area.

4 THE EFFECTS OF THE ENVIRONMENT ON THE PROPOSED DEVELOPMENT

4.1 Transportation Source Assessment

4.1.1 Road Traffic Volume Data

Traffic data was obtained for Clair Road and Gordon Street from the City of Guelph as Automatic Traffic Recorders (ATRs), including hour-by-hour counts over the period of approximately 1 week, including vehicle classification breakdowns.

The average 24-hour total volumes over the monitoring period of the ATR data were assumed representative of the Annual Average Daily Traffic (AADT) volumes for each road, as indicated by the City of Guelph data. The average heavy vehicle breakdown and the average daytime/nighttime split were applied based on the ATR data for each of the respective roadways.

ATR data was not available for Farley Drive, Hawkins Drive, or Poppy Drive; however, Turning Movement Counts (TMCs) were provided by the City of Guelph for the intersections of Clair Road at Farley Drive, and Hawkins Drive at Poppy Drive. The TMCs were used to determine the traffic volume and types of vehicles on each link during the AM peak, PM peak, and 8-hour interval, which were assumed to be 9%, 10% and 60% of the Annual Average Daily Traffic (AADT), respectively. These typical percentages for traffic distribution were in fair agreement with the ATR data for Clair Road and Gordon Street. A medium-to-heavy vehicle ratio of 1:1 was applied to the total heavy vehicle volumes provided in the TMCs based on the trends observed in the ATR data for Clair Road and Gordon Street.

Traffic volumes were increased at a conservative annual growth rate of 2% per year to a future horizon year of 2041.

A summary of the traffic data used is included in **Table 1** below, with more detailed information included in **Appendix C**.

Table 1: Road Traffic Volumes

Roadway	2041 Future Traffic (AADT)	% Day/Night	Speed Limit (km/hr.)	% Medium Trucks	% Heavy Trucks
Gordon Street	24,061	90% /10%	60	3.9%	3.8%
Clair Road East	17,060	92% / 8%	60	3.1%	2.4%
Farley Drive	6,738	90% / 10%	40	4.9%	4.9%
Hawkins Drive	1,390	90% / 10%	40	2.2%	2.2%
Poppy Drive East	2,810	90% / 10%	40	2.1%	2.1%

4.1.2 Representative Receptors

The selection of receptors affected by transportation noise sources was based on the drawings reviewed for this assessment. Using the "building evaluation" feature of Cadna/A, each façade of the residential buildings was assessed. Commercial uses on the ground floor of Blocks C and D were excluded from the current assessment.

Outdoor Living Areas (OLAs) would include outdoor areas intended and designed for the quiet enjoyment of the outdoor environment and which are readily accessible from the building. OLAs may include any common outdoor amenity spaces associated with a multi-unit residential development (e.g. courtyards, rooftop terraces), and/or private backyards and terraces with a minimum depth of 4m provided they are the only outdoor living area for the occupant.

Daytime sound levels were assessed at the following identified OLAs:

- OLA_01a through OLA_01e: Southeast Block A At-grade Outdoor Amenity
- OLA_02: Southwest Block B At-grade Outdoor Amenity (East Amenity)
- OLA_03a through OLA_03c: Southwest Block B At-grade Outdoor Amenity (West Amenity)
- OLA_04: Northeast Block C Level 7 Outdoor Amenity
- OLA_05: Southeast Block A Level 7 Outdoor Amenity
- OLA_06a and OLA_06b: Southwest Block B Level 7 Outdoor Amenity
- OLA_07: Northwest Block D Level 7 Outdoor Amenity (West Amenity)
- OLA_08: Northwest Block D Level 7 Outdoor Amenity (East Amenity)

The OLAs are indicated in **Figure 2**.

4.1.3 Analysis and Results

Sound levels due to the adjacent transportation (road) sources were predicted using emission algorithms from the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT) guidelines implemented in the Cadna/A noise modeling software as line sources. A sample modeling output file is included in **Appendix C** for the north façade of the northwest block D at the worst-case receptor location at the height of 4.5m above ground. Moreover, a comparison is included between the STAMSON modeled impacts and the Cadna/A modeled impacts. The predicted Cadna/A sound levels are in fair agreement with those calculated in STAMSON.

To assess the effect of transportation noise on suites, the maximum sound level on each façade was determined with the results summarized in **Table 2**.

Table 2: Predicted Ground Transportation Source Sound Levels – Plane of Window

Building	Façade	Road		Notes
		Day L_{EQ}, 16hr	Night L_{EQ}, 8hr	
Northeast Block C 6 Storey Podium	N	68 dBA	60 dBA	2
	E	66 dBA	58 dBA	2
	S	55 dBA	48 dBA	-
	W	64 dBA	57 dBA	1
Northeast Block C 14 Storey Tower	N	65 dBA	58 dBA	1
	E	60 dBA	53 dBA	1
	S	54 dBA	47 dBA	-
	W	62 dBA	54 dBA	1
Southeast Block A 6 Storey Podium	N	59 dBA	52 dBA	1
	E	60 dBA	53 dBA	1
	S	54 dBA	48 dBA	-
	W	56 dBA	49 dBA	1
Southeast Block A 14 Storey Tower	N	57 dBA	50 dBA	1
	E	56 dBA	49 dBA	1
	S	53 dBA	46 dBA	-
	W	57 dBA	50 dBA	1
Southwest Block B 6 Storey Podium	N	62 dBA	55 dBA	1
	E	55 dBA	48 dBA	-
	S	61 dBA	55 dBA	1
	W	65 dBA	59 dBA	1
Southwest Block B 14 Storey Tower	N	60 dBA	53 dBA	1
	E	54 dBA	47 dBA	-
	S	59 dBA	53 dBA	1
	W	61 dBA	54 dBA	1
Southwest Block B 10 Storey Tower	N	60 dBA	53 dBA	1
	E	52 dBA	45 dBA	-

Building	Façade	Road		Notes
		Day L_{EQ}, 16hr	Night L_{EQ}, 8hr	
	S	58 dBA	52 dBA	1
	W	61 dBA	54 dBA	1
Northwest Block D 6 Storey Podium	N	68 dBA	61 dBA	2
	E	64 dBA	57 dBA	1
	S	61 dBA	54 dBA	1
	W	67 dBA	60 dBA	2
Northwest Block D 14 Storey Tower	N	66 dBA	58 dBA	2
	E	56 dBA	48 dBA	1
	S	57 dBA	50 dBA	1
	W	63 dBA	56 dBA	1

Note(s):

1. Applicable for low and medium-density developments: Provision for future installation of air-conditioning with a warning clause. Refer to **Appendix D** for guidance regarding air-conditioning as a noise mitigation measure.
2. The acoustical performance of building components must be specified to meet the indoor sound level criteria. Installation of air conditioning to allow for windows and doors to remain closed, with a warning clause. Refer to **Appendix D** for guidance regarding air-conditioning as a noise mitigation measure.

To assess the effect of transportation noise on the qualifying OLAs for development, predicted sound level results are summarized in **Table 3**.

Table 3: Transportation Sound Levels in Outdoor Living Areas (OLAs)

Receptor	Description	Daytime L_{EQ}, 16hr	Notes
OLA_01a	Southeast Block At-grade Outdoor Amenity	54	1
OLA_01b	Southeast Block At-grade Outdoor Amenity	50	1
OLA_01c	Southeast Block At-grade Outdoor Amenity	48	1
OLA_01d	Southeast Block At-grade Outdoor Amenity	49	1
OLA_01e	Southeast Block At-grade Outdoor Amenity	52	1
OLA_02	Southwest Block At-grade Outdoor Amenity (East Amenity)	54	1
OLA_03a	Southwest Block At-grade Outdoor Amenity (West Amenity)	59	2
OLA_03b	Southwest Block At-grade Outdoor Amenity (West Amenity)	55	1
OLA_03c	Southwest Block At-grade Outdoor Amenity (West Amenity)	58	2
OLA_04	Northeast Block Level 7 Outdoor Amenity	55	1
OLA_05	Southeast Block Level 7 Outdoor Amenity	54	1
OLA_06a	Southwest Block Level 7 Outdoor Amenity	50	1
OLA_06b	Southwest Block Level 7 Outdoor Amenity	47	1
OLA_07	Northwest Block Level 7 Outdoor Amenity (West Amenity)	57	2
OLA_08	Northwest Block Level 7 Outdoor Amenity (East Amenity)	53	1

Note(s):

1. The predicted sound level meets the NPC-300 and GNCG criterion for OLAs. Noise control measures are not required.
2. For OLA sound levels >55 dBA and ≤60 dBA, noise controls may be applied to meet the 55 dBA criterion. If noise control measures are not provided, a warning clause is recommended.

4.2 Stationary Source Assessment

Stationary sources could be grouped into two categories: Those that have a permit with the Ontario Ministry of the Environment, Conservation and Parks (MECP) through an Environmental Compliance Approval (ECA) or Environmental Activity and Sector Registry (EASR) and those that are exempt from ECA or EASR permit requirements.

In the case where a stationary source has an Environmental Compliance Approval (ECA) or Environmental Activity and Sector Registry (EASR) permit with the MECP, and would be put in a position where it is no longer in compliance with the applicable sound level criteria due to the encroachment of the proposed new development, source-specific mitigation and/or formal classification of the proposed development lands as a "Class 4 Area" (refer to C.4.4.2 "Class 4 Area" in NPC-300) would be required. In this case, coordination and agreements between the stationary source owner, proposed new development owner, the land-use planning authority and potentially the MECP would be needed.

In the case where a stationary source is exempt from ECA or EASR permit requirements with the MECP, the noise provisions of the applicable Municipal Code / Noise By-Law and guidance from NPC-300 would be applicable. In this case, mitigation of sound levels due to stationary sources would be to meet the applicable sound level criteria, and to avoid nuisance complaints from future occupants of the proposed new development.

4.2.1 Land-Use Compatibility Review (D-6 Guideline Assessment)

The MECP Guideline D-6 (MOE, 1995) was used as a tool to classify the identified industries and asses their potential influence on the proposed development. The classifications and setback guidelines are summarized in **Appendix B**.

None of the buildings considered in this assessment currently have an environmental permit (ECA or EASR), nor are they required to obtain one. Therefore, the conversion of mixed-use zoning to residential is not anticipated to affect any environmental approvals. Potential noise was assessed from surrounding commercial buildings was completed to avoid nuisance complaints from occupants of the proposed new development.

4.2.1.1 Class III Industries

No facilities within the 1000m radius of the proposed development were identified as Class III.

4.2.1.2 Class II Industries

No facilities within the 300m radius of the proposed development were identified as Class II.

4.2.1.3 Class I Industries

The development is surrounded by residential and commercial buildings in all directions. For this assessment, stationary sources from the surrounding commercial/retail and residential buildings are included in this assessment, based on a 70 m separation distance from the proposed development. Moreover, a car wash at approximately 120 m setback to the west was also included to assess for any potential sound impacts.

4.2.2 Stationary Source Modeling

Stationary sources of noise surrounding the proposed development were identified using a combination of source identification during a site visit conducted by RWDI on November 30, publicly available aerial and street-level imagery, and business listing. Non-permitted commercial/retail and residential buildings within a 70m setback of the proposed development are included in the assessment, in addition to a car wash at approximately 120 m setback to the west.

4.2.2.1 Representative Receptors

As with the transportation assessment, the selection of receptors affected by stationary sources was based on the drawings reviewed for this assessment. The worst-case receptor locations were assessed to evaluate the potential stationary source noise effects on the proposed development.

Outdoor points of reception (OPORs) for noise from stationary sources were assessed at the worst-case location within each OLA included in the transportation noise modelling as indicated in Section 4.1.2.

4.2.2.2 Assumed Sources and Sound Power Levels

During the site visit conducted by RWDI on November 30, 2023, rooftops of the 2 Pergola Commons shopping center buildings and the Keg located directly to the west of the proposed development were accessed to take measurements and to obtain accurate information regarding model numbers and source locations. Manufacturer data was used to obtain sound power levels for most of the rooftop equipment, as HVAC equipment was not operating at full cooling capacity during the site visit. Measurements were used for sound power levels of the rooftop equipment that was operating normally during the site visit, such as exhaust fans and makeup air units. RWDI proxy data was used for the sound power levels of the stationary sources identified to the north of Clair Road.

The assumed sound power levels included in the stationary source assessment are presented in **Table 4**. The locations of the sources included in the stationary source assessment, summarized in **Table 4,** are illustrated in **Figure 4**.

Table 4: Stationary Source Sound Power Level Assumptions

Source Description	Source ID	Proxy Data / Manufacturer Data / Measurement	Sound Power Level (dBA)	Duty Cycle	
				Daytime and Evening (07:00h – 23:00h)	Nighttime (23:00h – 07:00h)[5]
Lennox HVAC 1-Fan	**Lennox_HVAC_1F**	Manufacturer Data	73-81[1]	Continuous	30 minutes/hour
Lennox HVAC 2-Fan[2]	**Lennox_HVAC_2F**	Manufacturer Data	88-89[1]	Continuous	30 minutes/hour
Spinnaker Makeup Air Unit (MUA)	**Spinnaker_MUA**	Measurement	83	Continuous	30 minutes/hour
York HVAC 1-Fan	**York_HVAC_1F**	Manufacturer Data	76[2]	Continuous	30 minutes/hour
York HVAC 2-Fan	**York_HVAC_2F**	Manufacturer Data	86-88[2]	Continuous	30 minutes/hour
York HVAC 4-Fan	**York_HVAC_4F**	Manufacturer Data	84[2]	Continuous	30 minutes/hour
Ice Machine Condenser Unit	**IceMachine**	Measurement	74[3]	Continuous	30 minutes/hour
Carnes Kitchen Exhaust Fan	**Carnes_K_Exh**	Measurement	87	Continuous	0 minutes/hour
Trenton Refrigeration Condensing Unit	**Refrig_Cond**	Measurement	86	Continuous	30 minutes/hour
Typical Small Makeup Air Unit (MUA)	**MUAsmall**	Proxy Data	75	Continuous	30 minutes/hour
Typical Kitchen Exhaust Fan	**Exhaust**	Proxy Data	78	Continuous	0 minutes/hour
Typical HVAC 1-Fan	**HVAC_1F**	Proxy Data	82	Continuous	30 minutes/hour

Source Description	Source ID	Proxy Data / Manufacturer Data / Measurement	Sound Power Level (dBA)	Duty Cycle	
				Daytime and Evening (07:00h – 23:00h)	Nighttime (23:00h – 07:00h)[5]
Typical HVAC 2-Fan	**HVAC_2F**	Proxy Data	85	Continuous	30 minutes/hour
Car Wash Entrance and Exit	**CarWash**	Proxy Data	102[4]	15 minutes/hour	0 minutes/hour

Note(s):
1. All Lennox HVAC units are LGH series. Sound power levels were assigned for each individual unit based on cooling capacities specified in the manufacturer data sheets.
2. All York HVAC units are ZJ series. Sound power levels were assigned for each individual unit based on cooling capacities specified in the manufacturer data sheets.
3. Sound power level for the ice machine not including the +5 dB correction applied for tonality.
4. Sound power level for the car wash not including the +5 dB correction applied for tonality.
5. Stationary sources associated with the Goodlife Fitness Center were assumed to operate continuously during nighttime hours as the Goodlife is open 24 hours.

The assumed sound power level values and duty-cycles for the stationary sources are based on manufacturer data and reasonable assumptions for the source type. During the site visit, it was noted that there was a sign for the car wash at the Mobil gas station that said the car wash was open 24 hours. However, the City of Guelph Noise By-Law states that the operation of a car wash is not permitted for nighttime period, regardless of the zoning. Therefore, the car wash was not assessed during nighttime hours.

4.2.2.3 Analysis and Results

Stationary source noise modelling was carried out using the Cadna/A software package, a commercially available implementation of the ISO 9613 (ISO, 1994 and ISO, 1996) algorithms. The sound level limits for the worst-case points of reception are the exclusion limits or the ambient due to road traffic, whichever is higher. Road traffic ambient sound levels were calculated for the quietest hour for the daytime and nighttime based on the traffic data obtained from the City of Guelph, applying no growth to the AADT volumes as a conservative approach. The ATR data for Gordon Street and Clair Road included the quietest hour volumes directly. The percentage of road volumes for these two roads was found to be approximately 1.4% and 0.3% of the AADT for Daytime/Evening and nighttime periods, respectively. These percentages were applied to Hawkins Drive, Poppy Drive and Farley Drive.

The predicted sound levels during the worst-case 1-hour from existing stationary sources are presented in **Table 5**. The worst-case facade locations are where the difference between the stationary source noise and predicted background noise is greatest. A sample calculation is included in **Appendix E** for the west façade of the southwest block B 10-storey tower at a worst-case height of 4.5 meters above the 2-storey podium below. The location of the receptor for the sample calculation is illustrated in **Figure 4**.

Table 5: Predicted Sound Levels at Worst-case Receptor Locations – Continuous Stationary Sources

Worst-case Receptor	Time Period		Sound Level Criteria	Notes
	Daytime-Evening 0700-2300h	Nighttime 2300-0700h [1]	Daytime / Nighttime L_{EQ-1hr}	
Northeast Block C	51 dBA	47 dBA	50 / 45 dBA	Exceeds Sound Level Criteria
Southeast Block A	52 dBA	48 dBA	50 / 45 dBA	Exceeds Sound Level Criteria
Southwest Block B	58 dBA	56 dBA	53 / 45 dBA	Exceeds Sound Level Criteria
Northwest Block D	58 dBA	54 dBA	54 / 47 dBA	Exceeds Sound Level Criteria
OPOR_07 Outdoor (Worst-case)[2]	58 dBA	--	53 / -- dBA	Exceeds Sound Level Criteria

Note(s):
1. Outdoor areas are not assessed during the nighttime period.
2. All other outdoor areas meet the applicable sound level limits.

As shown in **Table 5**, the daytime-evening and nighttime continuous sound levels due to existing stationary sources are predicted to exceed the applicable Class 1 sound level criteria. The outdoor point of reception OPOR_07 is also predicted to exceed the sound level criteria due to stationary source noise. All other outdoor points of reception meet the applicable Class 1 sound level criteria based on noise modelling analysis.

Recommendations to address stationary sound impacts are provided in the next section. Assumptions regarding the duty cycles and the sound power levels for the surrounding stationary sources are conservative. More details should be obtained surrounding the stationary source operation, including summer-time measurements, in the Detailed Design phase before implementing the recommended mitigation measures.

4.3 Recommendations

Based on the noise assessment results, the following recommendations were determined for the project. Recommendations are provided for both transportation sources and stationary sources.

4.3.1 Transportation Sources

The following recommendations are provided to address transportation sources.

4.3.1.1 Building Façade Components

Due to the elevated transportation sound levels in the area, acoustical design of the façade components, including spandrel, window glazing, and exterior doors, are recommended to be specified for the proposed development.

To assess the development's feasibility, preliminary window glazing, and exterior balcony door sound isolation requirements were determined. These were based on following assumptions:

- Typical residential living room:
  - Glazing 60% of façade, Door: 20% of façade
  - 55% Façade to floor area Ratio
- Typical residential bedroom:
  - Glazing 80% of façade, Door: N/A
  - 81% Façade to floor area Ratio
- Typical exterior sliding doors meeting approximately STC-25 sound isolation performance
- Typical façade spandrel constructions meeting approximately STC-45 sound isolation performance
- Acoustical character of rooms: High absorption finishes/furniture for bedrooms and intermediate absorption finishes/furniture for living rooms.

Based on the predicted plane of window sound levels and the assumptions listed above, recommendations for the minimum sound insulation ratings for the building components were determined using the National Research Council of Canada "BPN-56 method" (NRCC, 1985). The reported results are in terms of Sound Transmission Class (STC) ratings, as summarized in **Table 6**.

Table 6: Recommended Facade Component Minimum Sound Insulation Rating

Portion of Development	Facade	Window Glazing Requirements
Northeast Block – 6 Storey Podium	North	STC-28
	East	STC-25
Northwest Block – 6 Storey Podium	North	STC-28
	West	STC-26
	Northwest Corner Units[1]	STC-29
Northwest Block – 14 Storey Tower	North	STC-25

Note(s):

1. Corner units with 2 façades exposed to noise from road traffic (to the north and west)

The maximum requirement for the window glazing was determined to be STC-29, which is considered feasible as this can be achieved by various double-glazed configurations of insulated glazing units. Façade spandrel and doors meeting the minimum Ontario Building Code are predicted to be sufficient for all facades of the proposed development.

We recommend that the façade construction is reviewed during detailed design to ensure that the indoor sound level limits will be met and that the window/door supplier is requested to provide STC laboratory test reports as part of shop drawing submittal to confirm that the glazing components will meet the minimum STC requirements.

4.3.1.2 Ventilation Recommendations

Due to the transportation sound levels at the plane of the façade, central air conditioning is recommended for the proposed development to allow for windows and doors to remain closed as a noise mitigation measure. Further, prospective purchasers or tenants should be informed by appropriate warning clause provided in Section 4.3.3.

4.3.1.3 Outdoor Living Areas

Due to exposure to transportation sources, the predicted sound levels in the OLA is predicted to be elevated at OLA_03 and OLA_07. To reduce the transportation sound levels in OLAs to meet the applicable criteria of 55 dBA, noise barriers are recommended, if feasible.

The recommended geometry of the noise barriers is included in **Figure 3** (to meet 55 dBA). The barriers for the at-grade OLAs are presented with a height of 1.8m as per the Guelph Noise Control Guidelines. A barrier height of 1.1m is recommended for the level 7 west amenity space of Block D. The barrier heights are summarized in **Table 7**. General guidance with respect to noise barrier design is included in **Appendix D**. If mitigation is not provided for the OLAs, sound levels are predicted to meet 60 dBA criteria; however, appropriate warning clause should be included. Warning clause language is provided in Section 4.3.3.

Table 7: Barrier Height Recommendations for OLAs

Receptor	Description	Predicted OLA Sound Level	Barrier Height (m) to Meet Sound Level Criterion
		Daytime L_{EQ}, 16hr	≤ 55 dBA[1]
OLA_03a	Southwest Block At-grade Outdoor Amenity (West Amenity)	59	1.8 m
OLA_03b	Southwest Block At-grade Outdoor Amenity (West Amenity)	55	-
OLA_03c	Southwest Block At-grade Outdoor Amenity (West Amenity)	58	1.8 m
OLA_07	Northwest Block Level 7 Outdoor Amenity (West Amenity)	57	1.1 m

Note(s):
1. Refer to Figure 3 for barrier geometry to meet 55 dBA. If noise control measures are not provided, a warning clause is required.

