Environmental Noise Feasibility Report

Lakeview Village Community

Proposed Mixed-use Development

In the Vicinity of Lakeshore Road East and Hydro Road
City of Mississauga

December 3, 2020
Project: 120-0302

Prepared for

Lakeview Community Partners Ltd.

Prepared by

Seema Nagaraj, Ph.D., P.Eng.

Mark Levkoe, B.Sc.E., P.Eng.

Reviewed by

A. D. Lightstone, Ph.D., P.Eng.

VALCOUSTICS
Canada Ltd.

Version History

Version #	Date	Comments
1.0	December 3, 2020	Final – Issued for Submission

TABLE OF CONTENTS

…/cont'd

TABLE OF CONTENTS (continued)

…/cont'd

TABLE OF CONTENTS (continued)

LIST OF TABLES

LIST OF FIGURES

…/cont'd

TABLE OF CONTENTS (continued)

LIST OF APPENDICES

Lakeview Village Community

Proposed Mixed-use Development

In the Vicinity of Lakeshore Road East and Hydro Road
City of Mississauga

1.0 INTRODUCTION

The lands known as the Lakeview Village Community, south of Lakeshore Road East and located between the future Haig Boulevard Extension and Lakefront Promenade in the City of Mississauga, are proposed to be developed as a mixed-use community. The lands are on the site of the former (now demolished) Ontario Power Generation (OPG) coal burning power plant facility. The subject lands are located within the Lakeview Waterfront Major Node Character Area, as identified in the City of Mississauga Official Plan (MOP) and are designated for various uses including residential, employment, commercial and mixed-use residential. The current proposal includes revisions to the allowable uses including precinct unit targets, greater height permissions and overall delineation of land use designations. This environmental noise feasibility study supports the proposed Official Plan Amendment, Rezoning and Draft Plan of Subdivision applications required to facilitate the proposed development.

This report discusses relevant policy, legislative background and provincial guidelines related to environmental noise (and vibration) and planning, in the context of the type of development proposed for the Lakeview Village Community (herein referred to as "Lakeview"). Both transportation (road and rail sound sources in this case) as well as industrial/commercial operations sound sources (known as "stationary sources" in the terminology of the Ministry of Environment, Conservation and Parks – MECP) must be addressed. The proposed development must be made compatible with the surrounding environment and land uses.

Appropriate noise mitigation measures are proposed in order to achieve compliance with Provincial policy and the applicable MECP noise guidelines and to ensure land use compatibility.

2.0 SITE AND AREA DESCRIPTION

2.1 SITE AND SUROUNDING AREA

The site is generally rectangular in shape, positioned on the northern shore of Lake Ontario. The site includes an additional rectangular portion at the north end that extends up to Lakeshore Road East. The site is bounded by:

- The G.E. Booth Wastewater Treatment facility and other light industrial uses to the east;
- Lake Ontario to the south;

- Lakefront Promenade and light industrial uses, with Douglas Kennedy Park, the Lakeview Water Treatment Plant and other light industrial uses beyond to the west;
- Light industrial uses and Lakeshore Road East, with existing residential and commercial uses beyond to the north.

Figure 1 shows a key plan of the area.

2.2 THE PROPOSED DEVELOPMENT

Figure 2 shows the proposed Master Plan Concept, dated October 4, 2020 prepared by Sasaki. The proposed development will consist of a mix of low, mid- and high-rise residential buildings, commercial buildings, institutional/cultural uses, open space and common private and public amenity areas. The Master Plan shows:

- Commercial/office buildings ranging in height from 1 to 12 storeys along the eastern perimeter. The commercial/office buildings act as a buffer between the new community and the wastewater treatment facility to the east;
- Waterfront amenity areas along the south.
- Three storey townhouse dwellings in the interior of the north end of the site;
- Mid-rise and high-rise residential buildings throughout the site, ranging in height from three to 40- storeys

The proposed building heights are also shown on the Master Plan.

Renderings for the site are included in Appendix A.

3.0 PROVINCIAL POLICIES AND GUIDELINES APPLICABLE TO PLANNING AND ENVIRONMENTAL NOISE

3.1 THE 2020 PROVINCIAL POLICY STATEMENT (PPS 2020)

As of May 1, 2020, the Provincial Policy Statement (PPS 2020), issued under Section 3 of the Planning Act, came into effect, replacing the 2014 PPS. The most relevant policy to the matter of environmental noise is 1.2.6 Land Use Compatibility. *Major Facilities* and *Sensitive Land Uses* must be planned and developed to avoid or minimize (where avoid is not possible) any *Adverse Effects* from noise, specifically, along with other factors and to ensure the long-term operational and economic viability of *Major Facilities.*

A new paragraph, 1.2.6.2 has been added in PPS 2020 in relation to encroachment of proposed *Sensitive Land Uses*. Where avoidance of adverse effects as per 1.6.2.1 is not possible the long-term viability of existing or planned industrial or manufacturing uses must be protected and, amongst other considerations, any adverse effects on the proposed *Sensitive Land Use* minimized and mitigated and potential impacts to industrial, manufacturing and other uses minimized and mitigated.

The term *Major Facilities* is defined to include industries, manufacturing plants, as well as infrastructure such as sewage and water treatment facilities. With respect to noise, the part of the definition of *Adverse Effects* that is most relevant to *Sensitive Land Uses* is “g) loss of enjoyment of normal use of property”. Examples of *Sensitive Land Uses* are residences, day care centres,

education facilities and health facilities. An adverse effect on a *Major Facility* could be "h) interference with normal conduct of business". This could take the form of a new *Sensitive Land Use* coming into effect (e.g. by designation or zoning) and thereby putting a *Major Facility* out of compliance with its environmental approvals. This could also contravene the policy of ensuring long term operational or economic viability of the *Major Facility*. All of the above is relevant to the consideration of introducing Sensitive Land Uses in Lakeview in relation to the existing industrial and infrastructure uses in the area, many of which would be defined as *Major Facilities.*

3.2 ENVIRONMENTAL PROTECTION ACT (EPA)

The EPA, in Section 14, prohibits the discharge of a defined contaminant into the natural environment, if the discharge causes or may cause an adverse effect. Sound (noise) and vibration are defined contaminants. The definition of "adverse effect" in the Act includes:

> *1.(1) (a) impairment of the quality of the natural environment for any use that can be made of it;*
>
> *(c) harm or material discomfort to any person;*
>
> *(g) loss of enjoyment of normal use of property;*
>
> *(h) interference with the normal conduct of business.*

The defined concepts of adverse effect are very broad.

Under Section 9 or 20.21 of the EPA, which are administered by the MECP, an industrial/commercial facility (stationary source) that emits a defined contaminant to the environment requires an Environmental Compliance Approval (ECA) or to be registered on the Environmental Activity and Sector Registry (EASR), to operate. In fact, a literal reading of the EPA shows that an ECA or EASR must be obtained, not just to operate, but prior to even constructing a new process or altering an existing process that emits a defined contaminant, even if the alteration reduces emissions.

To obtain an ECA, where there are sound or vibration sources and emissions, the facility must make formal application to MECP and show compliance with the applicable noise and vibration guidelines (discussed later). For EASR registration there must be compliance with O.Reg. 1/17. Technically, the requirements with respect to environmental noise for obtaining an ECA or EASR registration are very similar. That is, the same sound limits apply. The reporting and "approval" procedures are logistically different. Whether an operation/facility requires an ECA or qualifies for EASR registration depends on its specific activities (as determined by its NAICS code). O.Reg. 1/17 specifically lists the NAICS codes for industries which require ECA's. All other industries must register on the EASR.

3.3 MECP D SERIES GUIDELINES - D-1, D-2 AND D-6

These MECP Guidelines (D series) are intended to assist in the planning process when new sensitive land uses are proposed within the potential influence area of existing facilities (stationary sources) or when new facilities are proposed where existing sensitive land uses would be within the new influence area. These guidelines are also relevant to planning land use designations in a "green field" context.

Guideline D-2 specifically addresses compatibility between Sewage Treatment Plants and Sensitive Land Uses and D-6 addresses compatibility between Industrial Facilities and Sensitive Land Uses.

Guideline D-1 states:

"The objective of this guideline is to minimize or prevent, through the use of buffers, the exposure of any person, property, plant or animal life to adverse effects associated with the operation of specific facilities."

Environmental noise is one identified, potential, source of adverse effect.

The D series guidelines rely upon distance between stationary sources (or wastewater treatment facilities) and sensitive land uses as the default approach to addressing potential impacts expressed either as "influence areas" or "minimum separation distances" according to the Class of Industrial Facility (or category of wastewater treatment plant) being considered. Other types of buffers or mitigation are recognized, such as sound barrier berms, walls or buildings. Where a specific site is proposed for development, it is the proponent's responsibility, to investigate, propose and implement alternative forms of mitigation that can be located either at the source, elsewhere on the facility site, on the sensitive land use site, or on intervening sites.

Where noise is an issue, Guideline D-6 (4.6.1) requires MECP Guideline LU-131 to be used. LU-131 has now been replaced by Publication NPC-300 (see later).

The literal application of the separation distance recommendations of Guideline D-2 and D-6 can be problematic.

The D series guidelines are broad guidelines that consider a variety of potential environmental impacts, including noise and air quality, etc. Distance separation alone is generally not an efficient mitigation technique for noise, because of the non-linear relationship between sound level and distance from a source. That is, the rate of fall-off of sound level diminishes with increasing distance. Thus, relying on distance alone to create land use compatibility with respect to noise can lead to inefficient use of infrastructure and available land. Including mitigation such as sound barriers, building orientation (e.g., direction that loading docks face), or noise control at source (e.g., equipment selection, silencers on fans, etc.) can often lead to appropriate compliance with noise criteria and land use compatibility, using separation distances less than the minimum identified in the D-2 or D-6 guidelines.