4.3.2 Stationary Sources

Based on the noise modeling results and setback distances, the proposed development is not anticipated to infringe on the compliance of any facility with environmental noise permits (ECA or EASR). However, excesses of the guideline limits are predicted. Excesses of the guideline limits are predicted to range up to 5 dBA during daytime/evening and up to 11 dBA during nighttime.

First Capital owns the Pergola Commons plaza to the west of the proposed development. Thus, administrative arrangements for on-source mitigation will not involve any third party. With the implementation of mitigation for sources associated with the Keg and the shopping center building containing Goodlife Fitness, the proposed development is feasible to meet the guideline limits. Assumptions applied to the noise model regarding duty cycles and sound power levels of surrounding equipment should be verified and refined during the Detailed Design phase before mitigation measures are implemented. Moreover, sound measurement during peak summertime is recommended.

Overall reductions to meet compliance with the guideline limits are presented below, with corresponding source locations presented in **Figure 5**.

Table 8: Recommended Sound Level Reductions

Facility	Source Labels for Figure 5	Proxy Data / Manufacturer Data / Measurement	Sound Power Level (dBA)	Required Overall Reduction (dB)	Duty Cycle	
					Daytime and Evening (07:00h – 23:00h)	Nighttime (23:00h – 07:00h)[5]
Jysk	**Jysk_HVAC_2F_1**	Manufacturer Data	88	8	Continuous	30 minutes/hour
Jysk	**Jysk_HVAC_2F_2**	Manufacturer Data	88	8	Continuous	30 minutes/hour
Jysk	**Jysk_HVAC_2F_3**	Manufacturer Data	88	8	Continuous	30 minutes/hour
Jysk	**Jysk_HVAC_2F_4**	Manufacturer Data	88	8	Continuous	30 minutes/hour
Jysk	**Jysk_MUA**	Measurement	83	5	Continuous	30 minutes/hour
Dollarama	**Doll_HVAC_2F_1**	Manufacturer Data	88	10	Continuous	30 minutes/hour
Dollarama	**Doll_HVAC_2F_2**	Manufacturer Data	88	10	Continuous	30 minutes/hour
Dollarama	**Doll_HVAC_2F_3**	Manufacturer Data	88	14	Continuous	30 minutes/hour
Dollarama	**Doll_HVAC_2F_4**	Manufacturer Data	88	10	Continuous	30 minutes/hour
Dollarama	**Doll_HVAC_2F_5**	Manufacturer Data	88	10	Continuous	30 minutes/hour
Goodlife	**Good_MUA**	Measurement	83	9	Continuous	Continuous
Goodlife	**Good_HVAC_1F**	Manufacturer Data	79	8	Continuous	Continuous
Goodlife	**Good_HVAC_2F_1**	Manufacturer Data	89	20	Continuous	Continuous
Goodlife	**Good_HVAC_2F_2**	Manufacturer Data	88	16	Continuous	Continuous
Pergola West Building	**West_HVAC_2F_1**	Manufacturer Data	88	5	Continuous	30 minutes/hour

Facility	Source Labels for Figure 5	Proxy Data / Manufacturer Data / Measurement	Sound Power Level (dBA)	Required Overall Reduction (dB)	Duty Cycle	
					Daytime and Evening (07:00h – 23:00h)	Nighttime (23:00h – 07:00h)[5]
Pergola West Building	**West_HVAC_2F_2**	Manufacturer Data	88	5	Continuous	30 minutes/hour
Pergola West Building	**West_HVAC_2F_3**	Manufacturer Data	88	5	Continuous	30 minutes/hour
The Keg	**Keg_HVAC_2F_1**	Manufacturer Data	86	8	Continuous	30 minutes/hour
The Keg	**Keg_HVAC_2F_2**	Manufacturer Data	88	8	Continuous	30 minutes/hour
The Keg	**Keg_HVAC_2F_3**	Manufacturer Data	88	11	Continuous	30 minutes/hour
The Keg	**Keg_HVAC_4F**	Manufacturer Data	84	5	Continuous	30 minutes/hour
The Keg	**Keg_Kitch_Exh**	Measurement	87	3	Continuous	0 minutes/hour
The Keg	**Keg_Refrig_Cond**	Measurement	86	8	Continuous	30 minutes/hour

The reductions shown in **Table 8** are considered feasible through a combination of replacement with low-noise units, oversizing the unit and operating at lower capacity, silencers, and/or inclusion of a cantilevered barrier. The noise model should be verified and refined to reduce the number of assumptions made and to ensure it accurately represents reality.

Moreover, a perimeter barrier of height of 1.3 m is required for OPOR_07 and a 1.1 m height barrier is required to the north of the podium, as shown in **Figure 6**, to meet the applicable sound level limits. The north barrier could be satisfied by the shown glazing parapet for the residential terraces and outdoor amenity, as long as it meets the 1.1 m minimum height and has a minimum thickness of 10 mm. Please, refer to **Appendix D** for noise mitigation guidance.

Due to the proximity of the proposed development to the commercial facilities, a warning clause is recommended to inform prospective occupants of the potential for audible noise from these facilities. Warning clause language is provided in Section 4.3.3.

4.3.3 Warning Clauses

The following warning clauses from the Guelph Noise Control Guidelines are recommended for the proposed development:

1. Outdoor Living Areas Subject to High Transportation Impacts if no barriers are included:

"The Transferee of [insert lots/blocks/units], for themselves, their heirs, executors, administrators, successors, and assigns acknowledge being advised that sound levels due to increasing road traffic may occasionally interfere with some outdoor activities of the dwelling occupants as the sound levels may at times exceed the sound level limits of the municipal and provincial noise criteria."

2. Central Air Conditioning Provided for the development:

"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 municipal and provincial sound level limits."

3. Upgraded Glazing for podiums of Blocks C and D:

"The building components of this dwelling unit (walls, windows and exterior doors) have been designed to provide acoustic insulation so that, when windows and exterior doors are closed, the indoor sound levels are within the municipal and provincial sound level limits. The details of this building component design are available by contacting the builder of this unit."

4. Close Proximity to Stationary Sources of Noise:

"Purchasers/tenants are advised that due to the proximity of the adjacent commercial plaza, noise from the commercial plaza may at times be audible and interfere with outdoor activities."

In addition, this clause shall be included in all cases:

"The Transferee covenants with the Transferor that the below clause, verbatim, will be included in all subsequent Agreements of Purchase of sale or lease and Sale and Deeds conveying the lands described herein, which covenant shall run with the said lands and is for the benefit of the subsequent owners and renters of the said lands and the owner of the adjacent road."

5 THE EFFECTS OF THE PROPOSED DEVELOPMENT ON ITS SURROUNDINGS AND ON ITSELF

On-site stationary sources for the development are expected to consist of HVAC-related equipment in the rooftop mechanical penthouse as well as various exhaust fans. Further, consideration should be given to control airborne and structure-borne noise generated within the proposed development.

Within the development itself, the main sources of noise that are likely to affect the use of the building are the mechanical systems. The potential noise effect of the commercial component of the development is recommended to be reviewed during detailed design to ensure the applicable criteria will be met.

Provided that best practices for the acoustical design of the building are followed, noise from building services equipment associated with the development is expected to be feasible to meet the applicable sound level criteria due to the nature (residential/mixed-use) of the proposed development.

We recommend that the potential noise effect of the proposed development is reviewed during detailed design to ensure the applicable sound level criteria will be achieved.

6 CONCLUSIONS

RWDI was retained to prepare a Noise and Vibration Impact Study for the proposed mixed-use development located in Guelph, Ontario.

The following noise control measures are recommended for the proposed development:

1. Installation of central air-conditioning so that all suites' windows can remain closed.
2. The inclusion of noise warning clauses related to:
    a. Transportation sound levels at the building façade and in the outdoor amenity areas
    b. Proximity to commercial/industrial land use
3. Minimum sound isolation performance:
    a. Suite window glazing with minimum sound isolation performance up to STC-29 for certain façade of the podiums of Blocks C and D and Tower D, as detailed herein.
4. Construction of perimeter noise barriers along some outdoor amenity areas, if feasible, to address transportation noise. Otherwise, the applicable warning clause should be included.
5. Construction of perimeter noise barriers for the west outdoor amenity area on the podium of Tower D and to its north to address surrounding stationary sources of noise.
6. Apply offsite on-source mitigation for the HVAC equipment associated with the commercial plaza to the immediate west, as detailed herein.

The potential noise levels from stationary sources of sound were investigated. Based on the noise modeling results and setback distances, the land use compatibility of the proposed development with respect to the nearby industrial land uses is considered acceptable from the noise assessment perspective with implementation of mitigation measures for adjacent stationary sources. Due to the proximity of the proposed development to commercial facilities, a warning clause is recommended to inform prospective occupants of the potential for audible noise from these facilities. Moreover, offsite on-source mitigation is required for the HVAC equipment associated with the commercial plaza to the immediate west, as discussed in the study.

At this stage in design, the noise levels produced by the development on itself and its surroundings could not be quantitatively assessed. However, the effect on both the building itself and its surroundings is expected to be feasible to meet the applicable criteria. We recommend that the building design is evaluated prior to building permit to ensure that the acoustical design is adequately implemented in order to meet the applicable criteria.

Based on the results of the analysis, including implementation of the recommendations included with this assessment, the proposed development is feasible to meet the applicable sound and vibration criteria.

7 REFERENCES

1. Ontario Ministry of the Environment (MOE), August 2013, Publication NPC-300, Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning (MOE, 2013).
2. Ontario Ministry of the Environment (MOE), 1989, ORNAMENT Ontario Road Noise Analysis Method for Environment and Transportation, Technical Publication (MOE, 1989)
3. Ontario Ministry of the Environment (MOE) Publication Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses", July 1995 (MOE, 1995).
4. Controlling Sound Transmission into Buildings (BPN-56), National Research Council Canada (NRCC, 1985).
5. The Railway Association of Canada (RAC), Guidelines for New Development in Proximity to Railway Operations (RAC, 2013).
6. Ontario Ministry of the Environment (MOE), 1978, Model Municipal Noise Control Bylaw, which includes Publication NPC-103 – Procedures, and Publication NPC-104 – Sound Level Adjustments.
7. City of Guelph, 2018. Guelph Noise Control Guidelines (Guelph, 2018).

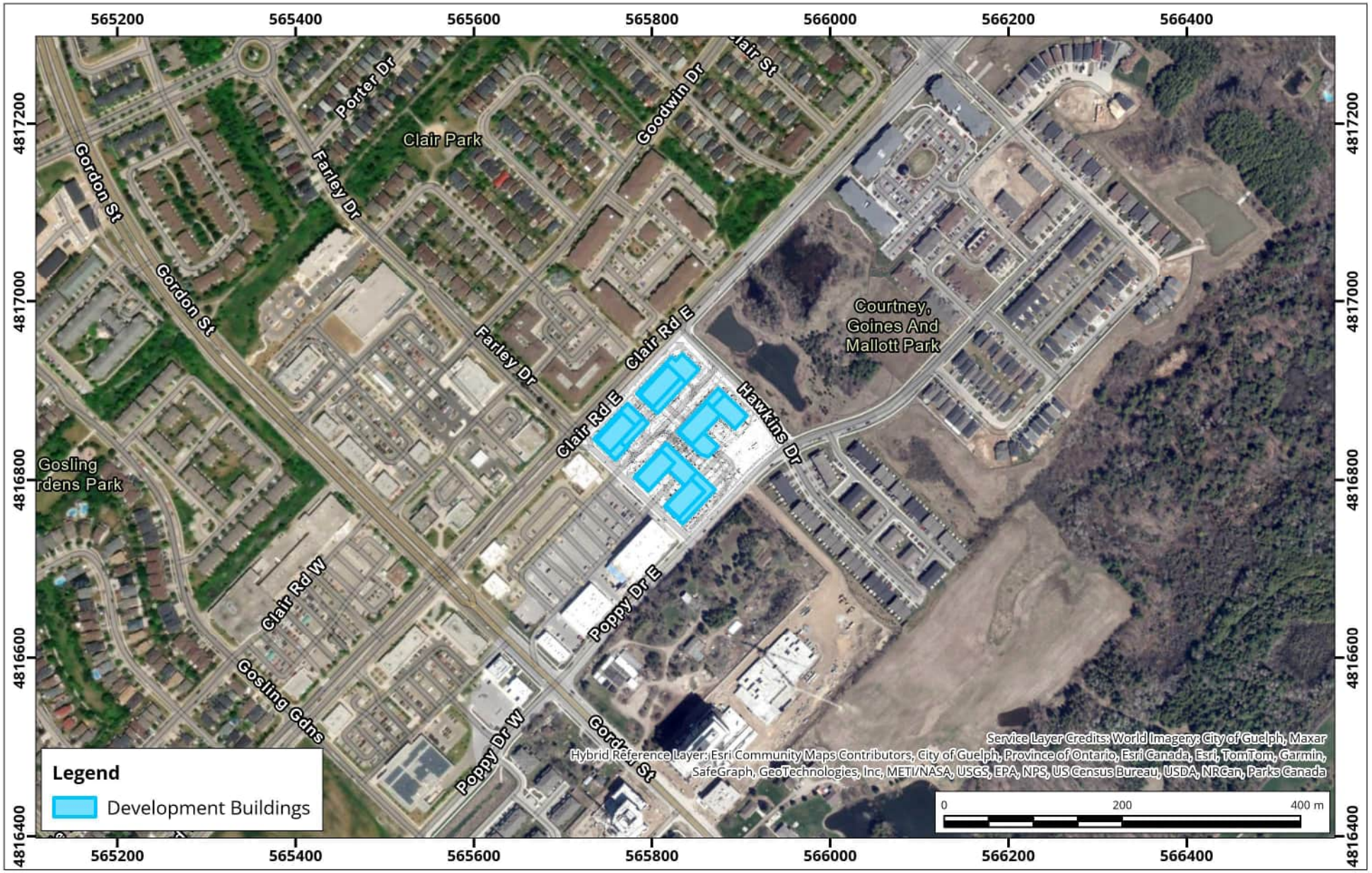
8 STATEMENT OF LIMITATIONS

This report entitled "Noise and Vibration Impact Study – 1 Clair Road East", dated August 2, 2024, was prepared by RWDI AIR Inc. ("RWDI") for First Capital ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and understand the different factors which may impact the conclusions and recommendations provided.

FIGURES



Site Context Plan

Map Projection: NAD 1983 UTM Zone 17N

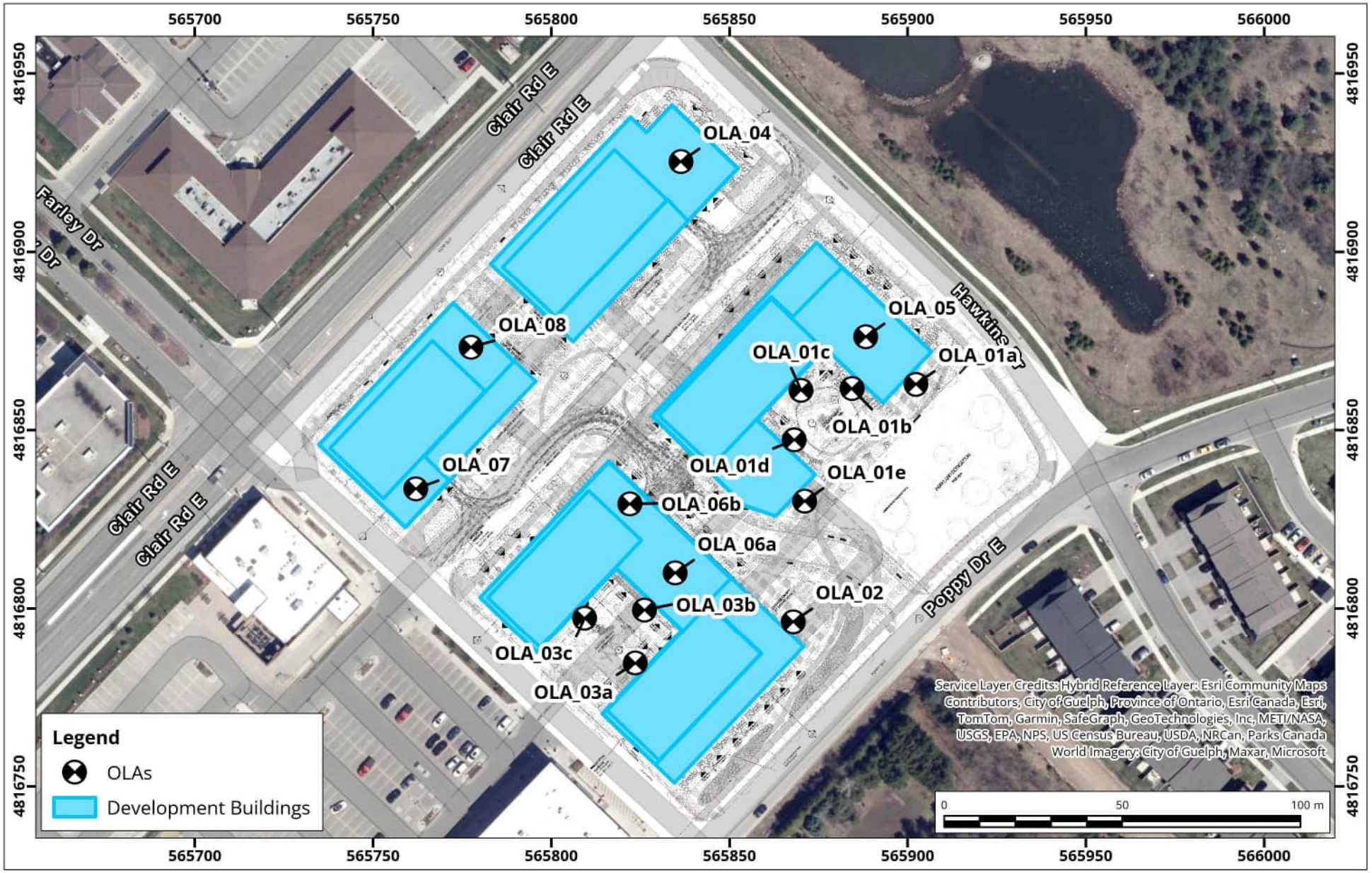
1 Clair Road East - Guelph, Ontario

True North

Project #: 2401100

Drawn by:CWM	Figure:	1
Approx. Scale:	1:6,000	
Date Revised:	Jul 31, 2024	

Map Document: \\rwdgroup\guelph\AM_Jobs\2024\2401100\03\Worklitems\20Environmental\NoiseAnalysis\GIS\1 Clair Road East - Guelph, Ontario.aprx



Outdoor Living Areas (OLAs) Locations

Location of Common Outdoor Amenity Areas

Map Projection: NAD 1983 UTM Zone 17N

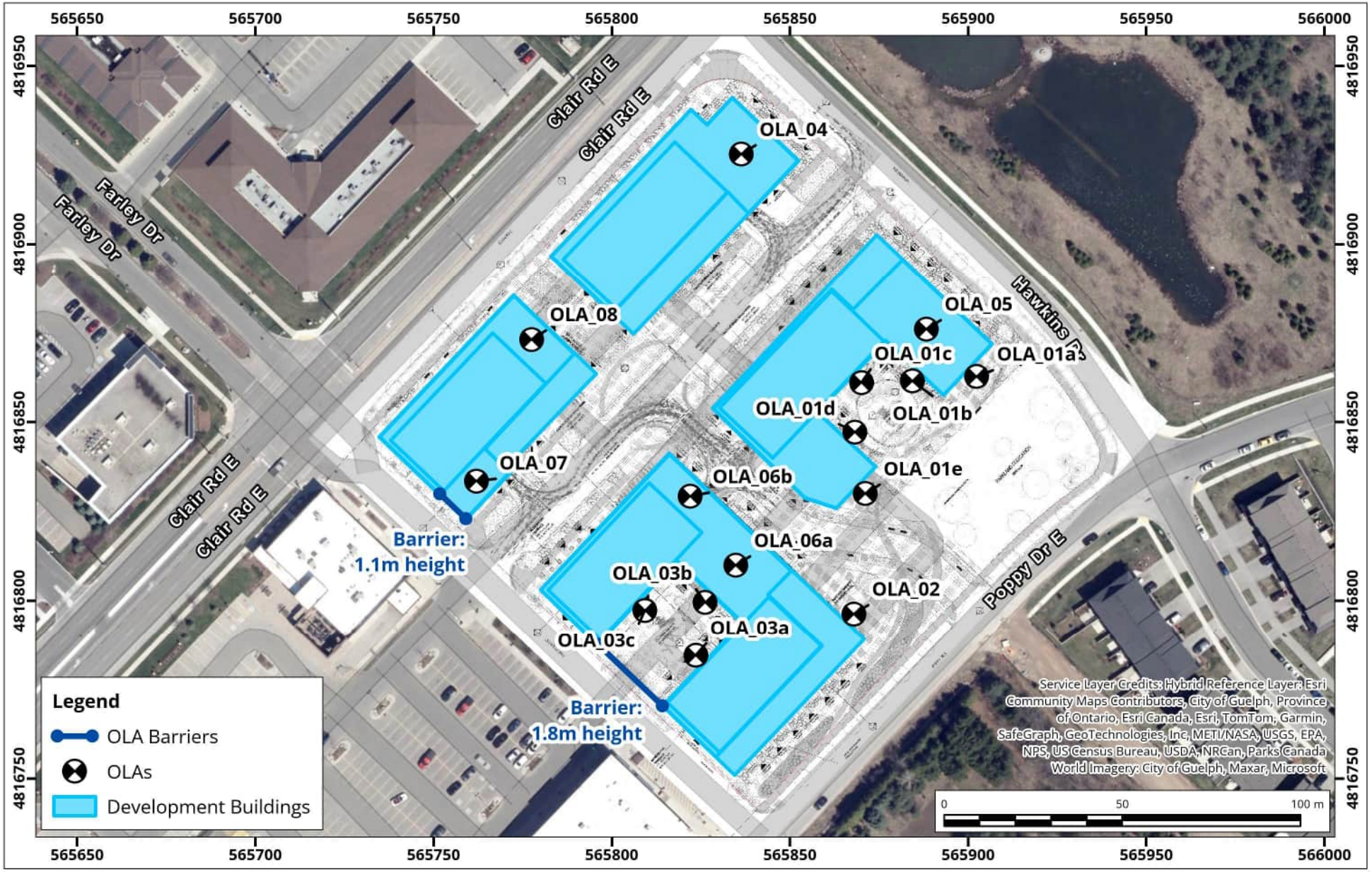
1 Clair Road East - Guelph, Ontario

True North

Project #: 2401100

Drawn by:CWM	Figure:	2	
Approx. Scale:	1:1,500		
Date Revised:	Jul 31, 2024		

Map Document: \\rwdgroup\guelph\AM_Jobs\2024\2401100\03\Worklitems\20Environmental\NoiseAnalysis\GIS\1 Clair Road East - Guelph, Ontario.aprx



Outdoor Living Areas (OLAs) Mitigation to 55 dBA

Recommended Barrier Geometry and Height to meet 55 dBA

Map Projection: NAD 1983 UTM Zone 17N

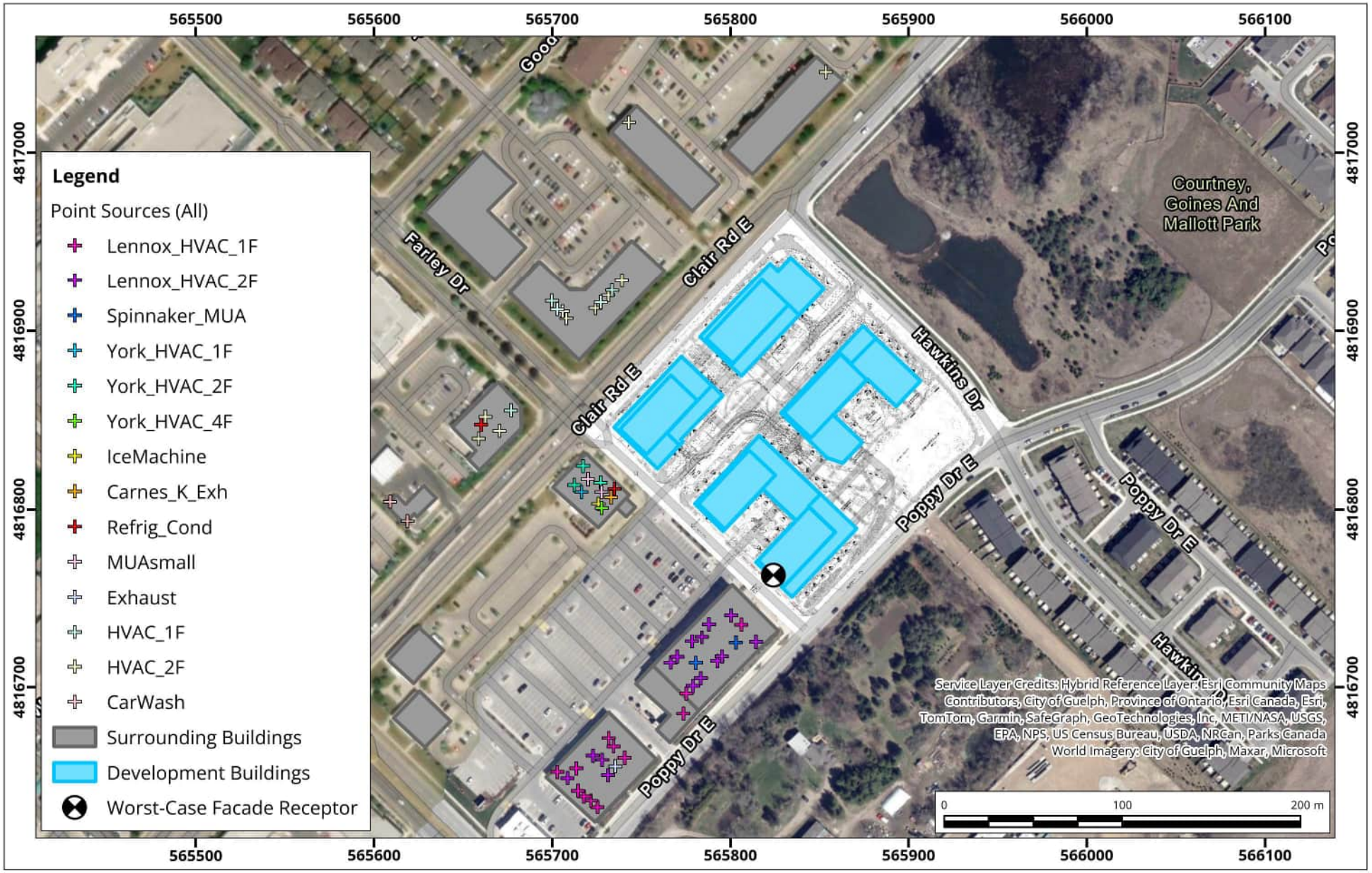
1 Clair Road East - Guelph, Ontario

True North

Project #: 2401100

Drawn by:CWM	Figure:	3
Approx. Scale:	1:1,500	
Date Revised:	Jul 31, 2024	

Map Document: \\rwdgroup\guelph\AM_Jobs\2024\2401100\03\Worklitems\08\environmental\NoiseAnalysis\GIS\1 Clair Road East - Guelph, Ontario.aprx



Stationary Sources

Location of Stationary Sources in Relation to the Proposed Development

Map Projection: NAD 1983 UTM Zone 17N

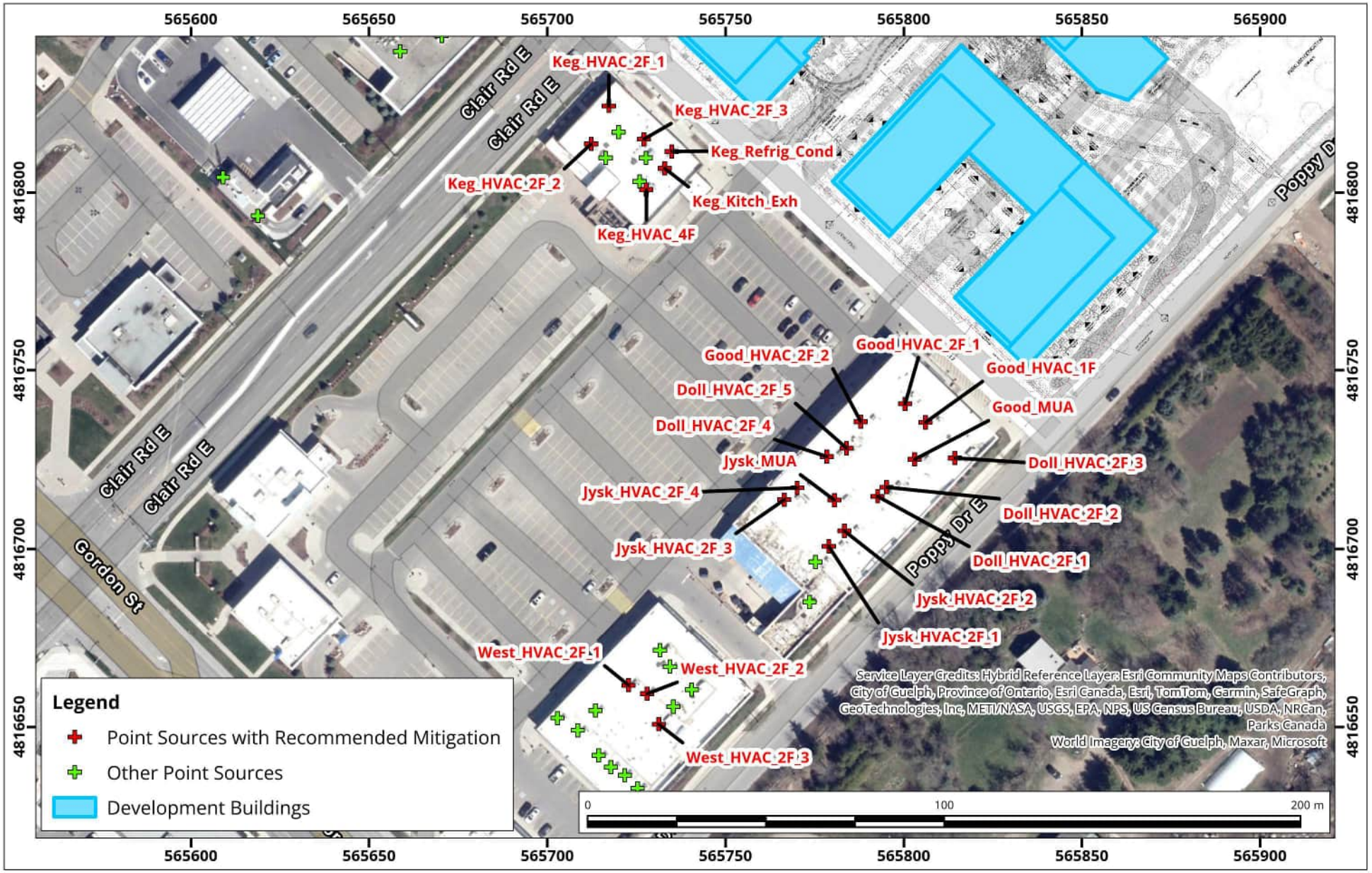
1 Clair Road East - Guelph, Ontario

True North

Project #: 2401100

Drawn by:	CWM	Figure:	4
Approx. Scale:	1:3,000		
Date Revised:	Jul 31, 2024		

Map Document: \\rwdgroup\guelph\AM_Jobs\2024\2401100\03\WorkItems\08\EnvironmentalNoiseAnalysis\GIS\1 Clair Road East - Guelph, Ontario.aprx



Stationary Sources with Recommended Mitigation

True North

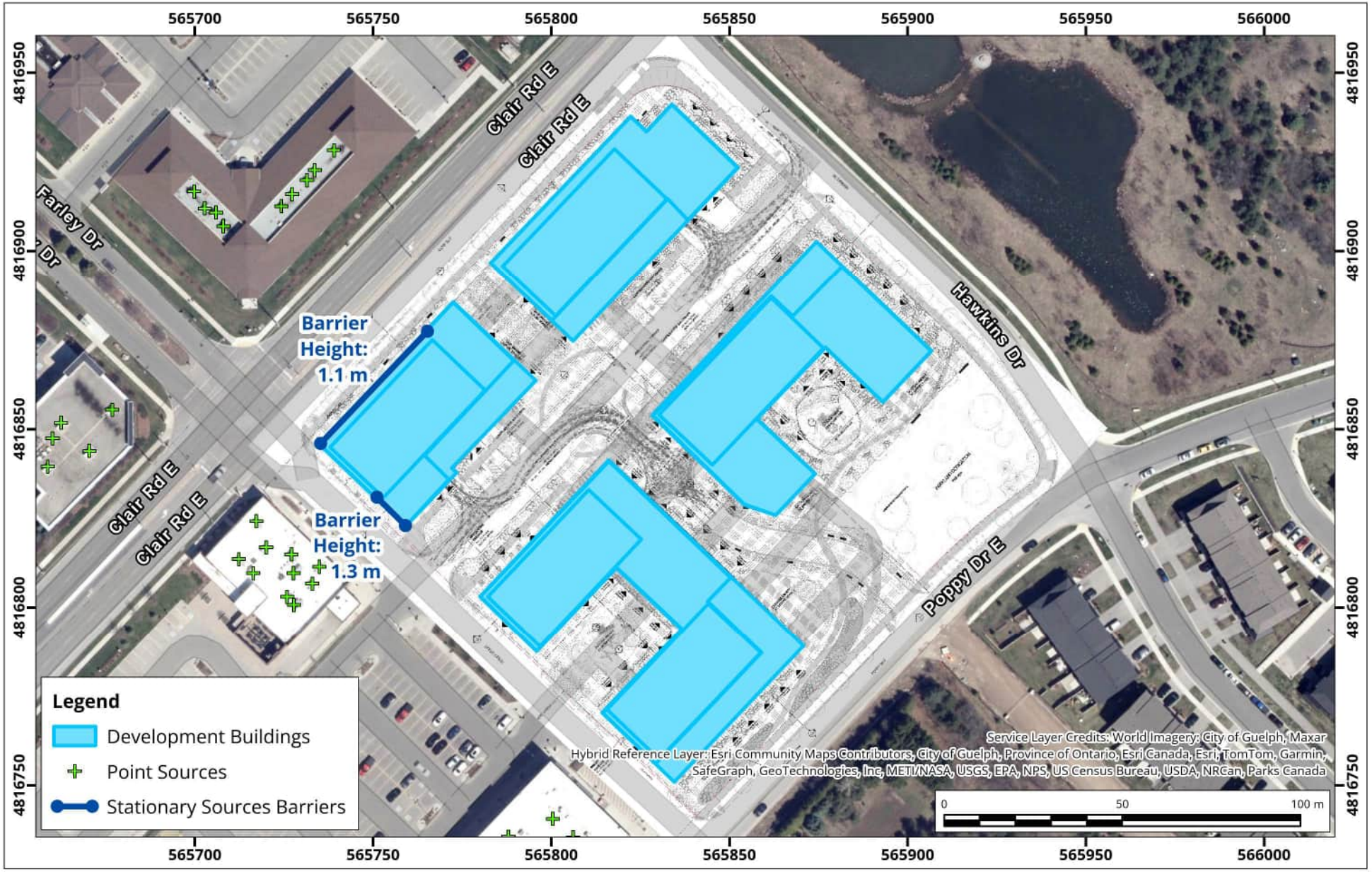
Drawn by:CWM	Figure: 5
Approx. Scale:	1:1,500
Date Revised:	Jul 31, 2024

Map Projection: NAD 1983 UTM Zone 17N

1 Clair Road East - Guelph, Ontario

Project #: 2401100

Map Document: \\rwdgroup\guelph\AM_Jobs\2024\2401100\03WorkItems\08EnvironmentalNoiseAnalysis\GIS\1 Clair Road East - Guelph, Ontario.aprx



Stationary Sources Noise Barriers

Map Projection: NAD 1983 UTM Zone 17N

1 Clair Road East - Guelph, Ontario

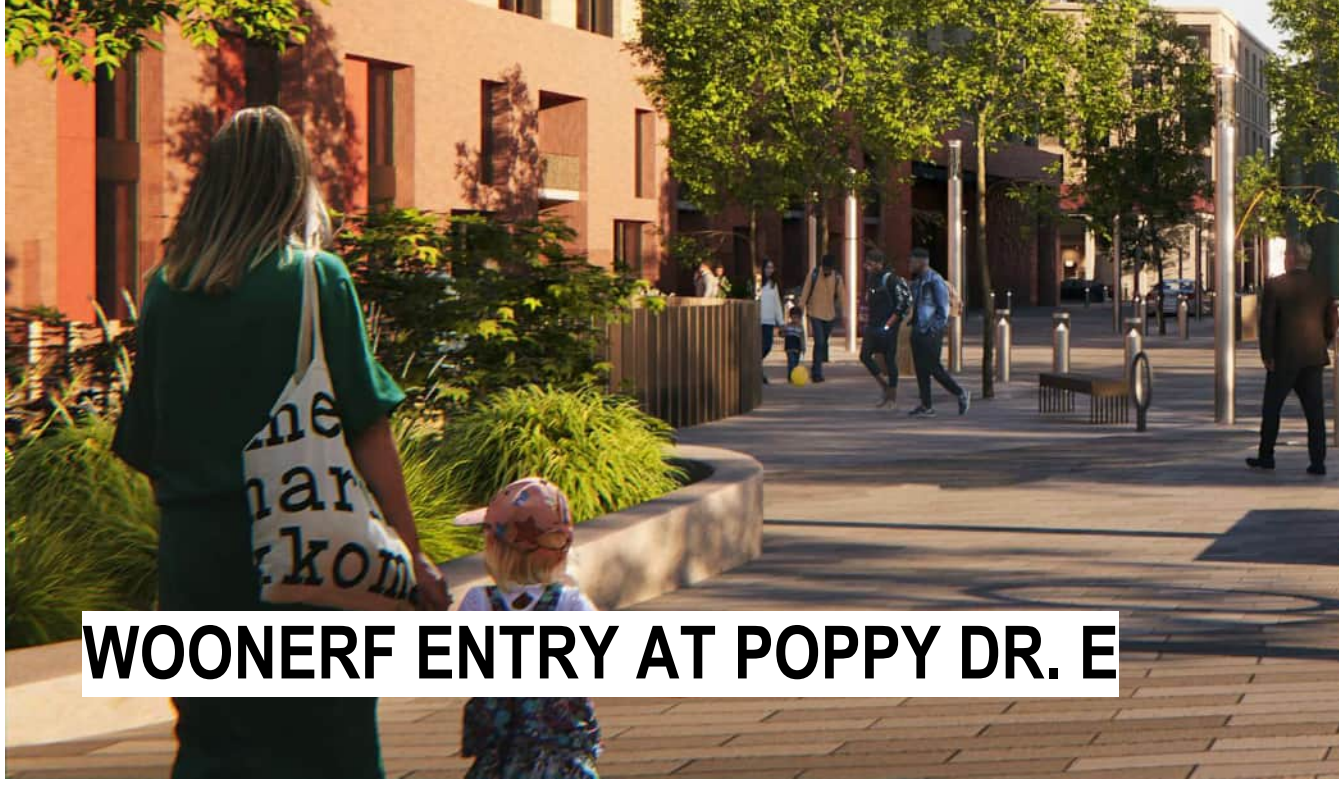
True North

Project #: 2401100

Drawn by:CWM	Figure:	6	
Approx. Scale:	1:1,500		
Date Revised:	Jul 31, 2024		

Map Document: \\rwdgroup\guelph\AM_Jobs\2024\2401100\03\Worklitems\20Environmental\NoiseAnalysis\GIS\1 Clair Road East - Guelph, Ontario.aprx

APPENDIX A



WOONERF ENTRY AT POPPY DR. E

AERIAL VIEW

D BALCONIES

FLOOR
382.50)

2
A
303

ERED BALCONIES

TH FLOOR
(+ 383.50)

A
303
1

29.9

BETWEEN PODIUMS

CANTILEVERED BALCONIE

AT 14TH FLOOR
43.45 M (+ 382.50)

RESIDENTIAL TERRACE

ON 7TH FLOOR
20.5 M (+ 360.66)

CANTILEVERED BALCONIES

AT 14TH FLOOR
43.34 M (+ 383.50)

BIKE

EXIT

UNDERGROUND PARKING EXTENTS

MAIN RESIDENTIAL ENTRANCE

MAIN RESIDENTIAL ENTRANCE

ENTRANCE TO UNDERGROUND GARAGE

ENTRANCE TO UNDERGROUND GARAGE

9.6

3.0

1.5

29.6

BETWEEN TOWERS

LOADING ENTRANCE

LOADING ENTRANCE

17.0

BETWEEN PODIUMS

EXIT

1
A
304

A
304
2

ROOF LEVEL
45.74 M (+ 385.90)

TOP OF MPH ROOF
51.74 M (+ 391.90)

TOWER A
PROPOSED 14 STOREY
RESIDENTIAL BUILDING

BUILDING A AVERAGE GRADE =
340.16

OOR AMENITY

7TH FLOOR
7 M (+ 360.90)

RESIDENTIAL ENTRANCE

RESIDENTIAL ENTRANCE

RESIDENTIAL ENTRANCE

RESIDENTIAL ENTRANCE

RESIDENTIAL ENTRANCE

RESIDENTIAL ENTRANCE

RESIDENTIAL ENTRANCE

RESIDENTIAL ENTRANCE

EXIT

TOP OF LEVEL 6 ROOF
20.74 M (+ 360.90)

1
A
305

OUTDOOR AMENITY AT GROUND LEVEL

SHORT TERM BIKE PARKING FOR 6 BIKES - RESIDENTIAL
OUTLINE OF CANOPY ABOVE
SHORT TERM BIKE PARKING FOR 8 BIKES - RESIDENTIAL
PROP SIAMESE
2%
PROP SAN MH
PROP SIAMESE
SHORT TERM BIKE PARKING FOR 16 BIKES - RESIDENTIAL
OUTLINE OF CANOPY ABOVE
2%
BIKE PARKING
340.40
EVSE
EVSE
PICK-UP DROP-OFF
6000
LAYBY
2500
2600
5.6 m
NON-RES 04
NON-RES 05
NON-RES 06
EX STM
6000
LAYBY
24064
31458
PROP TRENCH DRAIN
EX SAN MH
340.20
29.9
PROP TRENCH DRAIN
7.0 m
DRIVEWAY
PICK-UP DROP-OFF
339.97
6000
LAYBY
2500
PROP HYD
2500
LAYBY
6000
NON-RES 15
NON-RES 14
PICK-UP DROP-OFF
13894
OUTLINE OF CANOPY ABOVE
PROP SIAMESE
UNDERGROUND PARKING EXTENTS
31565
OUTLINE OF CANOPY ABOVE
PROP SIAMESE
SHORT TERM BIKE PARKING FOR 20 BIKES
PROP STM
EXIT
340.35
EXIT
2%
PROP SAN MH
2%
VEST
10.0 m²
108 SF
CACF
10.0 m²
108 SF
MAIN RESIDENTIAL ENTRANCE
340.40
340.40
MAIN RESIDENTIAL ENTRANCE
VEST
10.0 m²
108 SF
CACF
10.0 m²
108 SF
LOBBY
138.8 m²
1494 SF
FFE 340.40
DOG WASH
9.9 m²
106 SF
MAIL RM
12.2 m²
131 SF
5000
6000
15%
7.5%
6500
ENTRANCE TO UNDERGROUND GARAGE
340.19
PROP TRENCH DRAIN
340.10 C/L
PROP TRENCH DRAIN
340.20
ENTRANCE TO UNDERGROUND GARAGE
RAMP
140.7 m²
1515 SF
DN TO P1 LVL
6000
6500
7.5%
15%
340.90
EXIT
340.57
LOADING ENTRANCE
340.57
340.18
LOADING ENTRANCE
ELEV.
LOADING AREA
(L) x 6.0m (W) x 6.5m (H))
8500
1
LOADING
128.3 m²
1381 SF
EX SAN MH
LOADING AREA
(11.4m (L) x 6.0m (W) x 6.5m (H))
1
2
9000
750
11401
2000
LOADING
140.9 m²
1516 SF
MOVING
33.2 m²
357 SF
GARBAGE
76.3 m²
822 SF
3000
EXIT
340.83
341.40
340.83
341.40
340.77
TH - LOWER
54.6 m²
588 SF
341.40
RESIDENTIAL ENTRANCE
4R
340.83
WOONERF = EXISTING GRADING +150mm
TH - LOWER
58.5 m²
630 SF
TH - LOWER
50.0 m²
539 SF
AMENITY ACCESS
340.77
341.16
2R
RESIDENTIAL ENTRANCE
341.40
341.40
RESIDENTIAL ENTRANCE
340.77
TH - LOWER
54.6 m²
588 SF
341.40
RESIDENTIAL ENTRANCE
2R
341.04
TH - LOWER
51.5 m²
555 SF
TH - LOWER
50.1 m²
539 SF
341.16
2R
RESIDENTIAL ENTRANCE
341.40
RESIDENTIAL ENTRANCE
340.77
EXIT
STAIR
340.77
EXIT
340.77
TH - LOWER
54.6 m²
588 SF
341.40
RESIDENTIAL ENTRANCE
2R
341.19
INDOOR AMENITY
124.6 m²
1341 SF
FFE 341.40
341.40
AMENITY ACCESS
TH - LOWER
54.6 m²
588 SF
341.40
RESIDENTIAL ENTRANCE
341.39
341.40
341.10
WOONERF
1,087.3 m²
BUILDING A - OUTDOOR AMENITY
125.9 m²
1,355 SF