Furthermore, the D series guidelines predate all versions of the PPS, more particularly the 2020 version, and the current noise guideline, NPC-300. In some respects, D-1, D-2 and D-6 are inconsistent with current planning policies. D-1, D-2 and D-6 together with recently replaced noise guideline LU-131 either discourage or attempt to preclude juxtapositioning stationary sources and sensitive land uses, such as residential in mixed use settings, contrary to the current reality in many municipalities and the PPS policies.

The MECP has updated the applicable noise guideline to address this type of situation (see NPC-300 below). However, D-1, D-2 and D-6 are in need of updating to be consistent with current planning objectives and policy in the Province.

It should be noted that in processing an application for an ECA or EASR where environmental noise is involved, MECP does not concern itself with D-2 or D-6 and the distance separation approach; MECP only concerns itself as to whether there is compliance with O.Reg 1/17 or the NPC-300 noise guidelines (whichever is applicable).

For these reasons, this report focuses on the numerical sound limits in NPC-300 (the numerical sound limits in O.Reg 1/17 are the same as those in NPC-300).

3.4 ENVIRONMENTAL VIBRATION CRITERIA

There are no vibration regulations or guidelines that are formally part of the land use planning process in Ontario, although vibration is defined as an environmental contaminant in the EPA.

The MECP has had a draft proposed vibration guideline relating to the effects of impulse vibration on people in buildings for a number of years (decades). An example of a source creating impulse vibration would be a metal stamping plant (e.g., producing auto parts). However, this draft vibration guideline has never been issued, although it is occasionally referred to and used by MECP. In the absence of any governmental regulations or guidelines, the railways have adopted their own vibration guidelines for reviewing proposed development adjacent to their rights-of-way. Canadian National Railways and Canadian Pacific Railways recommend a vibration velocity limit of 0.14 mm/sec overall (RMS).

Some guidance about vibration criteria for people in buildings including residential uses may be found in ISO 2631, "Evaluation of Human Exposure to Whole-Body Vibration". However, it does not contain specific vibration limit recommendations.

There are no anticipated significant sources of environmental vibration in the vicinity of the Lakeview site.

3.5 MECP GUIDELINE NPC-300

3.5.1 Introduction

In October 2013, MECP issued the updated noise guideline NPC-300 (although dated August 2013), replacing former noise guidelines LU-131, NPC-205 and NPC-232. Previously, LU-131 was the noise guideline for development of noise sensitive land uses such as residential. NPC205 and NPC-232 were the noise guidelines applying to stationary sources for ECA's in urban/suburban and rural areas, respectively. One of the major difficulties with the use of the previous MECP documents related to inconsistencies/discrepancies between the noise guidelines with respect to stationary sources. This caused unnecessary confusion and difficulty in planning sensitive land uses in the vicinity of stationary sources.

NPC-300 consolidates and harmonizes the various (noise) requirements related to planning new noise sensitive land uses, planning new stationary noise sources and environmental approvals for stationary sources; removing many of the former discrepancies. NPC-300 is more consistent with the PPS. Another purpose of the consolidation of environmental noise requirements in NPC-300 is to emphasize the link between local planning and environmental approvals.

NPC-300, as did LU-131, also contains noise criteria for transportation (road, rail and aircraft) sources for new noise sensitive development. In this case, only road and rail traffic noise are relevant as transportation sources.

The sound (noise) limit criteria of NPC-300 are summarized in Appendix B.

3.5.2 Road and Rail Traffic Noise

If the sound level at the exterior face of a dwelling, in terms of $L_{eq\ Day}$ (16-hour energy equivalent sound level – 0700-2300 hours or $L_{eq\ Night}$ (8-hour energy equivalent sound level – 2300-0700 hours), exceeds 65 dBA or 60 dBA (respectively), means must be provided so that windows can be kept closed, if desired, for noise control purposes and central air conditioning is required. For daytime sound levels between 56 and 65 dBA inclusive, or for nighttime sound levels between 51 and 60 dBA inclusive, there need only be the provision for adding air conditioning at a later date, at the occupant's discretion. A warning clause advising the occupants of the potential interference with some activities is also required.

For outdoor amenity areas ("Outdoor Living Areas" - OLA), the guideline is 55 dBA $L_{eq\ Day}$ (0700 to 2300 hours), with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to achieve the 55 dBA objective, providing warning clauses are registered on title. Note that for road and rail traffic sources, a balcony is not considered an OLA, unless it is the only OLA for the occupant and it is:

- at least 4 m in depth;
- outside the building facade; and
- unenclosed.

For indoor areas, the daytime guideline when dealing with road/rail traffic sources for sensitive spaces such as living/dining rooms, and bedrooms, private offices and conference rooms is $L_{eq\ Day}$ = 45 dBA/40 dBA. For general office, reception areas, retail stores, etc., the daytime indoor guideline limit is $L_{eq\ Day}$ = 50 dBA/45 dBA. The nighttime guideline for living rooms and dens is $L_{eq\ Night}$ = 45/40dBA. For bedrooms at night, the indoor limit is $L_{eq\ Night}$ = 40 dBA/35 dBA. There are no nighttime indoor sound level guideline limits for office or commercial uses. The architectural design of the building envelope (walls, windows, etc.) must provide adequate sound isolation to achieve these indoor sound limits. Where standard construction would otherwise result in exceeding the indicated noise limits, the building envelope elements must be upgraded.

3.5.3 Stationary Sources

Stationary sources are treated differently than transportation sources of noise. The sound limits apply at the exterior planes of windows associated with noise sensitive indoor spaces as well as outdoors in areas amenable for use (this applies to a 30 m radius around the dwelling, where large properties exist). Unlike for transportation sources, there are no indoor noise criteria. In the case of road/rail/aircraft noise, the building envelope must be designed (e.g., upgraded windows and exterior walls) to adequately reduce the sound to no more than the indicated indoor limit. In the case of stationary sources, since there are no indoor sound limits, only exterior plane of window sound limits, upgraded windows for sensitive (e.g. residential) land uses would not result in compliance with the noise guidelines even if adequate noise buffering of indoor spaces is achieved in practice.

A further difference between transportation and stationary source sound limits is the acoustic descriptor used. For stationary sources it is a one-hour L_{eq} as opposed to the 16-hour day and 8-hour night L_{eq} used for road sources. The one hour time period results in more stringent criteria.

Tables C-5 to C-8 from NPC-300 summarize the stationary source sound limits, termed "exclusion limits". Tables C-5 and C-6 are for non-impulsive sources, such as machinery like fans, compressors, chillers, etc. Tables C-7 and C-8 are for impulsive sources such as punch presses or coupling of tractors to trailers or coupling of railway cars (i.e. banging sounds). At any point of reception, the applicable stationary source sound limit is the relevant value in Table C-5 to C-8 or the ambient sound level whichever is higher. Regardless of ambient, a stationary source does not have to attenuate below the exclusion limits in Tables C-5 to C-8. That is, if the ambient sound level is less than the relevant values in the tables, the sound level limit is the applicable numerical value from the appropriate table. If the ambient sound level is higher than the relevant table entry, the ambient value becomes the sound limit for the stationary source at the point of reception. In many cases, particularly in urban areas, the ambient sound environment is dominated by, and determined by, road traffic sound (noise). In particular circumstances, in addition to traffic noise, the ambient sound level may also include contributions from existing adjacent stationary sources.

In Tables C-5 to C-8, a Class 1 Area is one where the sound environment around the clock is determined by the activities of people; i.e., an urban area. A Class 3 Area is one where the sound environment is determined primarily by the sounds of nature and where there is little road traffic; typical of a rural area. A Class 2 Area is one with the sound environment characteristics of Class 1 during day and Class 3 during evening and night.

Table C-5

Exclusion Limit Values of One-Hour Equivalent Sound Level (L_{eq} dBA)

Outdoor Points of Reception

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
0700 – 1900	50	50	45	55
1900 – 2300	50	45	40	55

Table C-6

Exclusion Limit Values of One-Hour Equivalent Sound Level (L_{eq} dBA)
Plane of Window of Noise Sensitive Spaces

Time of Day	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
0700 – 1900	50	50	45	60
1900 – 2300	50	50	40	60
2300 – 0700	45	45	40	55

For impulsive sounds, the guideline sound limits are in Tables C-7 and C-8 of NPC-300.

Table C-7

Exclusion Limit Values for Impulsive Sound Level (L_{LM} dBAI)
Outdoor Points of Reception

Time of Day	Actual # of Impulses in Period of One-Hour	Class 1 Area	Class 2 Area	Class 3 Area	Class 4 Area
0700 – 2300	9 or more	50	50	45	55
	7 to 8	55	55	50	60
	5 to 6	60	60	55	65
	4	65	65	60	70
	3	70	70	65	75
	2	75	75	70	80
	1	80	80	75	85

Table C-8

Exclusion Limit Values for Impulsive Sound Level (L_{LM} dBAI)
Plane of Window – Noise Sensitive Spaces

Actual # of Impulses in Period of One-Hour	Class 1 Area 0700 –2300/ 2300-0700	Class 2 Area 0700 –2300/ 2300-0700	Class 3 Area 0700 –1900/ 1900-0700	Class 4 Area 0700 –2300/ 2300-0700
9 or more	50/45	50/45	45/40	60/55
7 to 8	55/50	55/50	50/45	65/60
5 to 6	60/55	60/55	55/50	70/65
4	65/60	65/60	60/55	75/70
3	70/65	70/65	65/60	80/75
2	75/70	75/70	70/65	85/80
1	80/75	80/75	75/70	90/85

The Class 4 Area is newly introduced in NPC-300. This is an area or a specific site that would otherwise be Class 1 or 2 and which is:

- intended for development with new sensitive land use(s) that are not yet built;
- is in proximity to existing, lawfully established stationary source(s);
- has formal confirmation from the land use planning authority (the municipality in this case) that it agrees with classifying the site or area in question as Class 4.

Existing noise sensitive land uses cannot be classified as Class 4; that is, it cannot be used retroactively. Class 4 is intended to be used where compliance with Class 1 or 2 noise criteria is not practical for valid technical, administrative or financial reasons. Further discussion of Class 4 and its use is found later.

3.6 MECP ROLE IN LOCAL PLANNING

Originally, with the introduction of noise guidelines (in 1978), the MECP was involved in reviewing noise study submissions required by the land use planning process, or at least in providing technical support to municipalities in this regard. Subsequently, all matters relating to local planning were "downloaded" to the local planning authorities and MECP is no longer involved in local planning matters at all and concentrates solely on environmental approvals of stationary sources and other aspects of enforcing the EPA (and not the Planning Act).

The noise guidelines related to planning (Section C of NPC-300) and D series guidelines are offered as advice/guidance to planners and land use planning authorities. With respect to local planning matters, the guidance provided in these documents is not mandatory and has been recognized as such by the Ontario Municipal Board (now LPAT) in adjudicating land use approval disputes. That is, land use planning authorities are free to interpret the guidelines, vary, adjust or supplement them as they see fit. Nevertheless, most land use approval authorities try to follow the MECP guidelines, with minor deviations to suit local conditions. MECP has made it clear it has no intention of becoming involved in local planning issues, nor involved in providing interpretations of its (MECP) guidelines related to land use planning.

3.7 RELATIONSHIP BETWEEN ENVIRONMENTAL AND LAND USE APPROVALS

The noise guidelines and noise limits are receptor based. That is, in the absence of a receptor, the noise limits applicable to a stationary source may be not very stringent or nil (as opposed to air quality regulations which apply at the property line, regardless of neighbouring land uses). The same facility operating in the presence of neighbouring sensitive land uses (receptors or Points of Reception [POR]), such as residential, would have more stringent noise requirements to meet, compared to having insensitive neighbouring land uses such as agriculture, industry or commercial.

In this particular case, the proposal is to introduce mixed land uses, some of which would be noise sensitive (residential) and some of which would not (commercial along the eastern periphery or other retail/commercial uses). At the same time, it is proposed to introduce some commercial land uses within the Lakeview, which are generally considered not to be noise sensitive, but which may be potential sources of noise (and/or vibration).

In principle, in establishing the land uses and zoning for individual sites, the proposed zoning standards should be cognizant of the other proposed land uses in the vicinity, with the objective of resulting in compatibility with respect to acoustics. It must also be kept in mind that any of the future commercial uses emitting noise (or vibration) will also require to be designed to comply with the municipal noise by-law and should also meet the noise guidelines in NPC-300, in addition to meeting the zoning standards.

3.8 REGION OF PEEL OFFICIAL PLAN (ROP)

The ROP contains a number of policies dealing with noise and land use compatibility:

- Section 5.1.3.1 is similar to the policy in PPS 2020 and requires plans for major facilities and sensitive uses to be appropriately designed, buffered and/or separated from each other to prevent adverse effects.

- Sections 5.9.4.2.13; 5.9.6.2.6 and 5.9.7.2.6 address transportation noise sources - road, aircraft and rail, respectively.
- Section 6.5.2.2 requires the Region to plan and develop waste management sites to ensure sensitive land uses are buffered and/or separated to prevent adverse effects.
- Section 7.3.6.2.2 indicates noise and vibration studies may be required in order to amend the ROP.

3.9 REGION OF PEEL NOISE GUIDELINES

The Region of Peel issued the document titled "General Guidelines for the Preparation of Acoustical Reports in the Region of Peel" dated November 2012. These guidelines are mostly concerned with dealing with noise from regional roads and policies primarily related to sound barriers. The guidance is based on the MECP noise guideline LU-131, which has been replaced with NPC-300 as of October 2013, although there are some noticeable differences between the Regional and MECP guidelines. These include:

- The numerical requirement for the inclusion of air conditioning or the provision for adding air conditioning is 1 dB more stringent during the nighttime. That is, if the sound level at the outside plane of window is 60 dBA or greater air conditioning is required (MECP guidelines are 61 dBA or greater) and if the sound level is between 50 dBA and 59 dBA the provision for adding air conditioning is required (MECP guidelines are 50 dBA to 60 dBA).
- Generic traffic volumes are provided for arterial roads for use in noise studies, unless specific data is obtained from the Region.
- Acoustic fences shall generally not exceed 2 m in height unless approved by the area municipality. Consideration may be given to fence heights up to 2.4 m.

For industrial, rail and aircraft sources the MECP standard procedures should be employed.

3.10 CITY OF MISSISSAUGA OFFICIAL PLAN

The City of Mississauga OP (MOP) contains a variety of policies dealing with noise. The most relevant are in Chapter 6: Value the Environment, and include:

- Section 6.10 is titled Noise and specifically references MECP Publication NPC-300 (or its successor) as the applicable Provincial Government environmental noise guideline.
- Section 6.10.1 Stationary Sources – speaks to appropriate land use planning and building design techniques when locating sensitive land uses in the vicinity of stationary noise sources. Publication NPC-300 Tables C-5 to 8, see Section 3.5.3 above, are repeated in this section of the MOP.
- Section 6.10.11 indicates the need for a Feasibility and/or detailed noise study when sensitive land uses are proposed in proximity to existing industrial noise sources. The studies are to identify options for mitigation at the source and at the proposed development site.
- Section 6.10.1.5 requires mitigation to be done at the source or within the development to comply with the NPC-300 guideline limits.
- Section 6.10.1.6 addresses the use of Class 4.

- a. The use of Class 4 will only be considered where it can be demonstrated that:
  - the development proposal is for a new noise sensitive land use in proximity to an existing, lawfully established stationary noise source;
  - the development proposal for a new noise sensitive use does not impair the long-term viability and operation of an employment use;
  - it is in the strategic interest of the City, furthers the objectives of Mississauga Official Plan and supports community building goals; and
  - all possible measures of noise attenuation have been assessed for both the proposed development site and the stationary noise source, including, but not limited to, building design and siting options for the proposed new noise sensitive use;
- b. Notwithstanding the above conditions, the use of Class 4 will receive more favourable consideration if the stationary noise source is a temporary situation and it is expected that the stationary noise source will be removed through future redevelopment; and
- c. Mississauga will require that prospective purchasers be notified that the building is located in a Class 4 area and informed of any agreements as may be required for noise mitigation. A noise warning clause shall be included in agreements that are registered on title, including condominium disclosure statements and declarations.

- Section 6.10.2, 6.10.3 and 6.10.4 deal with aircraft noise, road noise and rail noise and vibration (respectively). The requirements are essentially the same as those in NPC-300.

4.0 CLASS 4

4.1 USE AT LAKEVIEW

The intent for Lakeview is to have the site deemed a Class 4 receptor under MECP noise guideline NPC-300, by the Municipality.

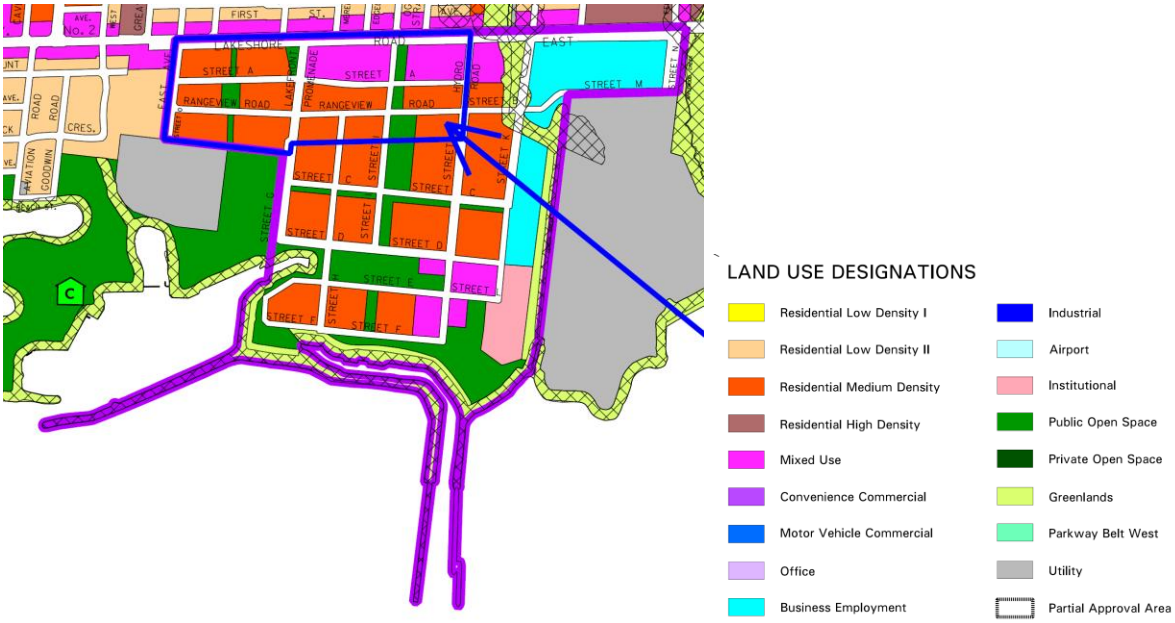
The Class 4 status is being pursued to better promote land use compatibility between the new community and the existing commercial/industrial uses in the area. Lakeview meets the requirements from the MECP for Class 4 consideration as well as from the City of Mississauga Official Plan. The Class 4 status is considered appropriate for this site since:

- The site is intended for new sensitive uses and is in proximity to several existing industrial/commercial/infrastructure operations.
- The City has designated this area as a Major Node and it is ultimately intended for redevelopment with sensitive uses (i.e. residential and mixed use-residential). Thus, it is in the long term interest of the City to redevelop these lands. The Class 4 status will better facilitate this transition.
- The Class 4 status was specifically designed for situations such as this where there are existing stationary sources and there is desire to develop new sensitive uses in proximity and mitigation to meet the otherwise applicable sound levels limits (Class 1 in this case) would not be practicable/feasible.