5.0 m
15.0 m
5.0 m

2
A
303

A
303
1

1.5 m
17.0 m
5.0 m

OPEN TO LOBBY
BELOW

1600
2000

OPEN TO LOADING
BELOW

12008

OPEN TO LOADING
BELOW

RES. LOCKERS
216.7 m²
2333 SF

1
A
304

A
304
2

TH - UPPER
54.6 m²
588 SF

TH - UPPER
54.6 m²
588 SF

TH - UPPER
54.6 m²
588 SF

TH - UPPER
54.6 m²
588 SF

TH - UPPER
58.5 m²
630 SF

TH - UPPER
50.0 m²
539 SF

TH - UPPER
62.2 m²
670 SF

TH - UPPER
50.1 m²
539 SF

22.2 m

1
A
305

OPEN TO INDOOR
AMENITY BELOW

17.0 m
20.0 m

47.4 m

15.0 m

2
A
303

17.0 m

47.4 m

BALCONY

3B
97.2 m²
1047 SF

2B+D
94.4 m²
1016 SF

BALCONY

1B+D
67.4 m²
725 SF

BALCONY

1B
59.2 m²
637 SF

BALCONY

1B
59.2 m²
637 SF

BALCONY

1B
59.2 m²
637 SF

BALCONY

1
A
304

A
304
2

A
303
1

BALCONY

3B
100.6 m²
1083 SF

BALCONY

2B
84.6 m²
911 SF

BALCONY

1B
55.9 m²
601 SF

BALCONY

1B
57.9 m²
624 SF

BALCONY

2B+D
88.6 m²
953 SF

STORAGE
27.1 m²
292 SF

1B
62.0 m²
667 SF

1B+D
72.0 m²
775 SF

BALCONY

BALCONY

2B
88.6 m²
953 SF

BALCONY

2B
86.3 m²
929 SF

BALCONY

2B
83.7 m²
901 SF

2B
84.6 m²
910 SF

BALCONY

BALCONY

22.2 m

1
A
305

75.0 m

17.0 m

3.9 m

16.1 m

1.6 m

14.8 m

47.2 m

2
A
303

29.9 m

A
303
1

9.6 m

17.0 m

3.0 m

44.4 m

1.5 m

TERRACE

1.2 m

TERRACE

TERRACE

2B+D
90.4 m²
973 SF

2B
75.4 m²
812 SF

1B
53.7 m²
578 SF

21.0 m

TERRACE

3B
96.3 m²
1036 SF

1B
62.1 m²
668 SF

2B
88.3 m²
950 SF

BALCONY

BALCONY

1
A
304

A
304
2

26.6 m

29.6 m

44.4 m

OUTDOOR AMENITY

706.8 m²
7,607 SF

22.2 m

1
A
305

17.0 m

3.9 m

16.1 m

15.0 m

3.0 m

44.4 m

2
A
303

38.0 m

A
303
1

29.6 m

9.6 m

3.0 m

44.4 m

1.5 m

BALCONY

BALCONY

BALCONY

2B
78.4 m²
844 SF

1B
61.1 m²
658 SF

1B+D
72.2 m²
777 SF

22.5 m

21.0 m

2B+D
86.5 m²
931 SF

1B
60.5 m²
652 SF

2B
81.0 m²
871 SF

BALCONY

BALCONY

BALCONY

1
A
304

A
304
2

TYPICAL FLOOR

20.5 m

17.0 m

3.0 m

17.0 m

22.2 m

22.2 m

1
A
305

75.7 m

GG
G1
MG
M2
MP
G1
PEDESTRIAN ZONE
GG
G1
MG
M2
MP
G1
1690
14927

BUILDING A

MECH PH ROOF 391.90 +51.50
MECH PH FLOOR 385.90 +45.50
3.5 m
FLOOR 14 382.40 +42.00
3.0 m
FLOOR 13 379.40 +39.00
3.0 m
FLOOR 12 376.40 +36.00
3.0 m
FLOOR 11 373.40 +33.00
3.0 m
FLOOR 10 370.40 +30.00
3.0 m
FLOOR 09 367.40 +27.00
3.0 m
FLOOR 08 364.40 +24.00
3.5 m
FLOOR 07 360.90 +20.50
3.5 m
FLOOR 06 357.40 +17.00
3.0 m
FLOOR 05 354.40 +14.00
3.0 m
FLOOR 04 351.40

MG
45740
G1
GG
G1
MG
MG
G1
MG

PRIVATE ACCESS RD

370.40 FLOOR 10
+30.00

367.40 FLOOR 09
+27.00

364.40 FLOOR 08
+24.00

360.90 FLOOR 07
+20.50

357.40 FLOOR 06
+17.00

354.40 FLOOR 05
+14.00

351.40 FLOOR 04
+11.00

348.40 FLOOR 03
+8.00

344.40 FLOOR 02
+4.00

341.63 B - AVERAGE GRADE
+1.23

340.40 FLOOR 01
+0.00

3.0 m
3.0 m
3.5 m
3.5 m
3.0 m
3.0 m
3.0 m
4.0 m
4.0 m
1.2 m

44.3 m
19.3 m

MG
GG
MG
G1
G1

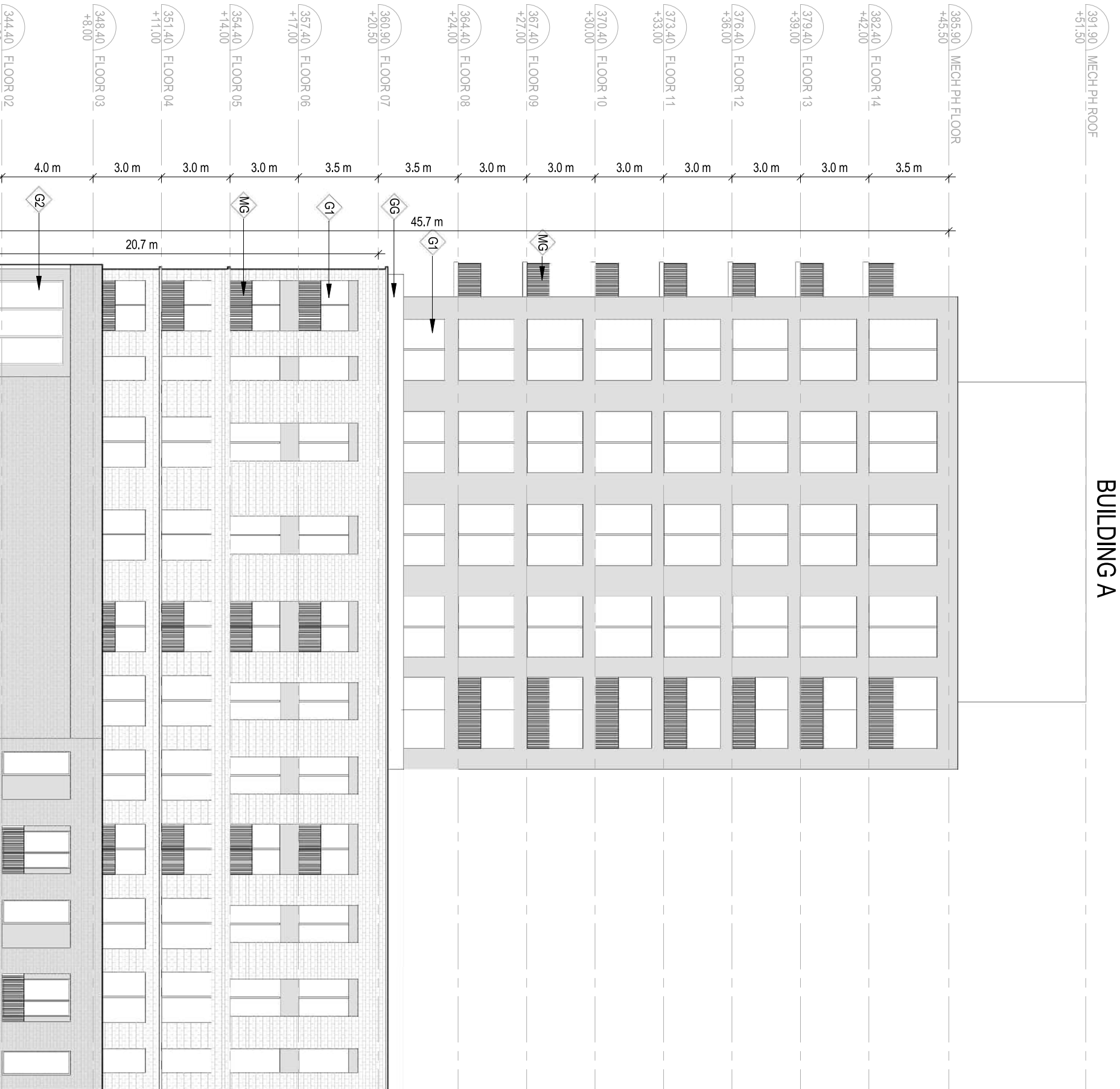
BUILDING A

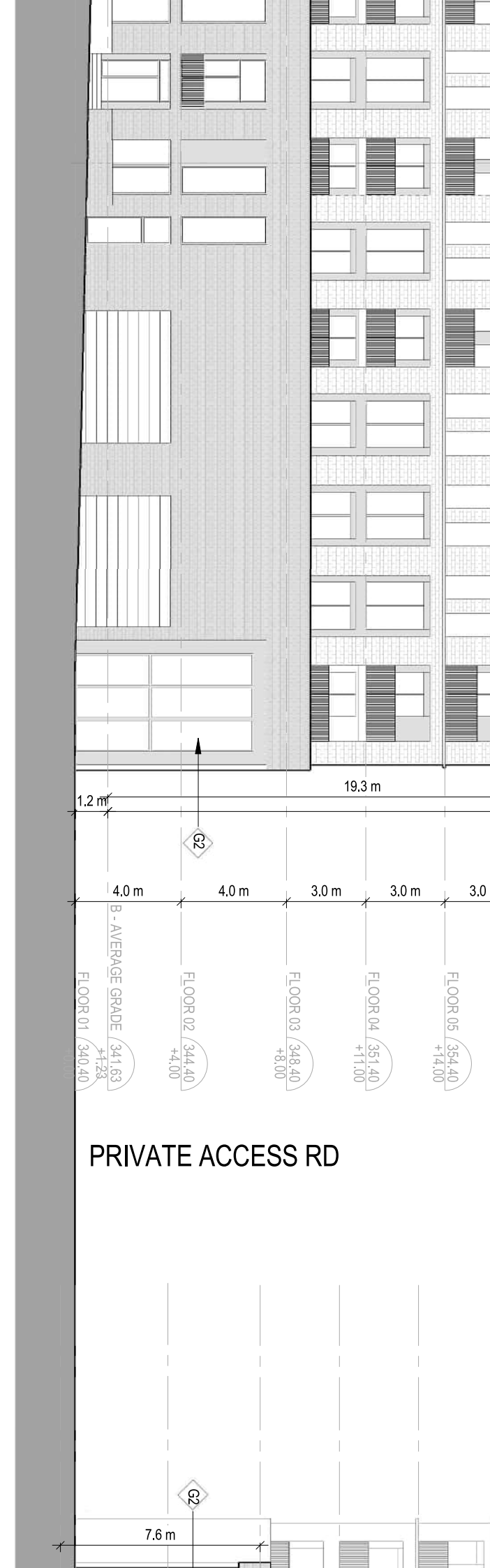
GG
G1
MG
G1
GG
G1
MG
G1
WOONERF
OUTDOOR AMENITY
BEYOND

BUILDING C

MG
G1
GG
G1
MG
GG
G1
MG

ATE ACCESS RD





2 / A 305 BUILDING A - COURTYARD WEST ELEVATION

1 : 200

DEVELOPMENT LINE

PRIVATE ACCESS RD

354.40 FLOOR 05 +14.00
351.40 FLOOR 04 +11.00
348.40 FLOOR 03 +8.00
345.30 B2 - FLOOR 2 +4.90
344.40 FLOOR 02 +4.00
342.30 B2 - LOBBY +1.90
341.63 B - AVERAGE GRADE +1.23
340.40 FLOOR 01 +0.00

3.0 m
3.0 m
3.0 m
4.0 m
4.0 m
1.2 m
19.3 m

2 BR | CORRIDOR | STAIR | STORAGE | 2 BR + D | 2 BR
2 BR | CORRIDOR | STAIR | STORAGE | 2 BR + D | 2 BR
RES. LOCKERS | CORRIDOR | STAIR | BIKE STORAGE | TH | TH | TH
TH | TH | TH
LOBBY | RAMP | STAIR | LOADING | RAMP
RES. LOCKER | RAMP | GARBAGE | PARKING
RES LOCKER | RES. LOCKER | PARKING

3.8 m
2.8 m

20700

BUILDING A

MECH P.H

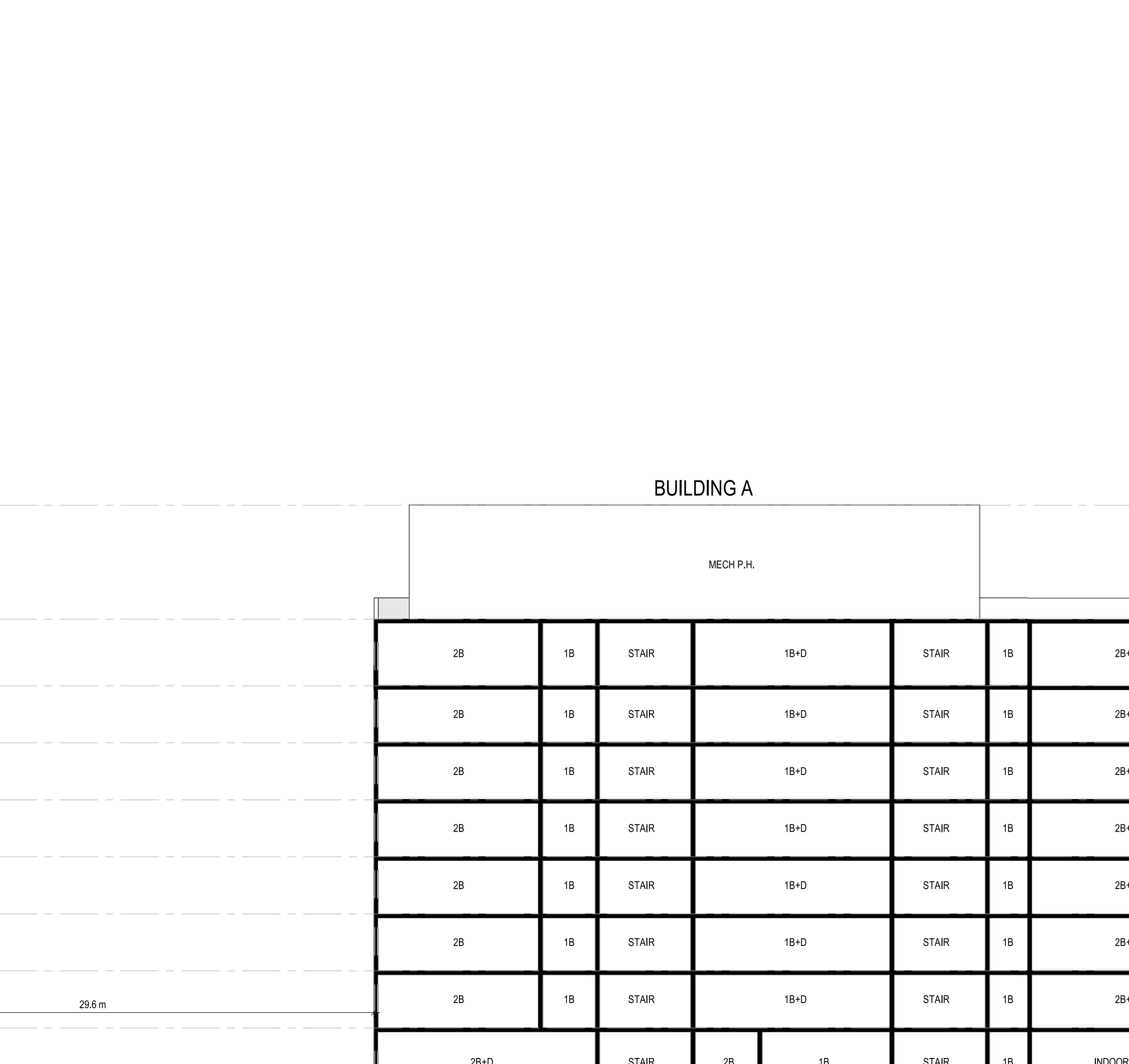
1B | STAIR | CORR. | 1B | BALC.
1B | STAIR | CORR. | 1B | BALC.
1B | STAIR | CORR. | 1B | BALC.
1B | STAIR | CORR. | 1B | BALC.
1B | STAIR | CORR. | 1B | BALC.
1B | STAIR | CORR. | 1B | BALC.
2B | STAIR | CORR. | 1B | BALC.

51.7 m
45.7 m

2B | STAIR | CORR. | STORAGE | 1B+D | 2B | 2B
2B | STAIR | CORR. | STORAGE | 1B+D | 2B | 2B
2B | STAIR | CORR. | STORAGE | 1B+D | 2B | 2B
2B | STAIR | CORR. | STORAGE | 1B+D | 2B | 2B

20.7 m

BUILDING A


MECH P.H.
2B
1B
STAIR
1B+D
STAIR
1B
2B
2B
1B
STAIR
1B+D
STAIR
1B
2B
2B
1B
STAIR
1B+D
STAIR
1B
2B
2B
1B
STAIR
1B+D
STAIR
1B
2B
2B
1B
STAIR
1B+D
STAIR
1B
2B
2B
1B
STAIR
1B+D
STAIR
1B
2B
29.6 m
2B+D
STAIR
2B
1B
STAIR
1B
INDOOR

APPENDIX B

CRITERIA

The Guelph Noise Control Guidelines are to be read in conjunction with the MECP publication "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning" Publication NPC-300, August 2013. Unless otherwise indicated in the Guelph Noise Control Guidelines, the principles and policies of NPC-300 must be followed for all noise studies submitted.

Transportation Sources

Guidance from the Ontario Ministry of the Environment, Conservation and Parks (MECP) NPC-300 Environmental Noise Guideline was used to assess environmental noise generated by transportation-related sources. There are three aspects to consider, which include the following:

i. Transportation source sound levels in indoor living areas (living rooms and sleeping quarters), which determines building façade elements (windows, exterior walls, doors) sound insulation design recommendations.
ii. Transportation source sound levels at the plane of the window, which determines air-conditioning and ventilation system recommendations and associated warning clauses which inform the future occupants that windows and doors must be closed in order to meet the indoor sound level criteria.
iii. Transportation source sound levels in Outdoor Living Areas (OLAs), which determines OLA noise mitigation and related warning clause recommendations.

Road and Rail

Indoor Sound Level Criteria

For assessing sound originating from transportation sources, NPC-300 defines sound level criteria as summarized in **Table 1** for indoor areas of sensitive uses. The specified values are maximum sound levels and apply to the indicated indoor spaces with the windows and doors closed.

Table 1: Indoor Sound Level Criteria for Road and Rail Sources

Type of Space	Source	Sound Level Criteria (Indoors)	
		Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h
Living Quarters Examples: Living, dining and den areas of residences, hospitals, nursing homes, schools and daycare centres	**Road**	45 dBA	
	Rail	40 dBA	
Sleeping Quarters	**Road**	45 dBA	40 dBA
	Rail	40 dBA	35 dBA

NPC-300 also provides guidelines for acceptable indoor sound levels that are extended to land uses and developments which are not normally considered noise sensitive. The guideline sound level criteria presented in **Table 2** are provided to inform good-practice design objectives.

Table 2: Supplementary Indoor Sound Level Criteria for Road and Rail Sources

Type of Space	Source	Sound Level Criteria (Indoors)	
		Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h
General offices, reception areas, retail stores, etc.	**Road**	50 dBA	-
	Rail	45 dBA	-
Theatres, places of worship, libraries, individual or semi-private offices, conference rooms, reading rooms, etc.	**Road**	45 dBA	-
	Rail	40 dBA	-
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	**Road**	-	40 dBA
	Rail	-	35 dBA
Sleeping quarters of hotels/motels	**Road**	-	45 dBA
	Rail	-	40 dBA

Outdoor Living Areas (OLAs)

Outdoor Living Areas (OLAs) would include outdoor areas intended and designed for the quiet enjoyment of the outdoor environment and which are readily accessible from the building.

OLAs may include any common outdoor amenity spaces associated with a multi-unit residential development (e.g. courtyards, roof-top terraces), and/or private backyards and terraces with a minimum depth of 4m provided they are the only outdoor living area for the occupant. The sound level criteria for outdoor living areas is summarized in **Table 3**.

Table 3: Sound Level Criteria – Outdoor Living Area

Assessment Location	Sound Level Criteria (Outdoors)	
	Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h
Outdoor Living Area (OLA) (Combined Road and Rail)	55 dBA	-

Outdoor and Plane of Window Sound Levels

In addition to the sound level criteria, noise control measures and requirements for ventilation and warning clauses requirements are recommended for residential land-uses based on predicted transportation source sound levels incident in the plane of window at bedrooms and living/dining rooms, and/or at outdoor living areas. These recommendations are summarized in **Table 4** below.