  - For example, there are several facilities with loading docks that have a line-of-sight to the new sensitive uses. Mitigation for truck activity at a loading dock would require an enclosure for the loading dock. Given the space constraints, financial implications, and potential temporary nature of the sources (see below), this form of mitigation would not be feasible.
  - Appendix F includes a detailed assessment of the stationary sources relative to the Class 1 sound level limits.

- The Class 4 status allows for at-receptor, "on-building" noise control measures to be used at the new sensitive uses. At-receptor, on-building noise control measures would otherwise be precluded in a Class 1, 2 or 3 area. That is, in Class 4 receptor areas, there is a wider range of at-receptor noise mitigation measures that are acceptable, compared to the other classes. For high-rise multi-family buildings, there are several situations where on-building noise control measures are the most practicable.
- The use of Class 4 is mutually beneficial for both the commercial/industrial uses as well as the new community, in that the higher sound levels afforded by the Class 4 status can be used for approval of the development as well as any future approvals that may be needed for the industries from the MECP. The use of Class 4 will better promote the long term viability and operation of the industrial/commercial uses.
- It is important to note that, like for transportation noise sources, in Class 4 receptor areas, it is assumed that windows are closed for noise control purposes. In Class 1, 2, and 3 areas, windows are assumed to be open. This is the reason that the exterior plane of window sound levels for Class 4 are higher than for Class 1 or 2. The net effect on indoor sound levels under these circumstances is nil.
- Lakeview is an infill development and part of an overall area in transition.
  - It is expected that several of the existing industrial/commercial uses in the area will eventually be converted to sensitive uses. The MOP designates the lands along Rangeview Road (in proximity to the site) as Residential or Mixed Use. These lands are also part of the Lakeview Major Node area.
  - The MOP shows that the future road network will cut through lands with existing industrial uses on them. It is expected that the industrial uses would need to either move or be reduced in size to accommodate this new road network.
  - As such the current noise environment is likely temporary and only an interim condition prior to the redevelopment of the area.
- MOP Policy 6.10.1.6 b speaks to the City providing more favourable consideration for the use of Class 4 if the stationary noise source is a temporary situation and it is expected that the stationary noise source will be removed through future redevelopment.
  - This is the case for Lakeview, where it is expected that several (if not all) of the existing commercial/industrial uses in the immediate vicinity will ultimately be redeveloped over time.
  - This is evidenced through the MOP designations where the area is shown to be Residential and Mixed Uses. See excerpt from MOP showing land use designations below.

In summary, based on all of the above, it is concluded that the Class 4 receptor classification under NPC-300 is the most appropriate receptor class for sensitive land uses in this proposed development.



Land Use Designations from MOP

4.2 CLASS 4 WARNING CLAUSE

If the Lakeview site is made Class 4, warning clauses should be registered on title to inform future occupants/residents of the noise situation. This is in accordance with both NPC-300 and the MOP. Sample wording for the warning clause is given in NPC-300. A recommended, revised version is given below:

> *"Purchasers/tenants are advised that sound levels due to adjacent industry or infrastructure facilities are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a ventilation/air conditioning system which will allow windows and exterior doors to remain closed. Notwithstanding any noise mitigation at source or in the design of this development and individual dwellings, noise from the industrial/infrastructure facilities may at time interfere with some activities of the dwelling occupants. In the event of such an occurrence, residents are advised to close the windows."*

5.0 NOISE SOURCES

5.1 TRANSPORTATION NOISE SOURCES

5.1.1 Road Traffic

The road traffic noise sources with potential to impact the proposed development are vehicles using Lakeshore Road East, Rangeview Road, Lakefront Promenade and the future internal roads.

The future internal road network is shown in the Lakeview Village Transportation Considerations Report (TCR), prepared by TMIG, dated June 2020. The TCR shows that the internal road network will be made up of major collector, minor collector and local roads.

A preliminary plan for the internal road network (Figure 5-1 from the TCR) is shown below.

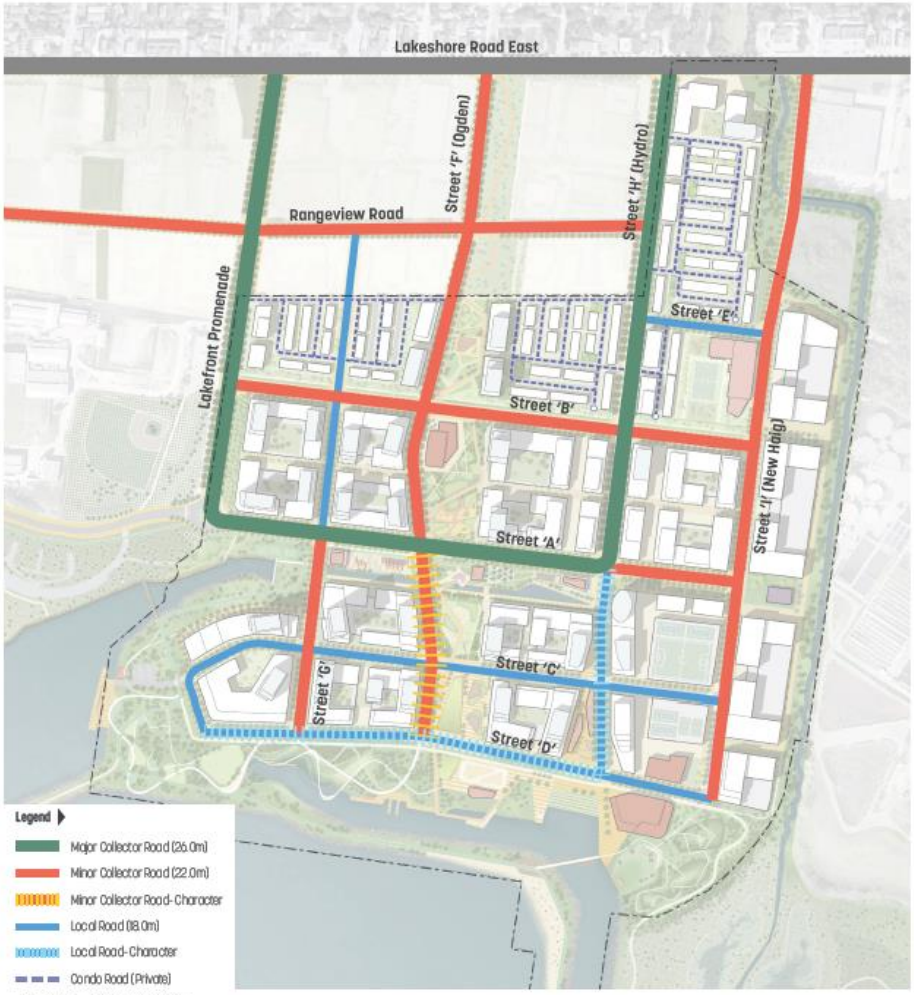


Figure 5-1 – Street Hierarchy
Source: Lakeview Village Development Master Plan 4.0 (October 2019)

LAKEVIEW VILLAGE TRANSPORTATION CONSIDERATIONS 35

The road traffic noise impact from the major and minor collectors was included in the analysis. Traffic volumes on local roads are typically low and do not have a significant noise impact. Thus, the local roads were not included in the assessment.

Year 2041 traffic volumes for Lakeshore Road East and the internal roadways were provided by TMIG. Ultimate traffic data for Lakeshore Road East was also obtained from the City of Mississauga.

The TMIG traffic volumes were presented for two conditions, a 9,700 and a 8,050 residential unit scenario (as presented in the August 2019 and June 2020 TCRs, respectively). From the acoustic perspective, the volumes under these conditions are similar and both have been shown in Table 1 below.

The 2041 (9,700 res. units) volume provided by TMIG for Lakeshore Road East was higher than the volume provided by the City of Mississauga. To be conservative, the traffic volume provided by TMIG and the truck percentages from the City of Mississauga were used in this analysis.

The 24-hour traffic volumes provided by TMIG for the internal roadways ranged from 1,385 vpd to 12,185 vpd. It is understood that these volumes do not apply to the full stretch of the roadways; the volumes are expected to decrease at the south end of the site, toward the lake. The volumes provided represent the segment of each roadway with the highest traffic volume. These volumes are subject to change as detailed site design proceeds. However, for the purposes of this report, the volumes were taken to apply to the full extent of the road, which is conservative.

It is noted that the highest 24-hour highest traffic volume is similar to the ultimate traffic volume recommended by the Region of Peel for 2-lane arterial roadways (16,200 vpd). Thus, to be conservative, to allow for future changes to the site design, and to show that traffic considerations do not pose any significant acoustic limitations on the site, all major and minor collector roads were assumed to have a traffic volume of 16,200. The truck percentages and day/night split were assumed to be the same as Lakeshore Road East, which is also conservative.

The traffic data is summarized in the table below.

TABLE 1: ROAD TRAFFIC DATA

Roadway	24-Hour Traffic Volume Used in Assessment	24-Hour Traffic Volumes Provided by TMIG		Truck Percentages (%)		Speed (km/h)[3]	Day/Night Split (%)
		2041 Volume (9700 res. Unit)	2041 Volume (8050 res. Unit)	Medium	Heavy		
Lakeshore Road East[1]	38 760	38 760	37 390	1.65	1.35	50	90/10
Rangeview Road[2]	16 200	2 320	1 385	1.65	1.35	50	90/10
Lakefront Promenade[2]	16 200	12 185	10 540	1.65	1.35	50	90/10
Street "F" (Ogden) [2]	16 200	8 365	7 170	1.65	1.35	50	90/10
Street "H" (Hydro) [2]	16 200	7 035	6 280	1.65	1.35	50	90/10
Street "A" [2]	16 200	N/A	N/A	1.65	1.35	50	90/10
Street "B" [2]	16 200	N/A	N/A	1.65	1.35	50	90/10
Street "I" [2]	16 200	10 185	9 315	1.65	1.35	50	90/10

Notes:

(1) Year 2041 traffic volumes for Lakeshore Road East were provided by TMIG. The truck percentages and day/night split were provided by the City of Mississauga.

(2) The Region of Peel ultimate traffic volume for 2-lane arterials roadways was applied to all internal major and minor collectors. The truck percentages and day/night split were assumed to be the same as Lakeshore Road East.

(3) It is understood that the speed limit on some of the internal roads may be 40 km/h. In such a case, the assessment done here would be considered conservative in that it would be overpredicting the sound levels at the proposed sensitive uses. The assessment will be updated through the submission of detailed studies and thus, this

5.1.2 Rail Traffic

The CN Oakville Subdivision is located over 300 m to the north of the subject site. Due to distance separation and screening from the intervening buildings, rail traffic is not expected to have a significant impact at most of the proposed development. However, since some of the buildings toward the north end of the site will be partially exposed to the rail line, rail traffic noise was included in the assessment.

Rail traffic on the CN Oakville Subdivision consists of freight, way freight, passenger (VIA) and GO commuter trains.

5.1.2.1 CN

Rail traffic data applicable to the year 2019 was obtained from CN. The rail traffic volumes were escalated to the year 2030 using a growth rate of 2.5%, compounded annually. This growth rate is recommended by MECP and rail authorities in preparing environmental noise studies.

5.1.2.2 GO Transit/Metrolinx

Future (minimum 10-year horizon) GO train forecasts were obtained from Metrolinx in 2019.

It is anticipated that GO services on the CN Oakville Subdivision will be comprised of a mix of diesel and electric trains within (at least) a 10-year time horizon. Metrolinx has not yet made final decisions regarding the electric train technology to be used. In the interim, for the purposes of environmental noise studies, Metrolinx is recommending that the noise level and spectrum of a diesel train be used to model the impact from the future electric trains.

The rail traffic data is summarized in the table below.

TABLE 2: RAIL TRAFFIC DATA

Period	Train Type	# of Trains	# of Cars / Trains	# of Locomotives / Trains	Maximum Speed (km/h)
Daytime (0700 to 2300)	Freight(1)	1 (1.3)	140	4	97
	Way Freight(1)	1 (1.3)	25	4	97
	Passenger(1)	12 (15.7)	10	2	153
	GO Commuter(2)	192 (196.8)	12	1	137
Nighttime (2300 to 0700)	Freight(1)	0 (0)	140	4	97
	Way Freight(1)	4 (5.2)	25	4	97
	Passenger(1)	0 (0)	10	2	153
	GO Commuter(2)	46 (47.2)	12	1	137

Notes:

(1) Obtained from CN for the year 2019. Data shown in brackets was projected to the year 2030 with a 2.5% growth rate, compounded annually. The data provided showed the maximum number of trains and locomotives.

(2) 10-year forecast obtained from Metrolinx in 2019. Data shown in brackets was projected to the year 2030 with a 2.5% growth rate, compounded annually.

5.1.3 Aircraft Noise

The Lakeview site is well outside the NEF 25 contour from Pearson International Airport. Thus, aircraft noise impacts are not anticipated for this site and have not been considered further.

5.2 STATIONARY NOISE SOURCES

5.2.1 Existing Sources

There are existing commercial/light industrial uses along Rangeview Road and along the south side of Lakeshore Road East in addition to the G.E. Booth Wastewater Treatment Plant to the east of the site and the Lakeview Water Treatment Plant to the west. An inventory of these uses is included in Appendix C. Most of these facilities will have minimal noise emissions or are far enough away to not have any significant noise impact at the Lakeview site. The surrounding uses with the potential for noise impact and for which additional investigation has been done include:

- The G.E. Booth Wastewater Treatment Plant (1300 Lakeshore Road East)
    - The facility processes wastewater for homes and businesses in the City of Toronto, Region of York, Bolton, Caledon East, Brampton and the eastern part of Mississauga. The primary noise sources on the site include ventilation louvres and open doors (emitting noise from activity occurring inside to the exterior), a condenser unit, make up air units, exhaust fans, and truck activity including trucks with on-board blowers used for deliveries.
- Interior Manufacturing Group (992 and 996 Rangeview Road)
    - The facility manufacturers custom commercial furniture and fixtures and operates out of several buildings in the area. The buildings with the potential for impact are located on the south side of Rangeview Road (992 and 996 Rangeview Road). The building at 992 Rangeview Road is indicated as the Plastics Plant/Digital Printing and the building at 996 Rangeview Road is Assembly. Potential noise sources at these facilities include truck activity at the loading docks at 992 and 996 Rangeview Road.
- Xtreme Tire Garage (1044 Rangeview Road)
    - A full-service automotive garage. There are bay doors for servicing vehicles on the north and south sides of the facility. The primary source would be noise from maintenance activity occurring within the facility emitted to the exterior via open overhead doors.
- Long Branch Foundry (1062 Rangeview Road)
    - A manufacturing facility using aluminum and copper alloys. This is a non-ferrous sand and permanent mold castings company. The facility specializes in CNC milling, turning, grinding and assemblies. The main noise sources include, exhaust fans, noise emitted from activity occurring in the interior to the exterior via an open overhead door and vehicle movements on site.
- Plasterform Decorative Architectural Systems (1880 Lakeshore Road East)
    - Manufacturers of architectural castings including ceilings, walls, moldings, column covers and ornamental details. The major noise sources at the facility include a dust collector at the south west end of the site, several roof top exhaust fans and HVAC units and truck activity.
- Construction Specialties (895 Lakefront Promenade)
    - This facility specializes in architectural building products including architectural louvres, wall coverings, expansion joint covers, doors, solar shades, etc. Noise sources at the facility include rooftop HVAC equipment and truck activity at the loading docks.
- Allegion Security System Suppliers
    - This facility specializes in commercial security systems including commercial locks, door closers and exit devices, steel doors and frames. Noise sources at the facility include rooftop HVAC equipment and truck activity at the shipping and receiving docks.

Figure 3 shows the locations of the stationary noise sources relative to the Lakeview site.

5.2.2 Future Potential Noise Sources in Lakeview Community

As indicated in earlier, in addition to sensitive uses, the proposed land uses for Lakeview include commercial uses (mostly office) along the eastern periphery as well as retail/commercial uses which will likely be integrated into the lower levels of some of the higher-density buildings.

These uses would not be expected to have any significant noise sources. The only anticipated noise source would the mechanical equipment used for comfort heating and air conditioning. These uses would need to be designed to be meet sound emissions limits in the City noise bylaw and Publication NPC-300. Doing so would be a matter of proper engineering during development design. As such, these uses are not considered further in this report.

6.0 VIBRATION SOURCES

As there are no rail lines or heavy industrial uses (e.g. stamping plants) in close proximity to the site, there are no anticipated sources of significant environmental vibration. Thus, vibration impact at the site has not been considered further in this assessment.

7.0 ENVIRONMENTAL NOISE ASSESSMENT PURSUANT TO NPC-300

7.1 TRANSPORTATION NOISE SOURCES

Using the road and rail traffic data in Tables 1A and 1B, respectively, the sound levels, in terms of $L_{eq\ Day}$ and $L_{eq\ Night}$, were calculated using the CadnaA v2020 MR1 environmental noise modelling software. The roadways and rail lines were modelled as line sources. The sound power levels of the line sources were normalized to the sound emission levels associated with each roadway or rail line at a distance of 15 m calculated using ORNAMENT and STEAM, the computerized road and rail traffic noise prediction model of the MECP. The sound propagation in CadnaA uses the protocols of ISO Standard 9613-2, "Acoustics – Attenuation of Sound During Propagation Outdoors"

The model accounts for sound propagation factors such as distance attenuation and ground attenuation. Inherent screening of each building due to its orientation to the noise source was taken into account.

It is recognized that there could be differences between the modelling done using CadnaA and that using ORNAMENT/STEAM. However, for this preliminary assessment, the differences would not result in any substantial changes to the conclusions or the determination of feasibility of the proposed development. Detailed noise studies should be completed for the individual buildings at later stages of the approval process. The detailed studies will update the preliminary assessment completed here.

7.1.1 Predicted Future Transportation (Road or Rail) Noise Impact

The highest sound levels of 70 dBA day and 65 dBA night are predicted to occur at the building at the northeast corner of the development (adjacent to Lakeshore Road East). The predicted daytime (L_{eq16}) and nighttime (L_{eq8}) road and rail traffic sound levels at all buildings within the development are shown in Appendix D.

The road and rail noise analysis results are used to determine the sound isolation requirements for building envelope design, in order to achieve the indoor road and rail noise criteria. Similarly, these results are used to determine whether road and rail noise mitigation is needed for outdoor living (amenity) areas.

7.2 TRANSPORTATION NOISE SOURCES - NOISE ABATEMENT REQUIREMENTS

Figure 7 shows the anticipated transportation noise mitigation requirements.