Table 4: Ventilation, Building Component, and Warning Clauses Recommendations for Road/Rail Sources

Assessment Location	Transportation Sound Level (Outdoors)		Recommendations
	Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h	
Plane of Window (Road)	> 65 dBA	> 60 dBA	Installation of air conditioning to allow windows to remained closed. The sound insulation performance of building components must be specified and designed to meet the indoor sound level criteria. Warning clause "Type D" is recommended.
	> 55 dBA	> 50 dBA	Applicable for low and medium density development: Forced-air ventilation system to allow for the future installation of air-conditioning. Warning clause "Type C" is recommended. Applicable for high density development: Air conditioning to allow windows to remained closed. Warning clause "Type D" is recommended.
Plane of Window (Rail [1, 2])	> 60 dBA	> 55 dBA	The acoustical performance of building façade components should be specified such that the indoor sound level limits are predicted to be achieved. Warning clause "Type D" is recommended.
	> 60 dBA ($L_{eq,\ 24hr}$) and < 100m from tracks		Exterior walls consisting of a brick veneer or masonry equivalent for the first row of dwellings. Warning clause "Type D" is recommended.
Outdoor Living Area (Combined Road and	≤ 60 dBA > 55 dBA	-	If sound levels are predicted to exceed 55 dBA, but are less than 60 dBA, noise controls may be applied to reduce the sound level to 55 dBA. If noise control measures are not provided, a warning clause "Type A" is recommended.

Assessment Location	Transportation Sound Level (Outdoors)		Recommendations
	Daytime $L_{eq,16\text{-}hr}$ 07:00h – 23:00h	Nighttime $L_{eq,8\text{-}hr}$ 23:00h – 07:00h	
	> 60 dBA	-	Noise controls (barriers) should be implemented to meet the 55 dBA criterion. If mitigation is not feasible to meet the 55 dBA criterion for technical, economic or administrative reasons, an exceedance of 5 dB may be acceptable (to a maximum sound level of 60 dBA). In this case a warning clause "Type B" would be recommended.

Note(s):
1. Whistle noise is included (if applicable) in the determination of the sound level at the plane of window.
2. Some railway companies (e.g. CN, CP) may require that the exterior walls include a brick veneer or masonry equivalent for the façade facing the railway line, regardless of the sound level.
3. Whistle noise is not included in the determination of the sound level at the OLA.

Stationary Sources

NPC-300 Sound Level Criteria – Stationary Sources

Guidance from the MECP NPC-300 Environmental Noise Guideline is used to assess environmental noise generated by stationary sources, for example industrial and commercial facilities.

Noise from stationary sources is treated differently from transportation sources and requires sound levels be assessed for the predictable worst-case one-hour average sound level (L_{eq}) for each period of the day. For assessing sound originating from stationary sources, NPC-300 defines sound level criteria for two types of Points of Reception (PORs): outdoor and plane of window.

Continuous Sources – Regular Operations

The assessment criteria for all PORs is the higher of either the exclusion limit per NPC-300 or the minimum background sound level that occurs or is likely to occur at a POR. The applicable exclusion limit is determined based on the level of urbanization or "Class" of the area. The NPC-300 exclusion limits for continuously operating stationary sources are summarized in **Table 5**.

Table 5: NPC-300 Exclusion Limits – Continuous and Quasi-Steady Impulsive Stationary Sources (LAeq-1hr)

Time Period	Class 1 Area		Class 2 Area		Class 3 Area		Class 4 Area	
	Outdoor	Plane of Window	Outdoor	Plane of Window	Outdoor	Plane of Window	Outdoor	Plane of Window
Daytime 0700-1900h	50 dBA	50 dBA	50 dBA	50 dBA	45 dBA	45 dBA	55 dBA	60 dBA
Evening 1900-2300h	50 dBA	50 dBA	45 dBA	50 dBA	40 dBA	40 dBA	55 dBA	60 dBA

Time Period	Class 1 Area		Class 2 Area		Class 3 Area		Class 4 Area	
	Outdoor	Plane of Window	Outdoor	Plane of Window	Outdoor	Plane of Window	Outdoor	Plane of Window
Nighttime 2300-0700h	--	45 dBA	--	45 dBA	--	40 dBA	--	55 dBA

Note(s):

1. The applicable sound level criterion is the background sound level or the exclusion limit, whichever is higher.
2. Class 1, 2 and 3 sound level criteria apply to a window that is assumed to be open.
3. Class 4 area criteria apply to a window that is assumed closed. Class 4 area requires formal designation by the land-use planning authority.

Continuous Sources - Emergency Equipment Testing

Sound level criteria for emergency backup equipment (e.g. generators) operating in non-emergency situations such as testing or maintenance are 5 dB greater than the applicable sound level criteria for stationary sources.

In addition, the operation of emergency equipment under maintenance and testing conditions is assessed separately from all other stationary noise sources.

D-Series Guidelines

The MECP D-series guidelines (MOE, 1995) provide direction for land use planning to maximize compatibility of industrial uses with adjacent land uses. The goal of Guideline D-6 is to minimize encroachment of sensitive land uses on industrial facilities and vice versa, in order to address potential incompatibility due to adverse effects such as noise, odour and dust.

For each class of industry, the guideline provides an estimate of potential influence area and states that this influence area shall be used in the absence of the recommended technical studies. Guideline D-6 also recommends a minimum separation distance between each class of industry and sensitive land uses (see **Table 6**). Section 4.10 of D-6 identifies exceptional circumstances with respect to redevelopment, infill and mixed-use areas. In these cases, the guideline suggests that separation distances at, or less than, the recommended minimum separation distance may be acceptable if a justifying impact assessment is provided.

Table 6: Summary of Guideline D-6

Industry Class	Definition	Potential Influence Area [1]	Recommended Minimum Separation Distance [1]
Class I	Small scale, self-contained, daytime only, infrequent heavy vehicle movements, no outside storage.	70 m	20 m
Class II	Medium scale, outdoor storage of wastes or materials, shift operations and frequent heavy equipment movement during the daytime.	300 m	70 m
Class III	Large scale, outdoor storage of raw and finished products, large production volume, continuous movement of products and employees during daily shift operations.	1000 m	300 m

Note(s):

1. Measured from Property Line to Property Line.

Guideline D-6 provides criteria for classifying industrial land uses, based on their outputs, scale of operations, processes, schedule and intensity of operations. **Table 7** provides the classification criteria and examples.

Table 7: Guideline D-6 Industrial Categorization Criteria

Criteria	Class I	Class II	Class III
Outputs	• Sound not audible off property • Infrequent dust and/ or odour emissions and not intense • No ground-borne vibration	• Sound occasionally audible off property • Frequent dust and/ or odour emissions and occasionally intense • Possible ground-borne vibration	• Sound frequently audible off property • Persistent and intense dust and/ or odour emissions • Frequent ground-borne vibration
Scale	• No outside storage • Small scale plant or scale is irrelevant in relation to all other criteria	• Outside storage permitted • Medium level of production	• Outside storage of raw and finished products • Large production levels
Process	• Self-contained plant or building which produces / stores a packaged product • Low probability of fugitive emissions	• Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions	• Open process • Frequent outputs of major annoyances • High probability of fugitive emissions
Operation / Intensity	• Daytime operations only • Infrequent movement of products and/or heavy trucks	• Shift operations permitted • Frequent movements of products and/or heavy trucks with majority of movements during daytime hours	• Continuous movement of products and employees • Daily shift operations permitted
Examples	• Electronics Manufacturing • Furniture refinishing • Beverage bottling • Auto parts • Packaging services • Dairy distribution • Laundry and linen supply	• Magazine printing • Paint spray booths • Metal command • Electrical production • Dairy product manufacturing • Feed packing plant	• Paint and varnish manufacturing • Organic chemicals manufacturing • Breweries • Solvent recovery plant • Soap manufacturing • Metal manufacturing

APPENDIX C

City of Guelph
Transportation Services

Site Code:

Gordon St
btwn Clair Rd and Poppy Dr

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
06/18/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	4	41	13	0	1	4	1	0	0	0	0	0	0	0	64
05:00	2	86	16	0	1	1	0	0	1	0	0	0	0	0	107
06:00	9	135	13	0	6	5	0	0	0	0	0	0	0	0	168
07:00	10	260	26	2	8	6	0	1	0	0	0	0	0	0	313
08:00	12	414	48	1	9	3	1	2	2	0	0	0	0	5	497
09:00	11	617	59	2	11	3	1	0	1	0	1	0	0	2	708
10:00	22	885	113	4	9	5	2	2	1	0	0	0	0	8	1051
11:00	25	951	94	7	16	6	2	1	1	0	0	0	0	19	1122
12 PM	33	1049	121	8	9	7	4	0	0	0	0	0	1	26	1258
13:00	31	1056	100	2	12	6	8	2	2	0	0	0	0	17	1236
14:00	26	973	131	3	15	5	1	3	1	0	0	0	1	14	1173
15:00	25	1005	113	4	11	6	6	1	0	0	0	0	0	11	1182
16:00	27	866	107	2	13	4	2	1	1	0	1	0	1	10	1035
17:00	24	821	96	1	7	6	1	2	0	0	0	0	0	7	965
18:00	20	799	81	1	8	4	2	2	1	0	0	0	0	5	923
19:00	31	806	89	0	10	5	1	2	1	0	0	0	0	9	954
20:00	19	765	70	1	10	7	5	1	0	0	0	0	0	8	886
21:00	14	619	43	2	12	2	4	0	0	0	0	0	0	3	699
22:00	8	392	31	3	7	2	1	1	0	0	0	0	0	3	448
23:00	2	203	14	0	2	1	0	0	0	0	0	0	0	1	223
Total	355	12743	1378	43	177	88	42	21	12	0	2	0	3	148	15012
Percent	2.4%	84.9%	9.2%	0.3%	1.2%	0.6%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	1.0%	
AM Peak	11:00	11:00	10:00	11:00	11:00	07:00	10:00	08:00	08:00		09:00			11:00	
Vol.	25	951	113	7	16	6	2	2	2		1			19	
PM Peak	12:00	13:00	14:00	12:00	14:00	12:00	13:00	14:00	13:00		16:00		12:00	12:00	
Vol.	33	1056	131	8	15	7	8	3	2		1		1	26	

City of Guelph
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NB, SB

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06/19/23	0	174	7	2	1	0	0	0	0	0	0	0	0	0	184
01:00	1	84	11	1	1	1	0	0	0	0	0	0	0	0	99
02:00	0	39	7	1	0	0	0	0	0	0	0	0	0	0	47
03:00	1	37	10	0	3	1	0	0	0	1	0	0	0	1	54
04:00	8	96	17	0	5	6	0	0	3	0	0	0	0	0	135
05:00	13	245	46	3	11	7	2	0	1	0	0	0	0	0	328
06:00	19	426	95	7	15	12	1	5	0	1	0	0	0	5	586
07:00	41	715	112	10	43	11	1	7	1	1	0	0	0	8	950
08:00	39	867	128	12	53	16	6	5	2	0	1	0	0	16	1145
09:00	33	623	132	9	36	20	4	11	3	0	0	0	1	16	888
10:00	32	580	137	6	31	22	4	6	5	1	0	0	2	19	845
11:00	32	687	118	5	23	23	2	3	0	0	0	0	1	16	910
12 PM	30	776	149	10	34	12	3	9	7	0	0	0	1	10	1041
13:00	29	671	131	13	35	13	2	6	3	0	0	0	0	12	915
14:00	41	749	145	10	47	21	3	4	3	1	0	0	0	12	1036
15:00	44	847	148	11	35	20	4	3	2	0	0	0	2	19	1135
16:00	35	1011	146	10	39	13	6	11	4	0	0	0	0	25	1300
17:00	31	1061	151	7	29	8	2	8	0	0	0	0	0	29	1326
18:00	26	878	102	7	23	12	1	4	3	0	0	0	0	13	1069
19:00	23	680	87	6	15	7	5	2	2	0	0	0	0	10	837
20:00	21	585	80	9	11	5	1	1	1	0	0	0	0	3	717
21:00	15	463	40	2	10	5	1	1	1	0	0	0	1	4	543
22:00	6	295	26	4	4	3	1	0	0	0	0	0	0	3	342
23:00	7	176	14	3	4	9	0	1	0	0	0	0	0	1	215
Total	527	12765	2039	148	508	247	49	87	41	5	1	0	8	222	16647
Percent	3.2%	76.7%	12.2%	0.9%	3.1%	1.5%	0.3%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	1.3%	
AM Peak	07:00	08:00	10:00	08:00	08:00	11:00	08:00	09:00	10:00	03:00	08:00		10:00	10:00	
Vol.	41	867	137	12	53	23	6	11	5	1	1		2	19	
PM Peak	15:00	17:00	17:00	13:00	14:00	14:00	16:00	16:00	12:00	14:00			15:00	17:00	
Vol.	44	1061	151	13	47	21	6	11	7	1			2	29	

City of Guelph
Transportation Services

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btwn Clair Rd and Poppy Dr

NB, SB

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06/20/23	2	104	13	1	4	2	0	1	1	0	0	0	0	0	128
01:00	3	55	9	3	2	1	0	0	1	0	0	0	0	0	74
02:00	1	47	8	1	2	0	0	0	0	0	0	0	0	0	59
03:00	2	48	10	0	4	2	0	0	1	0	0	0	0	0	67
04:00	9	89	10	1	6	4	1	0	1	0	0	0	0	2	123
05:00	10	243	51	3	16	7	0	0	1	0	0	0	0	1	332
06:00	25	500	99	6	25	17	2	2	0	1	0	0	0	7	684
07:00	36	760	112	6	42	12	1	2	3	0	0	0	2	21	997
08:00	32	893	130	17	44	16	3	8	1	1	0	0	0	18	1163
09:00	23	611	116	9	36	19	3	3	0	0	0	0	0	16	836
10:00	36	632	135	10	52	15	0	6	5	2	0	0	2	6	901
11:00	39	642	124	11	47	24	5	4	5	1	0	0	0	12	914
12 PM	41	740	167	13	46	14	4	3	2	1	0	0	0	14	1045
13:00	50	754	135	9	35	18	6	8	2	0	0	0	1	16	1034
14:00	40	809	164	7	38	18	3	4	5	0	0	0	1	24	1113
15:00	37	805	131	15	46	12	7	4	6	0	0	0	1	31	1095
16:00	35	1092	168	11	43	12	7	7	2	0	0	0	0	30	1407
17:00	30	1126	164	3	27	9	7	3	5	0	0	0	0	25	1399
18:00	30	920	100	3	22	10	1	3	1	0	0	0	0	21	1111
19:00	12	694	79	3	24	5	1	0	2	0	0	0	0	5	825
20:00	14	600	80	6	13	8	1	1	0	0	0	0	0	15	738
21:00	13	485	63	3	11	4	0	1	2	0	0	0	0	4	586
22:00	13	340	26	2	3	5	0	1	1	0	0	0	0	0	391
23:00	7	290	23	4	3	4	1	0	0	0	0	0	0	0	332
Total	540	13279	2117	147	591	238	53	61	47	6	0	0	7	268	17354
Percent	3.1%	76.5%	12.2%	0.8%	3.4%	1.4%	0.3%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	1.5%	
AM Peak	11:00	08:00	10:00	08:00	10:00	11:00	11:00	08:00	10:00	10:00			07:00	07:00	
Vol.	39	893	135	17	52	24	5	8	5	2			2	21	
PM Peak	13:00	17:00	16:00	15:00	12:00	13:00	15:00	13:00	15:00	12:00			13:00	15:00	
Vol.	50	1126	168	15	46	18	7	8	6	1			1	31	

City of Guelph
Transportation Services

Site Code:

Gordon St
btwn Clair Rd and Poppy Dr

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
06/21/23	5	140	15	2	2	0	1	0	0	0	0	0	0	0	165
01:00	5	63	10	3	4	1	0	0	0	0	0	0	0	0	86
02:00	4	39	5	2	1	2	0	0	0	0	0	0	0	0	53
03:00	2	41	5	0	1	0	0	1	3	0	0	0	0	1	54
04:00	8	87	12	1	4	2	0	0	2	0	0	0	0	0	116
05:00	14	221	50	6	22	6	0	0	0	0	0	0	1	0	320
06:00	30	423	96	1	18	15	2	5	4	0	0	0	2	6	602
07:00	28	803	112	8	36	13	0	4	5	0	0	0	0	10	1019
08:00	42	893	111	11	50	17	4	8	5	0	1	0	0	19	1161
09:00	38	660	128	11	51	24	9	4	4	1	0	0	0	13	943
10:00	52	645	145	8	30	19	2	7	8	1	0	0	2	16	935
11:00	42	703	141	11	41	21	6	2	3	0	0	0	1	18	989
12 PM	39	773	150	13	48	13	2	2	3	0	0	0	1	13	1057
13:00	38	697	112	9	42	19	6	6	7	0	1	0	0	16	953
14:00	39	803	147	12	36	21	0	6	4	0	1	0	2	15	1086
15:00	50	914	171	9	46	16	0	8	6	0	1	0	0	13	1234
16:00	42	1083	174	8	29	22	4	7	3	0	0	0	0	36	1408
17:00	41	1159	171	10	34	17	5	3	5	0	0	0	0	33	1478
18:00	25	963	114	7	22	10	2	0	3	0	1	0	0	8	1155
19:00	20	749	102	3	16	8	4	1	3	0	0	0	1	11	918
20:00	21	588	51	5	7	6	0	2	1	0	0	0	0	6	687
21:00	17	505	67	2	12	5	1	1	1	0	1	0	0	4	616
22:00	13	373	23	3	6	5	0	0	0	0	0	0	0	1	424
23:00	4	251	17	4	3	2	0	1	0	0	0	0	1	3	286
Total	619	13576	2129	149	561	264	48	68	70	2	6	0	11	242	17745
Percent	3.5%	76.5%	12.0%	0.8%	3.2%	1.5%	0.3%	0.4%	0.4%	0.0%	0.0%	0.0%	0.1%	1.4%	
AM Peak	10:00	08:00	10:00	08:00	09:00	09:00	09:00	08:00	10:00	09:00	08:00		06:00	08:00	
Vol.	52	893	145	11	51	24	9	8	8	1	1		2	19	
PM Peak	15:00	17:00	16:00	12:00	12:00	16:00	13:00	15:00	13:00		13:00		14:00	16:00	
Vol.	50	1159	174	13	48	22	6	8	7		1		2	36	

City of Guelph
Transportation Services

Site Code:

Gordon St
btwn Clair Rd and Poppy Dr

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
06/22/23	3	150	15	2	3	2	0	0	0	0	0	0	0	0	175
01:00	5	83	8	2	1	2	0	0	1	0	0	0	0	0	102
02:00	4	49	13	2	3	3	0	0	0	0	0	0	0	0	74
03:00	2	41	8	0	3	1	0	0	0	0	0	0	0	0	55
04:00	8	96	26	0	4	3	0	0	2	0	0	0	0	0	139
05:00	16	215	51	4	16	6	1	1	2	0	0	0	0	5	317
06:00	34	419	103	8	33	15	2	6	1	2	0	0	0	8	631
07:00	47	746	118	7	36	16	7	7	1	0	0	0	0	12	997
08:00	33	847	153	8	46	12	5	8	2	0	0	0	2	21	1137
09:00	38	697	140	9	34	24	1	4	2	0	0	0	1	11	961
10:00	30	657	126	9	36	17	6	7	2	1	0	0	2	10	903
11:00	41	754	118	7	50	13	4	5	6	1	1	0	1	16	1017
12 PM	41	791	158	18	36	20	8	12	3	0	1	0	1	15	1104
13:00	77	744	137	8	48	33	6	6	5	0	1	0	0	25	1090
14:00	71	797	163	14	41	30	1	6	5	0	0	0	0	19	1147
15:00	89	873	172	12	55	41	2	9	3	1	0	0	3	17	1277
16:00	62	1044	145	13	47	30	3	4	5	0	0	0	0	24	1377
17:00	42	1110	143	8	36	14	1	2	3	0	0	0	0	32	1391
18:00	27	968	126	2	20	8	1	1	3	1	0	0	1	23	1181
19:00	22	736	119	5	14	8	4	1	4	0	1	0	1	6	921
20:00	20	663	82	10	13	4	2	2	0	0	0	0	0	12	808
21:00	11	520	70	3	13	3	1	0	1	0	0	0	0	4	626
22:00	10	355	33	4	12	0	2	0	0	0	0	0	0	1	417
23:00	3	235	27	3	7	0	0	0	0	0	0	0	0	0	275
Total	736	13590	2254	158	607	305	57	81	51	6	4	0	12	261	18122
Percent	4.1%	75.0%	12.4%	0.9%	3.3%	1.7%	0.3%	0.4%	0.3%	0.0%	0.0%	0.0%	0.1%	1.4%	
AM Peak	07:00	08:00	08:00	09:00	11:00	09:00	07:00	08:00	11:00	06:00	11:00		08:00	08:00	
Vol.	47	847	153	9	50	24	7	8	6	2	1		2	21	
PM Peak	15:00	17:00	15:00	12:00	15:00	15:00	12:00	12:00	13:00	15:00	12:00		15:00	17:00	
Vol.	89	1110	172	18	55	41	8	12	5	1	1		3	32	

City of Guelph
Transportation Services

Site Code:

Gordon St
btwn Clair Rd and Poppy Dr

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
06/23/23	5	145	16	1	1	5	0	0	0	0	0	0	0	1	174
01:00	6	62	12	3	0	1	0	0	0	0	0	0	0	1	85
02:00	2	49	12	1	3	1	0	0	1	0	0	0	0	0	69
03:00	4	46	19	0	3	1	0	0	1	0	0	0	0	0	74
04:00	10	80	17	1	2	5	0	0	1	0	0	0	0	0	116
05:00	8	232	47	3	15	5	1	0	2	1	0	0	0	3	317
06:00	26	376	99	5	20	11	1	6	2	0	0	0	0	5	551
07:00	41	639	110	8	33	16	5	7	3	0	0	0	0	11	873
08:00	23	767	131	10	43	8	4	4	4	1	0	0	1	10	1006
09:00	46	661	127	12	36	21	3	7	5	0	0	0	1	14	933
10:00	35	681	138	7	51	18	5	8	5	1	0	0	0	14	963
11:00	39	740	154	7	34	15	3	14	3	0	0	0	0	19	1028
12 PM	33	840	153	5	35	18	4	7	4	0	0	0	0	20	1119
13:00	31	806	154	10	43	12	2	6	5	1	0	0	2	23	1095
14:00	39	807	159	18	43	16	4	5	2	1	0	0	0	23	1117
15:00	50	994	131	11	44	23	7	1	3	0	1	0	0	12	1277
16:00	50	1196	161	10	38	18	3	1	4	2	0	0	0	33	1516
17:00	26	1080	141	7	35	12	7	2	2	0	0	0	0	35	1347
18:00	21	985	100	4	22	4	1	1	1	0	1	0	0	28	1168
19:00	18	769	80	6	23	10	3	2	0	0	0	0	1	11	923
20:00	9	600	71	4	13	6	2	0	1	0	0	0	0	11	717
21:00	15	489	59	4	13	6	2	1	1	0	0	0	0	8	598
22:00	8	378	46	5	7	0	1	1	0	0	0	0	0	2	448
23:00	5	359	40	4	3	2	2	1	0	0	0	0	0	2	418
Total	550	13781	2177	146	560	234	60	74	50	7	2	0	5	286	17932
Percent	3.1%	76.9%	12.1%	0.8%	3.1%	1.3%	0.3%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	1.6%	
AM Peak	09:00	08:00	11:00	09:00	10:00	09:00	07:00	11:00	09:00	05:00			08:00	11:00	
Vol.	46	767	154	12	51	21	5	14	5	1			1	19	
PM Peak	15:00	16:00	16:00	14:00	15:00	15:00	15:00	12:00	13:00	16:00	15:00		13:00	17:00	
Vol.	50	1196	161	18	44	23	7	7	5	2	1		2	35	