Note, the figure shows the requirements assuming that all buildings west of Street "I" are residential. The requirements should be refined as the site design progresses and the final building forms and uses are established.

The buildings east of Street "I" are commercial/office uses but may also include educational facilities. It is expected that these buildings will be provided with air conditioning regardless, which will allow the windows to remain closed for noise control purposes. In addition, based on the predicted sound levels, significant upgrades to the exterior walls and windows are not anticipated. The final requirements should be confirmed as detailed designs become available.

7.2.1 Architectural Upgrades

Based on the predicted sound levels, it is expected that upgrades to the building envelope construction for the dwellings adjacent to Lakeshore Road East and the collector roadways may be required.

At the building adjacent to Lakeshore Road East, the preliminary assessment shows that exterior walls meeting STC 45 and exterior windows up to STC 37 may be required. Assuming window wall is used, a typical spandrel panel with a typical gypsum board back up wall assembly would be expected to meet at least STC 45. Windows meeting STC 37 are considered an upgrade but are readily achievable.

The window requirements are expected to be lower at the other buildings that are farther setback from Lakeshore Road East. At the mid-rise and high-rise buildings adjacent to the collector roadways, it is expected that typical spandrel panel construction with a typical gypsum board back up wall assembly and slightly upgraded windows (e.g. between STC 30 and STC 35) would be sufficient to meet the indoor noise criteria. At facades with less exposure to the roadways, windows meeting the minimum-non acoustical requirements of the Ontario Building Code (OBC) may be sufficient.

At the townhouse dwellings adjacent to the collector roads, upgraded exterior walls or windows may be required. If upgraded exterior wall construction (e.g. brick veneer) is used, it is expected that exterior windows meeting the minimum non-acoustical standards of the OBC will be sufficient to meet the indoor noise criteria. Conversely, if the walls are not upgraded, slightly upgraded windows (e.g. between STC 30 to 35) may be required.

The buildings where upgraded exterior walls and/or windows can be anticipated are shown in red on Figure 4.

At all other locations, exterior wall and window construction meeting the minimum non-acoustical standards of the OBC should be sufficient to meet the indoor noise criteria.

The assessment should be reviewed once detailed floor plans and elevations for the dwellings are available.

7.2.2 Ventilation Requirements

The sound levels are such that the first row of dwellings adjacent to Lakeshore Road East and the internal collector roadways will require mandatory air conditioning. These dwellings are shown in red on Figure 4.

Dwellings that are in proximity to Lakeshore Road East and the collector roads (e.g. the second row of dwellings from the roadways or dwellings with greater setback distances to the roadways) will require the provision for adding air conditioning at the occupants' discretion.

- For townhouse units, this typically takes the form of a ducted, forced air heating system. The townhouse units that require the provision for adding air conditioning are shown in yellow on Figure 4.
- For high-rise buildings, the provision for adding air conditioning is typically not practical to implement. Thus, the requirement has been increased to mandatory air conditioning, which exceeds the minimum requirement. The high-rise buildings where the requirement has been increased to mandatory air conditioning are shown in blue on Figure 4.

7.2.3 Outdoors – Sound Barriers

The sound barrier requirements for the proposed development will depend on the setback distance and orientation of the amenity areas relative to the traffic noise sources. At this early stage of the development, the site layout has not been finalized nor detailed. Detailed sound barrier assessments are therefore premature. However, general guidance on the expected requirements is provided below.

Several of the townhouse units will be provided with grade-level rear yard outdoor amenity space. The townhouse dwellings with the greatest exposure to road traffic noise are the units at the northeast corner of the site, with exposure to Lakeshore Road East to the north and Street "I" to the east. The unmitigated daytime OLA sound levels at the northernmost unit is predicted to be 64 dBA. The sound barrier heights to mitigate the daytime OLA sound level to the 55 dBA design objective as well as up to the 60 dBA maximum permitted under the MECP guidelines, in 1 dBA increments, are shown in Table 3. (See Appendix D for calculation details.). A 2.5 m high sound barrier is also anticipated to be required at these lots due to exposure from some sources at the adjacent industry, Plasterform (See Section 7.3.7). Thus, a 2.5 m high sound barrier is anticipated at these lots, although this will need to be confirmed through detailed studies once the building form details are known.

TABLE 3: ROAD TRAFFIC SOUND BARRIER HEIGHTS

OLA Location	Barrier Height Requirement to Meet Indicated Daytime Sound Level					
	55 dBA	56 dBA	57 dBA	58 dBA	59 dBA	60 dBA
Townhouse Unit at Northeast Corner of Site	3.1 m	2.9 m	2.6 m	2.3 m	2.0 m	1.8 m

The other townhouse blocks in the development are oriented such that the rear yards are not adjacent to the roadways. Due to the setback distance from the roadways as well as screening provided by the townhouse blocks themselves, it is expected that the unmitigated daytime OLA sound levels at most locations will meet the guideline limits. At locations with more exposure to the roadways, it is expected that standard 1.8 m high acoustic fences will be sufficient.

The mixed-use and residential mid-rise and high-rise buildings will likely not have grade level amenity spaces but may have balconies or terraces. For balconies/terraces that are less than 4 m in depth, the NPC-300 OLA sound level limits do not apply. Thus, sound barriers would not be required at these locations.

The sound level limits do apply at balconies/terraces that are greater than 4 m in depth, provided they are the only OLA for the occupants. Terraces with exposure to Lakeshore Road East would likely require sound barriers to meet the noise guideline limits. At the buildings that are farther setback or screened from Lakeshore Road East, it is expected that the sound level limits can be met without sound barriers, or with sound barriers that are the height of typical safety parapets/railings.

Acoustic fences/sound barriers must be of solid construction with no gaps, cracks or holes and have a minimum surface density of 20 kg/m^2 (4lbs/ft^2).

Sound barrier requirements should be determined as part of the detailed noise studies to be completed later.

7.3 STATIONARY SOURCES

7.3.1 Acoustic Modelling

A 3-D acoustic model of the subject site, as shown on Figures 5A to 12, was developed to predict the potential sound levels at the residential points of reception from the neighbouring industries. The model was developed using the CadnaA v2020 MR1 environmental noise modelling software, which implements the protocols of ISO Standard 9613-2, "Acoustics – Attenuation of Sound During Propagation Outdoors". One order of sound reflection from the building facades was included in the analysis. This is consistent with References 15, 16 and 17.

For the assessment of G.E. Booth, the ground factor was set to be 0.50 to be consistent with that used in the Acoustic Assessment Report (see Section 7.3.3 below). For the assessment of all other facilities the entire site was modelled as moderately “hard” ground, with a ground factor of G = 0.3.

Specific information on the sources and operating scenarios are included in Appendix E.

7.3.2 Applicable Noise Limits at the Lakeview Community

The applicable sound limit for any stationary source at any point of reception is the ***higher of*** the exclusion limits in Tables C-5 to C-8 in NPC-300, or the ambient (background) sound level, typically established by road traffic.

It is likely that once the site is built out, the ambient would exceed the minimum exclusion limits at the buildings closest to the larger roadways, at least in the daytime. However, for this preliminary assessment, the Class 4 minimum exclusion limits (most stringent) have been used.

7.3.3 G.E. Booth Wastewater Treatment Plant

This facility operates 24 hours a day, 7 days a week. A computerized model, which was based on the Acoustic Assessment Report (AAR) for the facility prepared by Wood Environment & Infrastructure Solution, dated October 25, 2019 in support of the current ECA, was obtained (Reference 17).

The facility operates under an Amended Environmental Compliance Approval Number 6339-BJJRCS dated January 22, 2020.

As mentioned, the site design for Lakeview includes commercial buildings along the east property line that will act as a buffer between the wastewater treatment plant and the proposed residential uses. However, it is understood that these buildings may include some noise sensitive uses, such as educational facilities (post secondary institutions). The assessment predicts sound levels at these buildings in the daytime only (as educational facilities would typically only be sensitive in the day when open and would not be expected to operate at night).

The results of the modelling indicate that the sound levels on the Lakeview site will be less than the Class 1 and Class 4 minimum exclusion limits at all points of reception. See Figures 5A and 5B (non-emergency sources) and Figure 6 (emergency generators).

Thus, compliance with the applicable sound level limits is concluded and mitigation measures for this facility are not required. These conclusions are similar to the results of the previous assessments of this facility (Reference 14).

It is noted that the assessment done in the AAR for this facility accounted for the proposed Lakeview development. The AAR showed that the sound levels due to the wastewater treatment plant were predicted to meet the noise guideline limits at the proposed Lakeview site.

Further to the above, it is understood that an expansion is planned for the G.E. Booth facility. The AAR did not account for the future noise sources that may be added as part of the expansion. However, since G.E. Booth has accounted for Lakeview as part of their current approvals, it is expected that the expansion will also be designed to comply with the noise guideline limits at Lakeview, implementing noise mitigation at-source, where required.

7.3.4 Interior Manufacturing Group

The interior Manufacturers Group operates out of several buildings in the area. The closest to Lakeview are located at 992 and 996 Rangeview Road. Aerial imagery indicates that the only potential noise source at these facilities would be truck activity at the loading docks at the rear of the buildings, with exposure to the proposed Lakeview site. It is expected that these buildings would be operational in the daytime only (0700 to 2300), although this will need to be confirmed at the time of the detailed studies.

A computerized model of the facilities was created. It is expected that trucks would not idle the engines while at the loading docks. However, for modelling purposes, some incidental idling

(2 mins) was accounted for, as well as trucks maneuvering to the docks. It is unlikely that both facilities would have truck activity in the same hour. Thus, the truck was only modelled at 992 Rangeview Road, which would be the worst-case location.

The results of the assessment are shown in Figure 7. The assessment shows that the predicted sound levels meet the Class 4 guideline limits without the need for mitigation measures.