City of Guelph
Transportation Services

Site Code:

Gordon St
btwn Clair Rd and Poppy Dr

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
06/24/23	5	247	32	4	4	3	2	0	0	0	0	0	0	2	299
01:00	1	142	12	1	4	1	1	0	0	0	0	0	0	0	162
02:00	2	58	3	2	1	1	0	0	0	0	0	0	0	1	68
03:00	0	53	3	1	0	0	0	0	0	0	0	0	0	0	57
04:00	2	47	13	0	3	3	0	0	2	0	0	0	0	0	70
05:00	0	108	14	1	2	0	0	0	1	1	0	0	0	1	128
06:00	7	179	21	0	9	4	0	1	1	0	0	0	0	0	222
07:00	3	298	49	1	11	0	1	2	2	0	0	0	0	1	368
08:00	12	552	83	2	20	1	2	1	0	0	0	0	0	4	677
09:00	18	768	106	4	18	7	5	0	1	0	0	0	0	13	940
10:00	23	926	140	9	27	7	4	1	1	0	0	0	1	12	1151
11:00	20	972	122	3	14	5	4	2	0	0	0	0	0	13	1155
12 PM	18	982	112	5	25	4	4	1	2	0	1	0	0	20	1174
13:00	15	1051	106	1	19	6	2	2	0	0	0	0	0	18	1220
14:00	26	953	125	5	28	4	5	2	0	0	2	0	0	15	1165
15:00	17	977	120	0	17	4	4	3	0	0	0	0	0	15	1157
16:00	15	976	111	2	25	11	7	1	2	1	0	0	0	11	1162
17:00	27	966	114	1	17	6	5	3	0	0	1	0	1	13	1154
18:00	15	809	94	4	12	2	4	2	0	0	0	0	0	12	954
19:00	7	712	63	1	8	2	3	3	0	0	0	0	0	5	804
20:00	10	663	64	1	16	3	6	1	0	0	0	0	0	3	767
21:00	10	610	53	1	8	2	0	0	1	0	0	0	0	3	688
22:00	11	478	42	2	2	3	3	0	0	0	0	0	0	1	542
23:00	7	387	33	2	4	1	2	0	1	0	0	0	0	0	437
Total	271	13914	1635	53	294	80	64	25	14	2	4	0	2	163	16521
Percent	1.6%	84.2%	9.9%	0.3%	1.8%	0.5%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	1.0%	
AM Peak	10:00	11:00	10:00	10:00	10:00	09:00	09:00	07:00	04:00	05:00			10:00	09:00	
Vol.	23	972	140	9	27	7	5	2	2	1			1	13	
PM Peak	17:00	13:00	14:00	12:00	14:00	16:00	16:00	15:00	12:00	16:00	14:00		17:00	12:00	
Vol.	27	1051	125	5	28	11	7	3	2	1	2		1	20	

City of Guelph
Transportation Services

Site Code:

Gordon St
btwn Clair Rd and Poppy Dr

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
06/25/23	7	261	21	1	3	2	0	0	0	0	0	0	0	4	299
01:00	1	107	13	0	2	0	0	0	0	0	0	0	0	0	123
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	8	368	34	1	5	2	0	0	0	0	0	0	0	4	422
Percent	1.9%	87.2%	8.1%	0.2%	1.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	
AM Peak	00:00	00:00	00:00	00:00	00:00	00:00								00:00	
Vol.	7	261	21	1	3	2								4	
PM Peak															
Vol.															
Grand Total	3606	94016	13763	845	3303	1458	373	417	285	28	19	0	48	1594	119755
Percent	3.0%	78.5%	11.5%	0.7%	2.8%	1.2%	0.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	1.3%	

Accu-Traffic Inc.
85 West Wilmot St., Unit 13,
Richmond Hill, ON, L4B 1K7
Tel: 1- 416-910-0171 Fax: 1-888-711-3125
E-mail: solutions@accu-traffic.ca
URL: http://www.accu-traffic.ca

Site Code: 31
Station ID: MC50/MC43
Clair Rd E btwn Beaver Meadow Dr/Dallan Dr and Hawkins Dr
Latitude: 0' 0.0000 Undefined
Longitude: 0' 0.0000 Undefined

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/05/22	0	80	9	4	3	0	0	0	2	0	0	0	0	98
01:00	0	34	0	3	0	1	0	0	0	3	0	0	0	41
02:00	0	26	3	1	0	1	0	0	2	0	0	0	0	33
03:00	0	21	4	0	0	0	0	0	4	2	0	0	0	31
04:00	0	50	15	0	1	2	0	0	11	0	0	0	0	79
05:00	1	213	38	5	4	3	0	0	5	2	0	0	0	271
06:00	1	304	71	2	11	5	3	3	5	4	0	0	0	409
07:00	0	538	95	22	22	8	0	1	6	4	0	0	0	696
08:00	1	**691**	**134**	**27**	**24**	5	**5**	**4**	6	**6**	0	0	0	**903**
09:00	1	420	95	14	23	12	4	1	11	6	0	0	0	587
10:00	4	430	103	15	20	6	0	1	11	6	0	0	0	596
11:00	**6**	464	86	15	17	**16**	2	1	**15**	6	0	0	0	628
12 PM	4	581	131	11	22	**14**	3	0	13	3	0	0	0	782
13:00	7	531	104	13	21	6	1	0	15	3	0	0	0	701
14:00	6	626	107	**19**	**38**	11	3	1	**16**	**5**	0	0	0	832
15:00	4	815	155	16	20	6	2	2	9	4	0	0	0	1033
16:00	7	901	**169**	16	24	9	**5**	3	5	4	0	0	0	1143
17:00	**8**	**980**	147	7	17	2	5	2	4	3	0	0	0	**1175**
18:00	5	784	126	6	10	7	5	**4**	5	1	0	0	0	953
19:00	3	637	91	6	8	10	3	3	3	1	0	0	0	765
20:00	2	431	68	4	5	3	2	0	2	1	0	0	0	518
21:00	2	331	37	3	1	4	1	1	5	1	0	0	0	386
22:00	0	202	26	5	7	2	0	0	4	0	0	0	0	246
23:00	0	153	13	3	2	2	0	0	1	2	0	0	0	176
Total	62	10243	1827	217	300	135	44	27	160	67	0	0	0	13082
Percent	0.5%	78.3%	14.0%	1.7%	2.3%	1.0%	0.3%	0.2%	1.2%	0.5%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	08:00	08:00	08:00	11:00	08:00	08:00	11:00	08:00				08:00
Vol.	6	691	134	27	24	16	5	4	15	6				903
PM Peak	17:00	17:00	16:00	14:00	14:00	12:00	16:00	18:00	14:00	14:00				17:00
Vol.	8	980	169	19	38	14	5	4	16	5				1175

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Site Code: 31
Station ID: MC50/MC43
Clair Rd E btwn Beaver Meadow Dr/Dallan Dr and Hawkins Dr
Latitude: 0' 0.0000 Undefined
Longitude: 0' 0.0000 Undefined

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/06/22	0	93	11	7	1	0	0	0	2	2	0	0	0	116
01:00	0	39	4	3	0	1	0	0	2	0	0	0	0	49
02:00	0	33	8	1	0	0	0	0	0	0	0	0	0	42
03:00	0	31	6	0	0	2	0	0	5	1	0	0	0	45
04:00	0	55	11	1	2	4	0	0	6	0	0	0	0	79
05:00	**3**	162	37	3	5	2	0	1	6	3	0	0	0	222
06:00	2	308	68	3	9	7	1	1	9	4	0	0	0	412
07:00	1	516	94	13	**25**	7	4	3	9	2	0	0	0	674
08:00	2	**775**	**129**	**24**	18	9	**6**	2	8	**7**	**1**	0	0	**981**
09:00	2	442	95	16	15	**13**	3	1	**16**	7	0	0	0	610
10:00	3	421	90	12	21	2	0	0	14	4	0	0	0	567
11:00	3	465	112	15	21	12	0	**4**	7	5	0	0	0	644
12 PM	3	540	116	16	30	8	3	1	**13**	2	0	0	0	732
13:00	5	554	119	14	24	**9**	2	2	9	3	0	0	0	741
14:00	10	672	134	**23**	25	8	3	3	12	**8**	0	0	0	898
15:00	**11**	840	**182**	18	**33**	9	**7**	1	9	3	0	0	0	1113
16:00	6	962	174	16	27	6	6	**5**	5	4	0	0	0	**1211**
17:00	6	**974**	159	9	13	4	5	4	4	5	0	0	0	1183
18:00	5	841	103	5	11	4	5	4	3	0	0	0	0	981
19:00	2	694	106	4	9	5	1	2	5	0	0	0	0	828
20:00	3	489	56	5	14	3	0	1	5	1	0	0	0	577
21:00	6	321	51	3	2	2	0	0	3	0	0	0	0	388
22:00	0	240	25	3	5	1	0	0	3	0	0	0	0	277
23:00	2	180	20	2	3	4	0	0	3	1	0	0	0	215
Total	75	10647	1910	216	313	122	46	35	158	62	1	0	0	13585
Percent	0.6%	78.4%	14.1%	1.6%	2.3%	0.9%	0.3%	0.3%	1.2%	0.5%	0.0%	0.0%	0.0%	
AM Peak	05:00	08:00	08:00	08:00	07:00	09:00	08:00	11:00	09:00	08:00	08:00			08:00
Vol.	3	775	129	24	25	13	6	4	16	7	1			981
PM Peak	15:00	17:00	15:00	14:00	15:00	13:00	15:00	16:00	12:00	14:00				16:00
Vol.	11	974	182	23	33	9	7	5	13	8				1211

Accu-Traffic Inc.
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URL: http://www.accu-traffic.ca

Site Code: 31
Station ID: MC50/MC43
Clair Rd E btwn Beaver Meadow Dr/Dallan Dr and Hawkins Dr
Latitude: 0' 0.0000 Undefined
Longitude: 0' 0.0000 Undefined

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/07/22	0	80	10	4	1	5	0	0	6	1	0	0	0	107
01:00	0	45	4	3	1	0	0	0	3	0	0	0	0	56
02:00	0	35	2	3	0	0	0	0	0	1	0	0	0	41
03:00	0	36	4	0	0	0	0	0	4	0	0	0	0	44
04:00	0	51	11	0	2	2	0	0	10	1	0	0	0	77
05:00	1	160	35	5	3	1	0	0	2	1	0	0	0	208
06:00	1	305	55	6	9	3	3	1	5	3	0	0	0	391
07:00	0	498	85	14	**21**	8	4	3	8	1	0	0	0	642
08:00	0	**705**	**125**	**33**	14	**14**	**7**	**5**	6	**7**	0	0	0	**916**
09:00	1	496	115	16	12	9	3	1	10	4	0	0	0	667
10:00	**2**	539	93	9	14	9	2	1	13	2	0	0	0	684
11:00	2	522	117	9	21	12	3	2	**17**	6	0	0	0	711
12 PM	1	666	126	8	20	10	3	2	10	3	0	0	0	849
13:00	1	614	123	14	18	10	3	1	15	**7**	0	0	0	806
14:00	0	750	137	16	27	8	**6**	2	**16**	5	0	0	0	967
15:00	**2**	927	**165**	17	**29**	9	2	3	10	4	0	0	0	1168
16:00	1	**998**	135	**20**	18	**13**	5	**4**	7	5	0	0	0	**1206**
17:00	1	990	134	7	18	7	5	3	1	1	0	0	0	1167
18:00	1	737	114	5	12	7	3	3	0	0	0	0	0	882
19:00	1	715	79	3	9	4	3	0	3	1	0	0	0	818
20:00	1	537	56	5	6	3	0	0	4	1	0	0	0	613
21:00	0	401	60	3	5	3	1	0	5	2	0	0	0	480
22:00	0	269	17	2	3	4	0	0	4	0	0	0	0	299
23:00	0	187	9	2	2	1	1	0	0	0	0	0	0	202
Total	16	11263	1811	204	265	142	54	31	159	56	0	0	0	14001
Percent	0.1%	80.4%	12.9%	1.5%	1.9%	1.0%	0.4%	0.2%	1.1%	0.4%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00	08:00	07:00	08:00	08:00	08:00	11:00	08:00				08:00
Vol.	2	705	125	33	21	14	7	5	17	7				916
PM Peak	15:00	16:00	15:00	16:00	15:00	16:00	14:00	16:00	14:00	13:00				16:00
Vol.	2	998	165	20	29	13	6	4	16	7				1206

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Clair Rd E btwn Beaver Meadow Dr/Dallan Dr and Hawkins Dr
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Longitude: 0' 0.0000 Undefined

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/08/22	0	127	7	6	0	0	0	0	1	1	0	0	0	142
01:00	0	61	7	0	0	0	1	0	0	0	0	0	0	69
02:00	0	39	5	0	1	1	0	0	**3**	0	0	0	0	49
03:00	0	26	4	0	0	2	0	0	1	0	0	0	0	33
04:00	0	28	3	0	0	0	0	0	2	0	0	0	0	33
05:00	0	53	11	3	1	2	0	0	1	0	0	0	0	71
06:00	0	115	13	3	4	1	0	0	2	0	0	0	0	138
07:00	0	153	25	6	7	2	0	0	2	2	0	0	0	197
08:00	1	332	43	4	6	1	**3**	0	1	**3**	0	0	0	394
09:00	1	485	86	4	6	1	3	1	3	0	0	0	0	590
10:00	**3**	618	**101**	**7**	**15**	3	3	**4**	1	1	0	0	0	756
11:00	1	**712**	101	5	13	**4**	1	0	2	2	0	0	0	**841**
12 PM	**4**	683	108	4	**17**	3	2	**3**	3	0	0	0	0	827
13:00	2	**749**	**126**	**6**	13	2	2	2	3	1	0	0	0	**906**
14:00	4	710	102	4	11	1	3	3	1	**2**	0	0	0	841
15:00	1	647	71	4	7	1	**4**	2	1	1	0	0	0	739
16:00	3	616	68	4	13	**4**	3	2	**4**	0	0	0	0	717
17:00	2	583	65	1	6	2	0	0	0	0	0	0	0	659
18:00	1	536	65	3	4	1	0	0	1	0	0	0	0	611
19:00	0	492	67	2	8	2	2	0	0	0	0	0	0	573
20:00	0	419	46	2	12	1	1	1	0	1	0	0	0	483
21:00	1	358	55	2	6	2	0	0	0	0	0	0	0	424
22:00	2	190	19	2	5	0	0	0	1	0	0	0	0	219
23:00	0	199	17	2	4	1	0	0	0	0	0	0	0	223
Total	26	8931	1215	74	159	37	28	18	33	14	0	0	0	10535
Percent	0.2%	84.8%	11.5%	0.7%	1.5%	0.4%	0.3%	0.2%	0.3%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	10:00	10:00	10:00	11:00	08:00	10:00	02:00	08:00				11:00
Vol.	3	712	101	7	15	4	3	4	3	3				841
PM Peak	12:00	13:00	13:00	13:00	12:00	16:00	15:00	12:00	16:00	14:00				13:00
Vol.	4	749	126	6	17	4	4	3	4	2				906

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NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/09/22	0	125	17	3	2	1	0	0	0	0	0	0	0	148
01:00	0	79	4	0	1	0	0	0	0	0	0	0	0	84
02:00	0	41	4	0	2	0	0	0	1	0	0	0	0	48
03:00	0	20	2	0	1	0	0	0	1	0	0	0	0	24
04:00	0	15	5	0	0	1	0	0	1	0	0	0	0	22
05:00	0	28	9	0	0	1	0	0	2	0	0	0	0	40
06:00	0	80	12	0	0	**2**	0	0	1	0	0	0	0	95
07:00	0	124	11	1	2	1	0	0	2	**1**	0	0	0	142
08:00	0	207	24	0	6	1	0	0	**3**	0	0	0	0	241
09:00	1	345	68	**5**	**12**	1	0	0	2	0	0	0	0	434
10:00	2	483	69	2	2	1	**2**	0	1	0	0	0	0	562
11:00	**3**	**625**	**91**	2	7	1	0	0	0	0	0	0	0	**729**
12 PM	0	637	**115**	**3**	8	**3**	1	**2**	0	0	0	0	0	769
13:00	2	678	83	3	9	2	1	1	1	0	0	0	0	780
14:00	1	**706**	88	2	**11**	1	1	0	**2**	0	0	0	0	**812**
15:00	2	615	72	2	5	0	1	2	1	0	0	0	0	700
16:00	1	583	76	3	9	0	2	2	1	**1**	0	0	0	678
17:00	1	497	51	3	8	1	0	0	1	1	0	0	0	563
18:00	**3**	419	56	3	7	1	0	0	0	0	0	0	0	489
19:00	2	462	52	1	7	1	**4**	1	0	0	0	0	0	530
20:00	0	378	35	1	8	0	0	0	1	0	0	0	0	423
21:00	0	297	33	0	6	0	0	0	1	0	0	0	0	337
22:00	1	223	26	1	0	0	1	0	0	1	0	0	0	253
23:00	0	134	22	0	2	1	0	0	0	0	0	0	0	159
Total	19	7801	1025	35	115	20	13	8	22	4	0	0	0	9062
Percent	0.2%	86.1%	11.3%	0.4%	1.3%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	09:00	09:00	06:00	10:00		08:00	07:00				11:00
Vol.	3	625	91	5	12	2	2		3	1				729
PM Peak	18:00	14:00	12:00	12:00	14:00	12:00	19:00	12:00	14:00	16:00				14:00
Vol.	3	706	115	3	11	3	4	2	2	1				812

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NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/10/22	0	102	10	0	2	1	0	0	0	0	0	0	0	115
01:00	0	59	1	0	3	1	0	0	1	0	0	0	0	65
02:00	0	39	0	0	0	0	0	0	3	0	0	0	0	42
03:00	0	18	4	0	0	0	0	0	1	0	0	0	0	23
04:00	0	27	2	0	1	0	0	0	2	0	0	0	0	32
05:00	1	56	6	0	1	1	0	0	1	0	0	0	0	66
06:00	2	67	6	0	2	1	0	0	1	0	0	0	0	79
07:00	0	59	16	0	1	0	0	0	4	2	0	0	0	82
08:00	1	136	20	0	2	**4**	0	0	**6**	2	0	0	0	171
09:00	1	204	32	2	6	1	0	0	1	0	0	0	0	247
10:00	4	329	45	0	**8**	0	**1**	**3**	1	**4**	0	0	0	395
11:00	**8**	**406**	**65**	**3**	5	1	0	0	0	1	0	0	0	**489**
12 PM	4	440	**82**	**4**	6	1	2	0	1	1	0	0	0	541
13:00	**10**	487	69	3	**10**	3	3	**2**	0	1	0	0	0	588
14:00	4	**501**	71	2	8	2	1	0	1	0	0	0	0	**590**
15:00	5	498	63	1	10	2	1	0	1	1	0	0	0	582
16:00	4	448	63	2	8	2	**4**	1	2	1	0	0	0	535
17:00	7	450	67	3	8	**4**	0	0	1	0	0	0	0	540
18:00	0	416	45	4	9	3	0	1	**3**	**3**	0	0	0	484
19:00	1	416	59	1	3	2	2	0	1	1	0	0	0	486
20:00	0	328	38	2	6	1	0	0	1	0	0	0	0	376
21:00	3	259	33	1	2	1	0	0	0	0	0	0	0	299
22:00	0	160	21	0	1	0	0	0	0	0	0	0	0	182
23:00	1	94	9	0	2	1	0	0	2	1	0	0	0	110
Total	56	5999	827	28	104	32	14	7	34	18	0	0	0	7119
Percent	0.8%	84.3%	11.6%	0.4%	1.5%	0.4%	0.2%	0.1%	0.5%	0.3%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	11:00	10:00	08:00	10:00	10:00	08:00	10:00				11:00
Vol.	8	406	65	3	8	4	1	3	6	4				489
PM Peak	13:00	14:00	12:00	12:00	13:00	17:00	16:00	13:00	18:00	18:00				14:00
Vol.	10	501	82	4	10	4	4	2	3	3				590

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NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/11/22	0	47	5	2	1	3	0	0	3	0	0	0	0	61
01:00	0	23	5	1	0	2	0	0	0	1	0	0	0	32
02:00	0	20	4	1	1	0	0	0	1	1	0	0	0	28
03:00	0	21	4	1	1	0	0	0	2	0	0	0	0	29
04:00	0	46	11	0	2	3	0	1	2	1	0	0	0	66
05:00	0	188	44	5	1	3	3	1	4	5	0	**1**	0	255
06:00	2	316	59	3	5	3	0	**4**	4	6	0	0	0	402
07:00	1	530	100	14	15	5	**5**	2	5	5	0	0	0	682
08:00	2	**723**	**122**	**28**	**24**	13	5	3	4	6	0	0	0	**930**
09:00	1	488	112	13	18	10	2	1	10	3	0	0	0	658
10:00	**5**	472	105	14	15	**15**	2	1	**12**	4	0	0	0	645
11:00	5	511	101	16	20	11	0	2	8	**7**	0	0	0	681
12 PM	3	548	104	19	19	**19**	2	0	9	5	0	0	0	728
13:00	5	549	121	12	18	9	4	1	7	**6**	0	0	0	732
14:00	8	688	134	19	28	10	2	4	7	4	**1**	0	0	905
15:00	7	847	159	**22**	31	7	**6**	**5**	**10**	2	0	0	0	1096
16:00	**9**	940	**173**	16	**33**	6	4	2	8	2	1	0	0	**1194**
17:00	3	**958**	159	6	16	7	6	4	3	1	0	0	0	1163
18:00	7	904	143	10	15	4	1	5	1	1	0	0	0	1091
19:00	1	675	83	7	10	6	2	1	3	0	0	0	0	788
20:00	0	494	58	5	7	2	2	2	2	0	0	0	0	572
21:00	2	335	32	4	6	4	0	0	6	0	0	0	0	389
22:00	1	187	20	2	3	2	0	1	0	1	0	0	0	217
23:00	0	169	8	2	1	2	0	0	3	1	0	0	0	186
Total	62	10679	1866	222	290	146	46	40	114	62	2	1	0	13530
Percent	0.5%	78.9%	13.8%	1.6%	2.1%	1.1%	0.3%	0.3%	0.8%	0.5%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00	08:00	08:00	10:00	07:00	06:00	10:00	11:00		05:00		08:00
Vol.	5	723	122	28	24	15	5	4	12	7		1		930
PM Peak	16:00	17:00	16:00	15:00	16:00	12:00	15:00	15:00	15:00	13:00	14:00			16:00
Vol.	9	958	173	22	33	19	6	5	10	6	1			1194

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NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
10/12/22	0	77	8	5	1	0	0	0	3	1	0	0	0	95
01:00	0	45	3	2	1	0	0	0	3	0	0	0	0	54
02:00	1	38	5	0	0	0	0	0	0	0	0	0	0	44
03:00	0	35	7	2	1	2	0	0	1	1	0	0	0	49
04:00	0	49	9	0	1	3	0	0	5	0	0	0	0	67
05:00	0	198	38	4	1	3	0	1	7	1	0	0	0	253
06:00	0	325	73	3	10	6	2	0	7	2	0	0	0	428
07:00	1	506	85	14	14	3	1	1	5	**6**	0	0	0	636
08:00	1	**763**	**137**	**24**	**20**	8	**5**	1	8	4	0	0	0	**971**
09:00	**3**	454	98	12	18	8	0	**2**	11	6	0	0	0	612
10:00	3	457	107	19	15	13	1	0	12	5	**1**	0	0	633
11:00	1	467	98	14	20	**15**	3	0	**14**	3	0	0	0	635
12 PM	**5**	540	114	18	17	6	2	1	16	**3**	0	0	0	722
13:00	5	523	119	18	11	**11**	1	3	**21**	1	0	0	0	713
14:00	4	590	101	**26**	**27**	11	3	2	12	2	0	0	0	778
15:00	5	774	160	17	18	3	3	3	7	1	0	0	0	991
16:00	1	963	167	16	17	10	**5**	**4**	11	3	**1**	0	0	1198
17:00	3	**1031**	**173**	10	15	6	1	3	4	2	0	0	0	**1248**
18:00	3	749	118	5	15	1	2	2	5	1	0	0	0	901
19:00	1	659	83	6	11	3	1	0	4	1	0	0	0	769
20:00	0	472	52	3	4	4	2	0	2	0	0	0	0	539
21:00	0	315	40	4	3	2	1	1	1	0	0	0	0	367
22:00	0	188	26	3	4	2	1	0	2	1	0	0	0	227
23:00	0	179	8	2	2	1	0	0	1	2	0	0	0	195
Total	37	10397	1829	227	246	121	34	24	162	46	2	0	0	13125
Percent	0.3%	79.2%	13.9%	1.7%	1.9%	0.9%	0.3%	0.2%	1.2%	0.4%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00	08:00	08:00	08:00	11:00	08:00	09:00	11:00	07:00	10:00			08:00
Vol.	3	763	137	24	20	15	5	2	14	6	1			971
PM Peak	12:00	17:00	17:00	14:00	14:00	13:00	16:00	16:00	13:00	12:00	16:00			17:00
Vol.	5	1031	173	26	27	11	5	4	21	3	1			1248
Grand Total	353	75960	12310	1223	1792	755	279	190	842	329	5	1	0	94039
Percent	0.4%	80.8%	13.1%	1.3%	1.9%	0.8%	0.3%	0.2%	0.9%	0.3%	0.0%	0.0%	0.0%	
ADT		ADT 11,755		AADT 11,755										

Clair Road East @ Farley Dr/Plaza Entrance

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Guelph
Site #: 0000000007
Intersection: Clair Road East & Farley Dr
TFR File #: 1
Count date: 31-Jul-2018

Weather conditions:
Sunny

Person(s) who counted:
Leo

**** Signalized Intersection ****

Major Road: Clair Road East runs W/E

North Leg Total: 295
North Entering: 164
North Peds: 7
Peds Cross: ⋈

Cyclists	0	0	0	0
Trucks	8	1	2	11
Cars	129	12	12	153
Totals	137	13	14	

Cyclists	0
Trucks	14
Cars	117
Totals	131

East Leg Total: 769
East Entering: 554
East Peds: 2
Peds Cross: ⧖

Cyclists	Trucks	Cars	Totals
0	62	570	632

Farley Dr

Cars	Trucks	Cyclists	Totals
60	10	0	70
417	52	0	469
13	2	0	15
490	64	0	

Clair Road East

N
W E
S

Cyclists	Trucks	Cars	Totals
0	4	50	54
0	71	118	189
0	7	24	31
0	82	192	

Clair Road East

Cars	Trucks	Cyclists	Totals
141	74	0	215

Farley Dr

Peds Cross: ⧖
West Peds: 5
West Entering: 274
West Leg Total: 906

Cars	49			
Trucks	10			
Cyclists	0			
Totals	59			

Cars	24	7	11	42
Trucks	2	0	1	3
Cyclists	0	0	0	0
Totals	26	7	12	

Peds Cross: ⋈
South Peds: 3
South Entering: 45
South Leg Total: 104

Comments

Clair Road East @ Farley Dr/Plaza Entrance

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

Municipality: Guelph
Site #: 0000000007
Intersection: Clair Road East & Farley Dr
TFR File #: 1
Count date: 31-Jul-2018

Weather conditions:
Sunny

Person(s) who counted:
Leo

**** Signalized Intersection ****

Major Road: Clair Road East runs W/E

North Leg Total: 622
North Entering: 248
North Peds: 20
Peds Cross: ⋈

Cyclists	0	2	0	2
Trucks	11	7	6	24
Cars	110	60	52	222
Totals	121	69	58	

Cyclists	0
Trucks	32
Cars	342
Totals	374

East Leg Total: 1040
East Entering: 418
East Peds: 20
Peds Cross: ⧖

Cyclists	Trucks	Cars	Totals
2	72	469	543

Farley Dr

Cars	Trucks	Cyclists	Totals
61	7	0	68
247	55	2	304
45	1	0	46
353	63	2	

Clair Road East

N
W E
S

Cyclists	Trucks	Cars	Totals
0	19	207	226
1	61	470	532
0	10	183	193
1	90	860	

Clair Road East

Cars	Trucks	Cyclists	Totals
552	69	1	622

Farley Dr

Peds Cross: ⧖
West Peds: 36
West Entering: 951
West Leg Total: 1494

Cars	288
Trucks	18
Cyclists	2
Totals	308

Cars	112	74	30	216
Trucks	6	6	2	14
Cyclists	0	0	0	0
Totals	118	80	32	

Peds Cross: ⋈
South Peds: 19
South Entering: 230
South Leg Total: 538

Comments

Clair Road East @ Farley Dr/Plaza Entrance

Eight Hour Peak Diagram

Eight Hour Peak
From: 8:00:00
To: 16:00:00

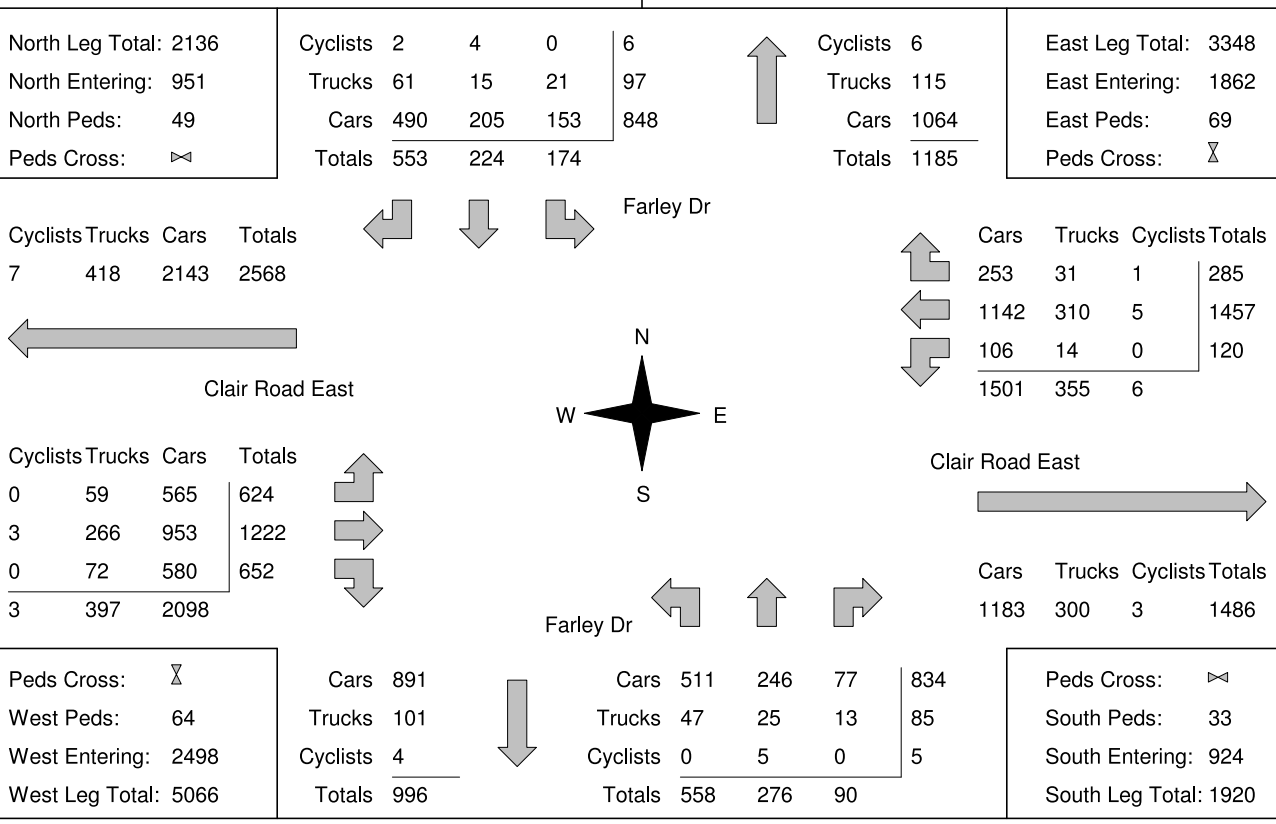
Municipality: Guelph
Site #: 0000000007
Intersection: Clair Road East & Farley Dr
TFR File #: 1
Count date: 31-Jul-2018

Weather conditions:
Sunny

Person(s) who counted:
Leo

**** Signalized Intersection ****

Major Road: Clair Road East runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

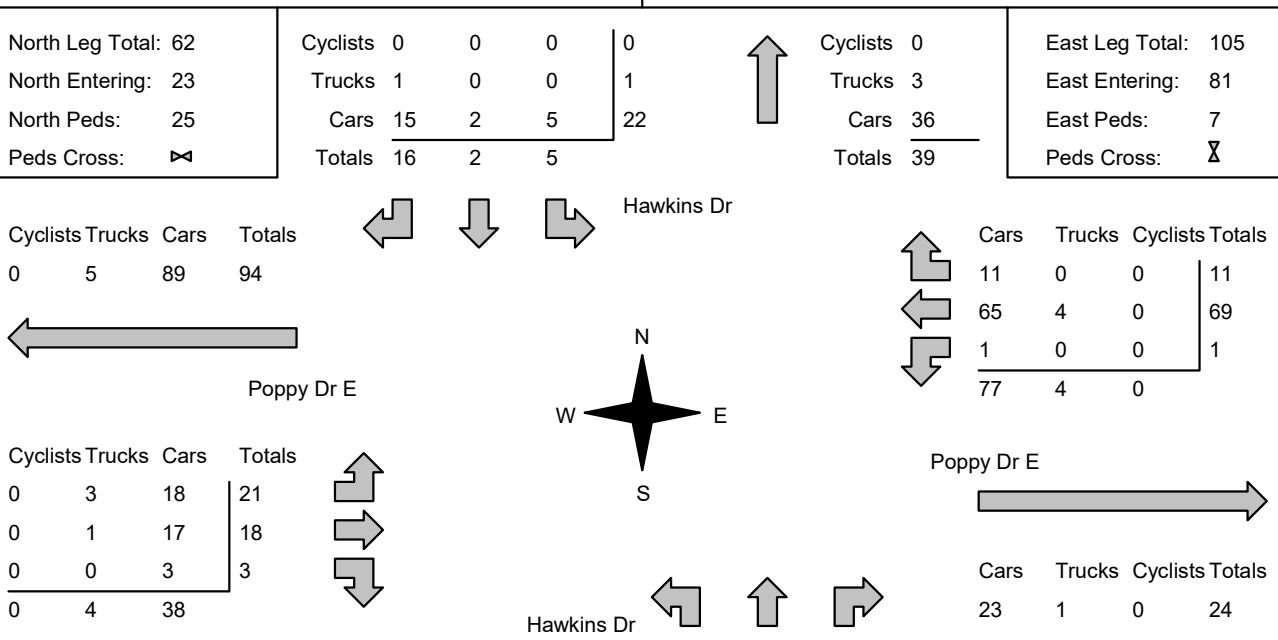
Municipality: Guelph
Site #: 2205500007
Intersection: Poppy Dr E & Hawkins Dr
TFR File #: 1
Count date: 29-Sep-22

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Poppy Dr E runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

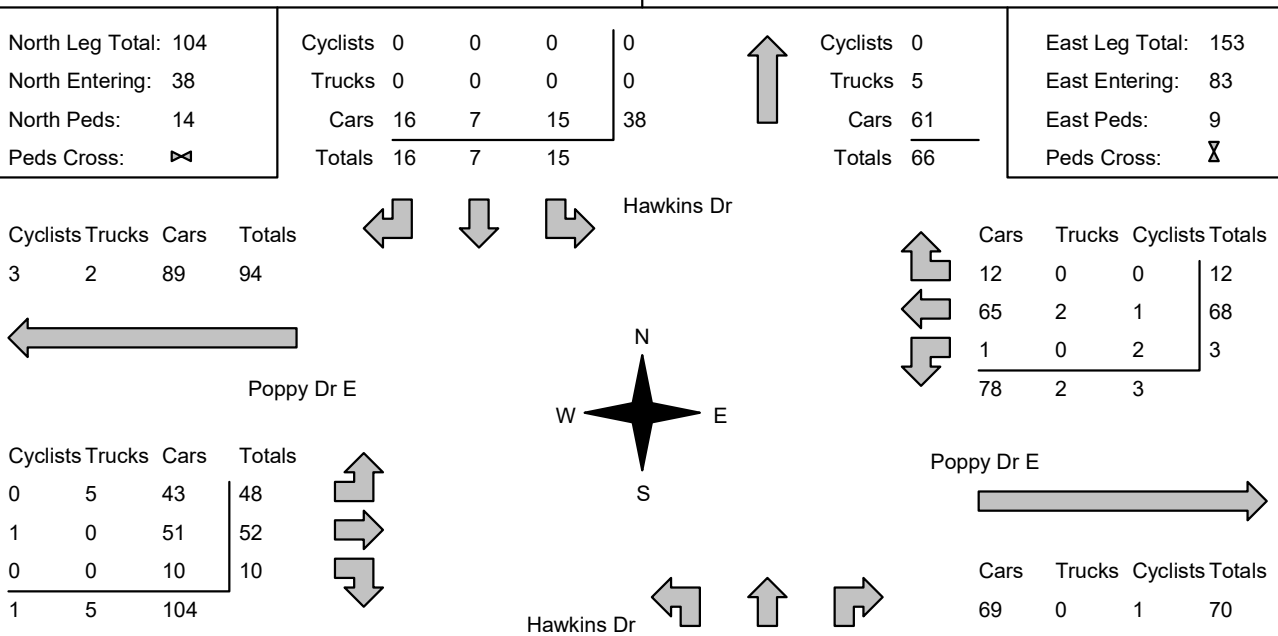
Municipality: Guelph
Site #: 2205500007
Intersection: Poppy Dr E & Hawkins Dr
TFR File #: 1
Count date: 29-Sep-22

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Poppy Dr E runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Total Count Diagram

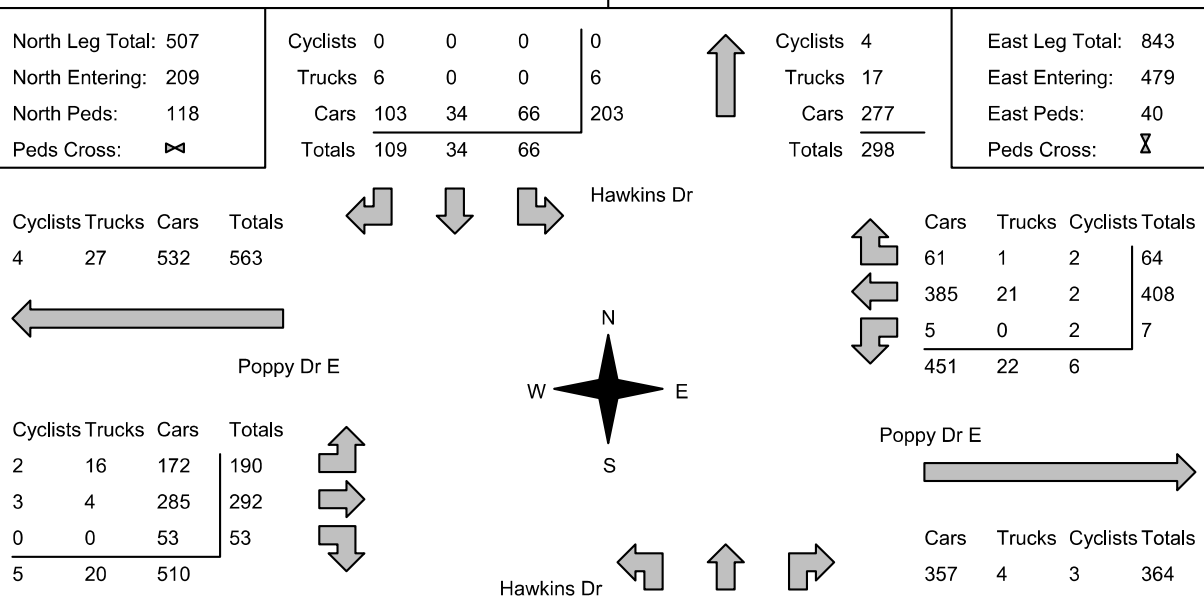
Municipality: Guelph
Site #: 2205500007
Intersection: Poppy Dr E & Hawkins Dr
TFR File #: 1
Count date: 29-Sep-22

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Poppy Dr E runs W/E



Comments

STAMSON 5.0 NORMAL REPORT Date: 07-12-2023 08:45:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 1clairrd.te Time Period: Day/Night 16/8 hours
Description: STAMSON Calculation for 1 Clair Rd

Road data, segment # 1: Clair Rd E (day/night)

Car traffic volume : 14963/1301 veh/TimePeriod
Medium truck volume : 481/42 veh/TimePeriod
Heavy truck volume : 311/27 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Clair Rd E (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 19.00 / 19.00 m
Receiver height : 4.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Road data, segment # 2: Farley Dr (day/night)

Car traffic volume : 5474/608 veh/TimePeriod
Medium truck volume : 227/25 veh/TimePeriod
Heavy truck volume : 363/40 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Farley Dr (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 4.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Results segment # 1: Clair Rd E (day)

```
------------------------------------

Source height = 1.19 m

ROAD (0.00 + 66.91 + 0.00) = 66.91 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  67.93   0.00  -1.03   0.00   0.00   0.00   0.00  66.91
-------------------------------------------------------------------------------

Segment Leq : 66.91 dBA

🠉
Results segment # 2: Farley Dr (day)
-----------------------------------

Source height = 1.56 m

ROAD (0.00 + 60.33 + 0.00) = 60.33 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
     0     90   0.00  63.34   0.00   0.00  -3.01   0.00   0.00   0.00  60.33
-------------------------------------------------------------------------------

Segment Leq : 60.33 dBA

Total Leq All Segments: 67.77 dBA

🠉
Results segment # 1: Clair Rd E (night)
--------------------------------------

Source height = 1.18 m

ROAD (0.00 + 59.31 + 0.00) = 59.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.00  60.34   0.00  -1.03   0.00   0.00   0.00   0.00  59.31
-------------------------------------------------------------------------------

Segment Leq : 59.31 dBA

🠉
Results segment # 2: Farley Dr (night)
--------------------------------------

Source height = 1.56 m

ROAD (0.00 + 53.77 + 0.00) = 53.77 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
```

```
-------------------------------------------------------------------------------
     0     90   0.00  56.78   0.00   0.00  -3.01   0.00   0.00   0.00  53.77
-------------------------------------------------------------------------------

Segment Leq : 53.77 dBA

Total Leq All Segments: 60.38 dBA

↑



TOTAL Leq FROM ALL SOURCES (DAY): 67.77
                           (NIGHT): 60.38
↑
↑
```

APPENDIX D

NOISE MITIGATION GUIDANCE

Acoustic/Noise Barrier

Transportation Noise

Generally, noise controls to attenuate transportation sound levels at Outdoor Living Areas (OLAs) would consist of the implementation of acoustic/noise barriers with materials that would meet the guidance included in NPC-300, for example:

- A wall, berm, wall/berm combination or similar structure, used as a noise control measure, and high enough to break the line-of-sight between the source and the receptor.
- The minimum surface density (face weight) is 20 kg/m^2
    - Many materials could satisfy the surface density requirement, e.g. wood, glass, concrete, Plexiglas, Acrylite.
    - The required thickness can be determined by dividing the 20 kg/m^2 face weight by the material density (kg/m^3). Typically, this would imply:
        - 50 mm (2") thickness of wood
        - 13 mm (0.5") thickness of lighter plastic (like Plexiglas or PVC)
        - 10 mm (0.4") thickness of heavier material (like aluminum, glass, concrete)
- The barrier should be structurally sound, appropriately designed to withstand wind and snow load, and constructed without cracks or surface gaps. Joints between panels may need to be overlapped to ensure surfaces are free of gaps, particularly for wood construction.
- Any gaps under the barrier that are necessary for drainage purposes should be minimized and localized, so that the acoustical performance of the barrier is maintained.
- If a sound absorptive face is to be included in the barrier design, the minimum noise reduction coefficient is recommended to be NRC 0.7.