7.3.5 Xtreme Tire Garage

Xtreme Tire Garage is located on the south side of Rangeview Road. The facility is open in the daytime hours only: 8 am to 5 pm Monday to Friday and 8 am to 2 pm on Saturday.

Xtreme Tire Garage has six overhead doors at the rear of the building, in the direction of the Lakeview site. The interior layout of the building is not known. However, at least some of the overhead doors appear to open to vehicle repair bays. The main noise sources associated with Xtreme Tire Garage would be air tools (e.g., impact wrenches) operating inside the repair bays. During a site visit by VCL staff, it was observed that some of the overhead doors were open and noise from the tools was audible near the rear property line, although the noise was not considered significant. For this preliminary assessment, noise from Xtreme Tire Garage was modelled using VCL sound measurements of maintenance activity at similar facilities.

The predicted sound levels due to Xtreme Tire Garage are shown on Figure 8. The assessment shows that the predicted sound levels meet the Class 4 guideline limits without the need for mitigation measures.

7.3.6 Long Branch Foundry

The main noise sources associated with Long Branch Foundry are the exhaust fans on the rooftop, at the rear and along the east side of the building. Noise from these exhaust fans was audible near the rear property line.

The Long Branch Foundry operates under a Certificate of Approval Number 8268-626PQ7.

The facility is open in the daytime hours only: from 9 am to 6 pm Monday to Friday.

The source sound levels from Reference 16 were used in this assessment.

The predicted sound levels due to Long Branch Foundry are shown on Figure 9.

Sound levels excesses over the Class 4 noise guideline limits are predicted to occur at the closest townhouse buildings to the south of the facility as well as the townhouse rear yard outdoor point of reception (OPOR).

To meet the Class 4 guideline limits, mitigation is required for one source at the facility, the rear furnace exhaust fan. The required reduction would be 15 dBA (resulting in a maximum sound power level of 86 dBA for the source).

It is expected that this reduction could be achieved by adding a silencer or acoustic enclosure to the unit or by replacing the unit altogether. At source noise mitigation in this case is seen as likely the most effective and economical. The foundry will need to be approached and cooperation sought. The proposal would be that the at-source noise mitigation would be at cost of Lakeview.

The mitigation requirements will need to be confirmed through the submission of the detailed studies and once the final Lakeview site design is established.

7.3.7 Plasterform Decorative Architectural Systems

The facility operates under an Amended Environmental Compliance Approval Number 6327-A3ARJN. The main noise sources associated with Plasterform include rooftop HVAC units, general exhausts, exhaust fans associated with the paint spray booths and a baghouse dust collector at grade at the rear of the building. The source sound levels and operating scenarios were taken from Reference 16 and are based on the information presented in the Amended Environmental Compliance Approval.

The facility is expected to operate during the daytime hours only (i.e. between 0700 to 2300).

The predicted sound levels due to Plasterform are shown on Figure 10.

Sound levels excesses over the Class 4 noise guideline limits are predicted to occur at the closest townhouse and midrise buildings to the west. Excesses are also predicted at the rear yard outdoor points of reception (OPOR) at the closest townhouses.

To meet the Class 4 guideline limits, at-source mitigation at the baghouse (dust collector) exhaust could be used. The required reduction would be 12 dBA (maximum sound power level of 95 dBA). As for the foundry, it is recommended that Plasterform be approached to allow noise mitigation to be implemented at the cost of Lakeview. A 2.5 m high sound barrier would also be required along the rear property line of the two closest townhouse blocks.

7.3.8 Allegion

The main noise sources associated with Allegion would be the rooftop HVAC units and trucks at the receiving and shipping docks that point east toward the site.

The facility operates under Certificate of Approval Number 2718-6ZSNUV.

The facility is open during the daytime hours only 08:30 to 17:30, Monday to Friday.

The source sound levels and operating scenarios were assumed based on aerial imagery and information presented in the Certificate of Approval.

The predicted sound levels due to Allegion are shown on Figure 11. The assessment shows that the predicted sound levels meet the Class 4 guideline limits without the need for mitigation measures.

7.3.9 Construction Specialties

The main noise sources associated with Construction Specialties (CS) would be the rooftop HVAC units, an exhaust for the oven associated with the powder paint finishing operations, and trucks at the loading area.

The facility operates under Certificate of Approval Number 2814-8EHPM9.

The facility is expected to be open during the daytime hours only (i.e. between 0700 to 2300).

The source sound levels and operating scenarios were assumed based on aerial imagery and information presented in the Certificate of Approval.

The predicted sound levels due to CS are shown on Figure 12. The assessment shows that the predicted sound levels meet the Class 4 guideline limits without mitigation measures.

8.0 CONCLUSIONS AND RECOMMENDATIONS

This preliminary assessment shows that the Lakeview Village Community can be made to comply with the applicable noise requirements and the proposed development will be feasible, in terms of achieving land use compatibility, acoustically, both with nearby existing land uses and within the Lakeview development itself. Thus, with proper design at Lakeview, no adverse effects of the proposed Lakeview development on existing industries/major facilities is to be expected. Compliance with applicable policies relating to environmental noise, such as the PPS and the MOP, etc. will result.

Applicable Noise Guidelines

1. The applicable MECP noise guideline is NPC-300 (as of October 2013). NPC-300 provides guidance and criteria with respect to environmental noise from transportation, and as well as from stationary sources, for planning of noise sensitive land uses such as residential. NPC-300 is also the basis for ECA's issued by MECP for stationary sources, under Section 9 of the EPA or EASR registration under O.Reg.1/17.

2. The proposed Lakeview Village Community, with the implementation of the recommendations in this preliminary assessment, will comply with NPC-300, as well as the other relevant municipal and regional requirements for environmental noise.

Transportation Noise Sources

3. With implementation of the noise control measures indicated above, which are reasonable and practicable, the transportation noise policies and guidelines will be met by the proposed Lakeview development.

4. Mandatory air conditioning should be anticipated for the first row of buildings/dwellings adjacent to the internal collector roads and to Lakeshore Road East. Provision for adding air conditioning should be anticipated for all other dwellings.

5. Architectural upgrades to windows and/or exterior facade construction should be anticipated for the first row of buildings/dwellings adjacent to the Internal Collector roads and to Lakeshore Road East. Any upgrade required is expected to be minor and would not affect building forms.

6. Sound barriers to mitigate transportation noise in the grade level OLA's should be anticipated for the townhouse dwellings with significant exposure to the internal collector roads or Lakeshore Road East.

Class 4

7. The Lakeview Village Community being an in-fill development, in proximity to existing industrial/commercial uses is proposed to be Class 4.

8. The overall area is one in transition and it is expected that, ultimately, several of the existing industrial/commercial uses will be converted to residential. The Class 4 status will help to facilitate the transition by addressing potential temporary noise issues in a more feasible manner.

9. The Class 4 status will further promote land use compatibility by allowing for the approval of the proposed development while also allowing the nearby stationary sources to continue to operate in compliance with the applicable noise guidelines.

10. The use of the Class 4 receptor classification is concluded to be more suitable technically, practically and economically than Class 1 in this case and would be fully in compliance with the requirements and intent of NPC-300 and PPS 2020.

Vibration Impact

There are no anticipated sources of environmental vibration in the area. Thus, significant vibration impact on to the community is not expected.

Existing Stationary Sources

11. Sound emissions from the majority of the surrounding industrial commercial uses will comply with the Class 4 sound level limits at the site, this includes the G.E Booth wastewater treatment plant (which also complies with the Class1 sound level limits at the Lakeview site).

12. There is one source at the Long Branch Foundry (and exhaust fan) and one source at Plasterform (a baghouse dust collector) that are predicted to result in excesses over the Class 4 limits at the closest proposed buildings on the Lakeview site;

13. It is expected that these sources could be addressed by at-source mitigation measures. This should be investigated further as part of the detailed studies. See below. We have been involved in a number of projects where significant noise abatement campaigns were successfully implemented at existing industries to allow adjacent sites to be redeveloped for residential uses, at the cost of the residential developer.

14. A 2.5 m high sound barrier is also recommended for the rear yards of the two townhouse blocks closest to Plasterform.

Future Stationary Source in Lakeview

15. Ensuring that any potential, stationary sources within Lakeview itself create no adverse noise impact on neighbouring land uses is a matter of proper engineering design, as is commonly done.

Future Studies

16. This preliminary study concludes that the proposed development for Lakeview Village site is feasible acoustically and can achieve land use compatibility with the surrounding environment and existing land uses.

17. Detailed noise studies should be completed as part of future land use approval applications (e.g. site-specific zoning by-law applications or site plan approval applications) to further refine the noise control requirements once further details of the building designs are known.

ML\SN\ADL\tk
J:\2020\1200302\000\Reports\Lakeview Noise Feasibility V1_0 Fnl.docx

BIBLIOGRAPHY

1. "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning", Publication NPC-300, Ontario Ministry of the Environment, August 2013 (issued October 2013), PIBS 9588e.

2. "Land Use Compatibility", Ontario Ministry of the Environment, Guideline D-1, July 1995, including D-1-1, "Implementation"; D-1-2, "Specific Applications"; D-1-3, "Definitions".

3. "Compatibility Between Sewage Treatment and Sensitive Land Uses", Ontario Ministry of the Environment, Guideline D-2, July 1995.

4. "Compatibility Between Industrial Facilities and Sensitive Land Uses", Ontario Ministry of the Environment, Guideline D-6, July 1995.

5. "Noise Assessment Criteria in Land Use Planning", Ontario Ministry of the Environment, Publication LU-131, October 1997.

6. "Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (URBAN)" Ontario Ministry of the Environment, Publication NPC-205, October 1995.