The Guelph Noise Control Guidelines specify the following requirements for noise barriers in addition to the above requirements:

- Noise barrier wall/fence heights for new development shall be 1.8m
- Have no holes or gaps
- Be non-combustible
- Be resistant to graffiti or include a graffiti resistive coating conforming to relevant ASTM standards (fences)
- Be vermin and fungus resistant (fences)
- Have a minimum predicted maintenance free lifespan of 20 years
- Final barrier material/manufacturer shall be approved by the City
- As an alternative to the mass density requirement of 20 kg/m^2:
    - the Sound Transmission Class (STC) of the panel material must be 20 or greater when tested in accordance with ASTM-E90 (with a test report to be submitted for approval), or

- The Sound Transmission Class (STC) of the panel material has historically been demonstrated to be 30 or greater (include references)

Mechanical Equipment

Noise controls to attenuate mechanical equipment sound levels at Outdoor Points of Reception (OPOR) would consistent with the of the implementation of acoustic/noise barriers for Transportation sources, with the exception of the following:

- The minimum surface density (face weight) is **10** kg/m^2.

All other barrier quality and characteristics would be consistent with the details provided above.

Building Ventilation and Air Conditioning

The use of air conditioning itself is not a noise control measure; however, it allows for windows and doors to remain closed, thereby reducing the indoor sound levels.

NPC-300 provides the following guidance with respect to implementation of building ventilation and air conditioning:

a. the noise produced by the proposed ventilation system in the space served does not exceed 40 dBA. In practice, this condition usually implies that window air conditioning units are not acceptable;
b. the ventilation system complies with all national, provincial and municipal standards and codes;
c. the ventilation system is designed by a heating and ventilation professional; and
d. the ventilation system enables the windows and exterior doors to remain closed.

Air conditioning systems also need to comply with Publication NPC-216, and/or any local municipal noise by-law that has provisions relating to air conditioning equipment.

APPENDIX E

Cadna/A ISO-9613 Calculation Protocol - Definitions

Parameter	Unit	Definition
Nr		Ray Number
X	**(m)**	X-axis Cartesian Coordinate
Y	**(m)**	Y-axis Cartesian Coordinate
Z	**(m)**	Z-axis Cartesian Coordinate
Refl.	**order**	Order of Reflection
DEN	**D/E/N**	Time of Day (Day, Evening, or Night)
Freq.	**(Hz)**	1/1 Octave Band Dominant Frequency or Frequency Type ("A" for A-weighted)
Lw	**(dBA)**	Overall Sound Power Level
l/a	**dB**	Line/Area Source Correction
Optime	**dB**	Operating Time Correction
K0	**(dB)**	D_omega in ISO 9613-2 (correction for radiation into solid angles less than 4 Pi)
Di	**(dB)**	Directivity Index
Adiv	**(dB)**	Attenuation Due to Divergence
Aatm	**(dB)**	Atmospheric Attenuation
Agr	**(dB)**	Ground Attenuation
Afol	**(dB)**	Attenuation Due to Foliage
Ahous	**(dB)**	Attenuation from Houses
Abar	**(dB)**	Barrier Attenuation
Cmet	**(dB)**	Meteorological Correction
RL	**(dB)**	Reflection Loss
Lr	**(dBA)**	Resulting Noise Impact at Receptor - Leq (1-Hr)

Receiver
Name: Southwest Block Worst-case West Facade Receptor
ID: !0G01!
X: 565824.06 m
Y: 4816763.14 m
Z: 24.50 m

Point Source, ISO 9613, Name: "11 - Lennox HVAC-2F 150 - Goodlife - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1643	565800.41	4816740.63	13.50	0	DEN	A	89.2	0.0	0.0	0.0	0.0	41.7	0.1	-2.4	0.0	0.0	0.0	0.0	0.0	49.7

Point Source, ISO 9613, Name: "9 - Lennox HVAC-2F 120 - Dollarama - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1660	565814.37	4816725.48	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	43.1	0.2	-2.4	0.0	0.0	0.0	0.0	0.0	47.4

Point Source, ISO 9613, Name: "19 - Lennox HVAC-2F 120 - Goodlife - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1675	565787.97	4816735.62	13.50	0	DEN	A	88.3	0.0	0.0	0.0	0.0	44.4	0.2	-2.4	0.0	0.0	0.0	0.0	0.0	46.1

Point Source, ISO 9613, Name: "18 - Lennox HVAC-2F 120 - Dollarama - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1690	565783.96	4816728.22	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	45.7	0.2	-2.4	0.0	0.0	0.0	0.0	0.0	44.8

Point Source, ISO 9613, Name: "7 - Lennox HVAC-2F 092 - Dollarama - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1707	565795.19	4816717.30	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	45.9	0.2	-2.4	0.0	0.0	0.0	0.0	0.0	44.6

Point Source, ISO 9613, Name: "Carwash", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1722	565618.75	4816793.41	2.00	0	D	A	107.3	0.0	-6.0	0.0	4.0	57.4	1.6	-2.1	0.0	0.0	0.0	0.0	0.0	48.4
1736	565618.75	4816793.41	2.00	1	D	A	107.3	0.0	-6.0	0.0	3.1	60.9	2.0	-2.0	0.0	0.0	24.4	0.0	3.4	15.8

Point Source, ISO 9613, Name: "6 - Lennox HVAC-2F 120 - Dollarama - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1751	565792.69	4816714.76	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	46.4	0.2	-2.4	0.0	0.0	0.0	0.0	0.0	44.1

Point Source, ISO 9613, Name: "Carwash", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1768	565608.99	4816804.25	2.00	0	D	A	107.3	0.0	-6.0	0.0	-4.9	57.9	1.7	-2.1	0.0	0.0	15.8	0.0	0.0	23.3
1783	565608.99	4816804.25	2.00	1	D	A	107.3	0.0	-6.0	0.0	-4.9	61.1	2.1	-2.0	0.0	0.0	25.0	0.0	2.8	7.6

Point Source, ISO 9613, Name: "17 - Lennox HVAC-2F 120 - Dollarama - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1798	565778.43	4816725.86	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	46.6	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	43.9

Point Source, ISO 9613, Name: "16 - Lennox HVAC-2F 120 - Jysk - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1814	565770.13	4816717.14	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	48.1	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	42.3

Point Source, ISO 9613, Name: "5 - Lennox HVAC-2F 120 - Jysk - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1829	565783.34	4816705.10	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	48.1	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	42.3

Point Source, ISO 9613, Name: "8 - Spinnaker MUA - Goodlife - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1883	565803.05	4816725.08	13.50	0	DEN	A	82.5	0.0	0.0	0.0	0.0	44.0	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	40.3

Point Source, ISO 9613, Name: "15 - Lennox HVAC-2F 120 - Jysk - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1899	565766.52	4816713.83	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	48.7	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	41.7

Point Source, ISO 9613, Name: "3 - Lennox HVAC-2F 120 - Jysk - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1915	565778.99	4816700.78	13.50	0	D	A	88.3	0.0	0.0	0.0	0.0	48.8	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	41.6

Point Source, ISO 9613, Name: "10 - Lennox HVAC-1F 060 - Goodlife - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1931	565806.13	4816735.44	13.50	0	DEN	A	78.5	0.0	0.0	0.0	0.0	41.8	0.1	-2.4	0.0	0.0	0.0	0.0	0.0	38.9

Point Source, ISO 9613, Name: "44 - York HVAC-2F 102 - The Keg - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1949	565727.08	4816814.93	7.50	0	D	A	88.1	0.0	0.0	0.0	0.0	51.9	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	38.1
1964	565727.08	4816814.93	7.50	1	D	A	88.1	0.0	0.0	0.0	0.0	57.1	0.8	-2.4	0.0	0.0	24.8	0.0	2.1	5.8

Point Source, ISO 9613, Name: "41 - York HVAC-2F 102 - The Keg - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1979	565712.33	4816813.61	7.50	0	D	A	88.1	0.0	0.0	0.0	0.0	52.9	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	37.1
1994	565712.33	4816813.61	7.50	1	D	A	88.1	0.0	0.0	0.0	0.0	57.7	0.9	-2.4	0.0	0.0	24.8	0.0	2.1	5.1

Point Source, ISO 9613, Name: "14 - Spinnaker MUA - Jysk - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2009	565780.58	4816713.70	13.50	0	D	A	82.5	0.0	0.0	0.0	0.0	47.5	0.7	-2.4	0.0	0.0	0.0	0.0	0.0	36.7

Point Source, ISO 9613, Name: "51 - Trenton Refrigeration Condensing Unit - The Keg - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2025	565734.93	4816811.47	6.50	0	D	A	85.9	0.0	0.0	0.0	0.0	51.3	1.1	-2.4	0.0	0.0	0.0	0.0	0.0	36.0
2039	565734.93	4816811.47	6.50	1	D	A	85.9	0.0	0.0	0.0	0.0	56.8	1.7	-2.4	0.0	0.0	24.8	0.0	2.1	2.9

Point Source, ISO 9613, Name: "28 - Lennox HVAC-2F 120 - Pergola Shopping Center - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2053	565727.99	4816659.32	9.50	0	D	A	88.3	0.0	0.0	0.0	0.0	54.1	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	36.1
2068	565727.99	4816659.32	9.50	2	D	A	88.3	0.0	0.0	0.0	0.0	61.8	1.2	-2.4	0.0	0.0	24.2	0.0	5.0	-1.4

Point Source, ISO 9613, Name: "27 - Lennox HVAC-2F 092 - Pergola Shopping Center - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2083	565722.81	4816661.67	9.50	0	D	A	88.3	0.0	0.0	0.0	0.0	54.2	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	36.0

Point Source, ISO 9613, Name: "29 - Lennox HVAC-2F 092 - Pergola Shopping Center - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2099	565731.27	4816650.76	9.50	0	D	A	88.3	0.0	0.0	0.0	0.0	54.3	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	35.8
2113	565731.27	4816650.76	9.50	2	D	A	88.3	0.0	0.0	0.0	0.0	62.0	1.2	-2.4	0.0	0.0	24.2	0.0	5.0	-1.7

Point Source, ISO 9613, Name: "48 - Carnes Kitchen Exhaust Fan - The Keg - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2128	565732.93	4816806.75	7.50	0	D	A	86.7	0.0	0.0	0.0	0.0	51.2	0.4	-2.4	0.0	0.0	0.0	0.0	0.0	37.4
2142	565732.93	4816806.75	7.50	1	D	A	86.7	0.0	0.0	0.0	0.0	56.9	0.7	-2.4	0.0	0.0	25.0	0.0	2.1	4.4

Point Source, ISO 9613, Name: "40 - York HVAC-2F 090 - The Keg - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2158	565717.26	4816824.23	7.50	0	D	A	85.9	0.0	0.0	0.0	0.0	52.9	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	34.9
2174	565717.26	4816824.23	7.50	1	D	A	85.9	0.0	0.0	0.0	0.0	57.4	0.8	-2.4	0.0	0.0	25.0	0.0	2.0	3.1

Point Source, ISO 9613, Name: "24 - Lennox HVAC-2F 102 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2189	565708.58	4816649.07	9.50	0	D	A	88.3	0.0	0.0	0.0	0.0	55.2	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	34.8

Point Source, ISO 9613, Name: "49 - York HVAC-4F 150 - The Keg - unmit", ID: "!0600!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2204	565727.78	4816800.75	7.50	0	D	A	84.4	0.0	0.0	0.0	0.0	51.4	0.4	-2.4	0.0	0.0	0.0	0.0	0.0	34.9
2218	565727.78	4816800.75	7.50	1	D	A	84.4	0.0	0.0	0.0	0.0	57.2	0.8	-2.4	0.0	0.0	25.0	0.0	2.1	1.7

Point Source, ISO 9613, Name: "2 - Lennox HVAC-1F 072 - Jysk", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2231	565775.26	4816696.43	13.50	0	D	A	80.6	0.0	0.0	0.0	0.0	49.4	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	33.2

Point Source, ISO 9613, Name: "Refrigeration Condensing Unit - LCBO", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2247	565660.08	4816847.39	8.50	0	D	A	85.9	0.0	0.0	0.0	0.0	56.3	1.7	-2.4	0.0	0.0	0.0	0.0	0.0	30.3

Point Source, ISO 9613, Name: "HVAC-2F - LCBO", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2263	565670.39	4816843.88	9.50	0	D	A	85.0	0.0	0.0	0.0	0.0	55.8	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	31.2

Point Source, ISO 9613, Name: "HVAC-2F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2279	565724.32	4816912.99	7.50	0	D	A	85.0	0.0	0.0	0.0	0.0	56.1	0.3	-2.4	0.0	0.0	23.4	0.0	0.0	7.5

Point Source, ISO 9613, Name: "HVAC-2F - LCBO", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2301	565658.73	4816839.52	9.50	0	D	A	85.0	0.0	0.0	0.0	0.0	56.2	0.4	-2.4	0.0	0.0	0.0	0.0	0.0	30.8

Point Source, ISO 9613, Name: "HVAC-2F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2317	565730.95	4816919.93	7.50	0	D	A	85.0	0.0	0.0	0.0	0.0	56.3	0.4	-2.4	0.0	0.0	23.7	0.0	0.0	7.0

Point Source, ISO 9613, Name: "HVAC-2F - LCBO", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2335	565662.43	4816851.77	9.50	0	D	A	85.0	0.0	0.0	0.0	0.0	56.3	0.4	-2.4	0.0	0.0	0.0	0.0	0.0	30.7

Point Source, ISO 9613, Name: "HVAC-2F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2351	565707.96	4816906.97	7.50	0	D	A	85.0	0.0	0.0	0.0	0.0	56.4	0.4	-2.4	0.0	0.0	22.1	0.0	0.0	8.5
2371	565707.96	4816906.97	7.50	1	D	A	85.0	0.0	0.0	0.0	0.0	57.8	0.4	-2.4	0.0	0.0	25.0	0.0	2.0	2.2

Point Source, ISO 9613, Name: "HVAC-2F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2386	565739.69	4816927.74	7.50	0	D	A	85.0	0.0	0.0	0.0	0.0	56.4	0.4	-2.4	0.0	0.0	24.0	0.0	0.0	6.7
2401	565739.69	4816927.74	7.50	2	D	A	85.0	0.0	0.0	0.0	0.0	59.4	0.5	-2.4	0.0	0.0	25.0	0.0	4.0	-1.5

Point Source, ISO 9613, Name: "HVAC-2F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2421	565705.94	4816910.81	7.50	0	D	A	85.0	0.0	0.0	0.0	0.0	56.6	0.4	-2.4	0.0	0.0	22.0	0.0	0.0	8.4
2441	565705.94	4816910.81	7.50	1	D	A	85.0	0.0	0.0	0.0	0.0	57.9	0.4	-2.4	0.0	0.0	25.0	0.0	2.0	2.1

Point Source, ISO 9613, Name: "1 - Lennox HVAC-1F 060 - Jysk", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2455	565773.56	4816685.20	7.50	0	D	A	78.5	0.0	0.0	0.0	0.0	50.5	0.4	-2.4	0.0	0.0	13.0	0.0	0.0	17.0

Point Source, ISO 9613, Name: "33 - Lennox HVAC-1F 072 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2472	565731.62	4816671.51	9.50	0	D	A	80.6	0.0	0.0	0.0	0.0	53.3	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	29.1
2488	565731.62	4816671.51	9.50	2	D	A	80.6	0.0	0.0	0.0	0.0	61.4	1.1	-2.4	0.0	0.0	24.4	0.0	4.7	-8.6

Point Source, ISO 9613, Name: "31 - Lennox HVAC-1F 072 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2503	565740.53	4816660.43	9.50	0	D	A	80.6	0.0	0.0	0.0	0.0	53.5	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	29.0
2519	565740.53	4816660.43	9.50	2	D	A	80.6	0.0	0.0	0.0	0.0	61.7	1.1	-2.4	0.0	0.0	24.3	0.0	4.7	-8.9

Point Source, ISO 9613, Name: "46 - Ice Machine - The Keg", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2536	565725.90	4816803.06	6.50	0	D	A	78.6	0.0	0.0	0.0	0.0	51.6	1.2	-2.3	0.0	0.0	0.0	0.0	0.0	28.1
2553	565725.90	4816803.06	6.50	1	D	A	78.6	0.0	0.0	0.0	0.0	57.2	1.6	-2.3	0.0	0.0	25.0	0.0	2.1	-5.0

Point Source, ISO 9613, Name: "HVAC-1F - LCBO", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2632	565676.81	4816855.35	9.50	0	D	A	82.0	0.0	0.0	0.0	0.0	55.8	0.3	-2.4	0.0	0.0	0.0	0.0	0.0	28.2

Point Source, ISO 9613, Name: "HVAC-1F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2648	565727.33	4816916.06	7.50	0	D	A	82.0	0.0	0.0	0.0	0.0	56.2	0.4	-2.4	0.0	0.0	23.6	0.0	0.0	4.3

Point Source, ISO 9613, Name: "HVAC-1F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2669	565733.66	4816922.52	7.50	0	D	A	82.0	0.0	0.0	0.0	0.0	56.3	0.4	-2.4	0.0	0.0	23.8	0.0	0.0	3.9

Point Source, ISO 9613, Name: "HVAC-2F - 88 Clair Rd Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2688	565742.98	4817016.92	13.50	0	D	A	85.0	0.0	0.0	0.0	0.0	59.5	0.5	-2.4	0.0	0.0	23.3	0.0	0.0	4.1

Point Source, ISO 9613, Name: "HVAC-1F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2704	565702.78	4816911.93	7.50	0	D	A	82.0	0.0	0.0	0.0	0.0	56.7	0.4	-2.4	0.0	0.0	21.6	0.0	0.0	5.7
2723	565702.78	4816911.93	7.50	1	D	A	82.0	0.0	0.0	0.0	0.0	58.0	0.4	-2.4	0.0	0.0	25.0	0.0	2.0	-1.0

Point Source, ISO 9613, Name: "HVAC-1F - 33 Farley Dr Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2737	565699.80	4816916.73	7.50	0	D	A	82.0	0.0	0.0	0.0	0.0	56.9	0.4	-2.4	0.0	0.0	21.6	0.0	0.0	5.5
2755	565699.80	4816916.73	7.50	1	D	A	82.0	0.0	0.0	0.0	0.0	57.3	0.4	-2.4	0.0	0.0	25.0	0.0	2.0	-0.3

Point Source, ISO 9613, Name: "32 - Lennox HVAC-1F 060 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2769	565734.41	4816666.88	9.50	0	D	A	78.5	0.0	0.0	0.0	0.0	53.4	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	27.0
2784	565734.41	4816666.88	9.50	2	D	A	78.5	0.0	0.0	0.0	0.0	61.5	1.1	-2.4	0.0	0.0	24.3	0.0	4.9	-10.9

Point Source, ISO 9613, Name: "HVAC-2F - 88 Clair Rd Plaza", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2799	565853.55	4817045.25	13.50	0	D	A	85.0	0.0	0.0	0.0	0.0	60.1	0.5	-2.4	0.0	0.0	24.2	0.0	0.0	2.6

Point Source, ISO 9613, Name: "26 - Lennox HVAC-1F 060 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2814	565713.50	4816654.58	9.50	0	D	A	78.5	0.0	0.0	0.0	0.0	54.8	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	25.5

Point Source, ISO 9613, Name: "42 - York HVAC-1F 049 - The Keg", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2830	565716.39	4816809.67	7.50	0	D	A	75.8	0.0	0.0	0.0	0.0	52.5	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	25.2
2845	565716.39	4816809.67	7.50	1	D	A	75.8	0.0	0.0	0.0	0.0	57.5	0.9	-2.4	0.0	0.0	24.1	0.0	2.2	-6.6

Point Source, ISO 9613, Name: "50 - Price MUA - The Keg", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2862	565727.66	4816809.68	7.50	0	D	A	75.0	0.0	0.0	0.0	0.0	51.7	0.2	-2.4	0.0	0.0	0.0	0.0	0.0	25.5
2877	565727.66	4816809.68	7.50	1	D	A	75.0	0.0	0.0	0.0	0.0	57.1	0.4	-2.4	0.0	0.0	25.0	0.0	2.0	-7.1

Point Source, ISO 9613, Name: "21 - Lennox HVAC-1F 060 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2891	565721.73	4816636.45	9.50	0	D	A	78.5	0.0	0.0	0.0	0.0	55.3	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	25.0

Point Source, ISO 9613, Name: "23 - Lennox HVAC-1F 060 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2907	565714.39	4816642.00	9.50	0	D	A	78.5	0.0	0.0	0.0	0.0	55.3	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	25.0

Point Source, ISO 9613, Name: "20 - Lennox HVAC-1F 060 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2923	565725.35	4816632.81	9.50	0	D	A	78.5	0.0	0.0	0.0	0.0	55.3	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	25.0
2938	565725.35	4816632.81	9.50	2	D	A	78.5	0.0	0.0	0.0	0.0	62.4	1.2	-2.4	0.0	0.0	24.2	0.0	5.0	-11.9

Point Source, ISO 9613, Name: "22 - Lennox HVAC-1F 060 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2953	565717.83	4816638.77	9.50	0	D	A	78.5	0.0	0.0	0.0	0.0	55.3	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	25.0

Point Source, ISO 9613, Name: "43 - Spinnaker MUA (for washroom) - The Keg", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2968	565720.00	4816816.90	7.50	0	D	A	75.0	0.0	0.0	0.0	0.0	52.5	0.2	-2.4	0.0	0.0	0.0	0.0	0.0	24.7
2983	565720.00	4816816.90	7.50	1	D	A	75.0	0.0	0.0	0.0	0.0	57.3	0.4	-2.4	0.0	0.0	25.0	0.0	2.0	-7.3

Point Source, ISO 9613, Name: "38 - Kitchen Exhaust Fan - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2998	565735.38	4816655.69	9.50	0	D	A	77.9	0.0	0.0	0.0	0.0	53.9	0.5	-2.4	0.0	0.0	0.0	0.0	0.0	25.9
3013	565735.38	4816655.69	9.50	2	D	A	77.9	0.0	0.0	0.0	0.0	61.8	0.9	-2.4	0.0	0.0	21.7	0.0	8.9	-13.1

Point Source, ISO 9613, Name: "25 - Lennox HVAC-1F 036 - Pergola Shopping Center", ID: "!0603!"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
3028	565702.85	4816652.49	9.50	0	D	A	73.3	0.0	0.0	0.0	0.0	55.3	0.6	-2.4	0.0	0.0	0.0	0.0	0.0	19.7