7. "Environmental Protection Act", Government of Ontario, 1990.

8. "Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT) – Technical Document", Ontario Ministry of the Environment, October 1989.

9. "STEAM, Sound from Trains Environmental Analysis Method", Ontario Ministry of the Environment, July 1990.

10. PC STAMSON 5.04, "Computer Program for Road Traffic Noise Assessment", Ontario Ministry of the Environment.

11. Ontario Provincial Policy Statement, 2020.

12. "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation", ISO 9613-2, December 15, 1996.

13. Building Practice Note No. 56: "Controlling Sound Transmission into Buildings", by J. D. Quirt, Division of Building Research, National Council of Canada, September 1985.

14. "Ontario Power Generation, Land Use Compatibility Study – Inspiration Lakeview Study Area" Ortech, October 6, 2016.

15. "Lakeview Village, Air Quality and Noise Land Use Feasibility Assessment" RWDI Air Inc. dated January 31, 2019.

16. Memorandum: "Noise Feasibility Assessment, Lakeview Village, Mississauga, On" RWDI Air Inc. dated September 4, 2020. and associated CadnaA acoustic model titled "200904 RWDI Lakeview Village 1804164"

17. "Acoustic Assessment Report, G.E. Booth Waste Water Treatment Plant" prepared by Wood Environment & Infrastructure Solution, dated October 25, 2019

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Key Plan	Oct. 21, 2020	1
Project Name	Project No.	
Lakeview Village	120-0302	

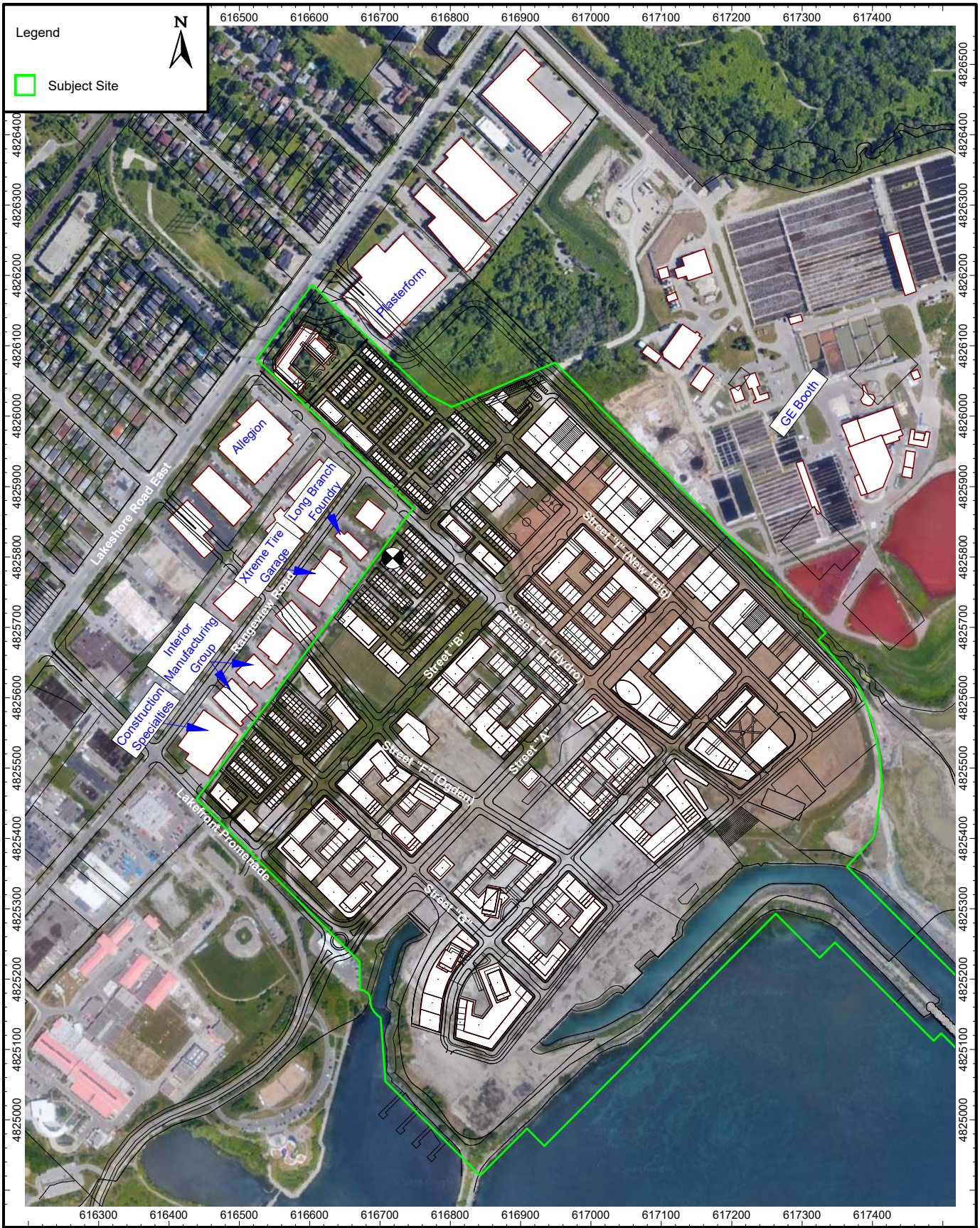
J:\2020\1200302\000\Reports\Figures for v0_1\For Figure 2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - for Key Plan.cna

Date Plotted:22.10.20

No.	Revision/Issue	Date

VALCOUSTICS
Canada Ltd.
30 Wertheim Court, Unit 25
Richmond Hill, Ontario
Canada L4B 1B9
solutions@valcoustics.com
Phone: (905) 764-5223
Fax: (905) 764-6813

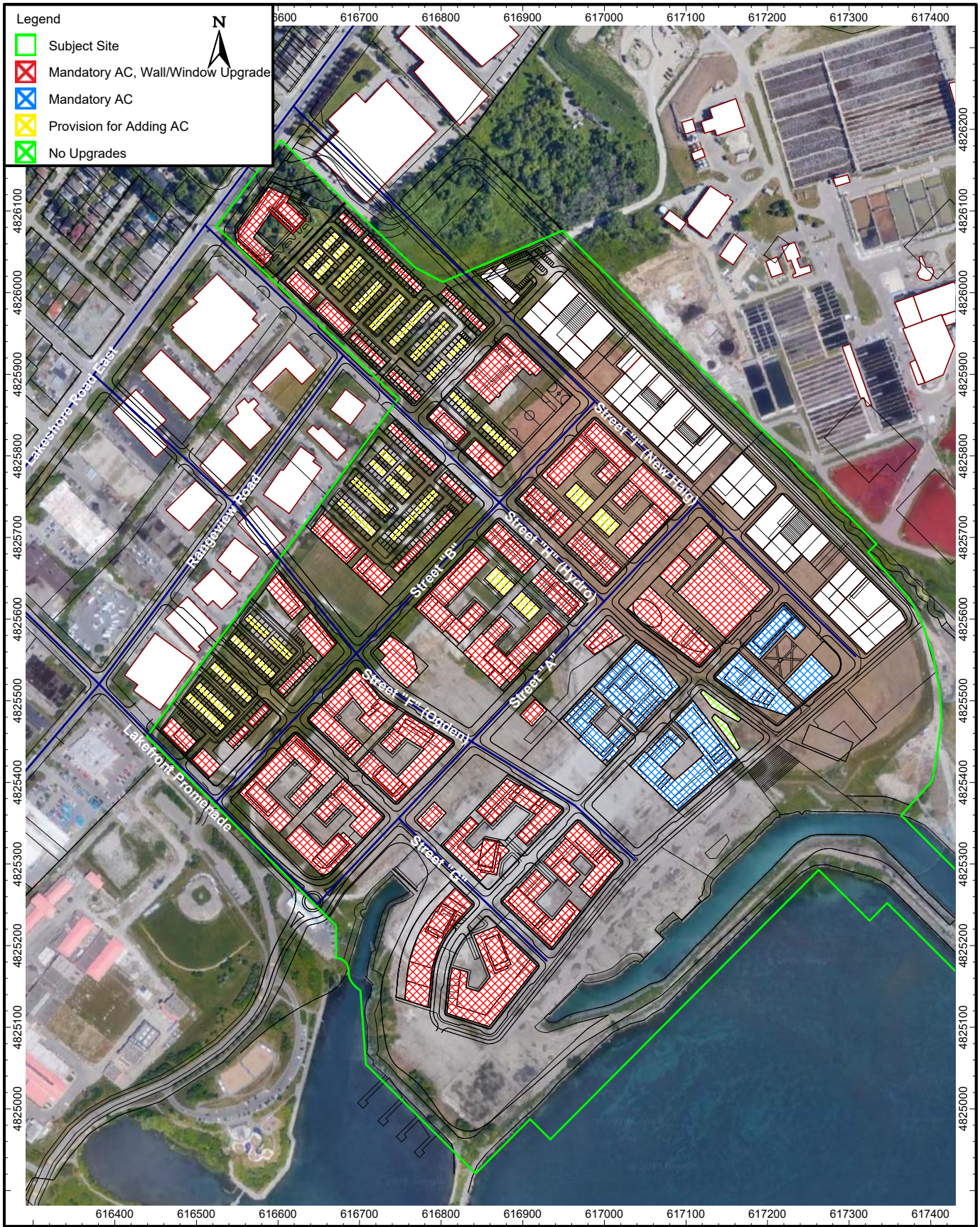
Title	Project No.	Date
Master Plan Concept	120-0302	Oct. 21, 2020
Project Name	**Scale**	**Figure**
Lakeview Village	N.T.S.	2



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Industry Locations	Date: Oct. 21, 2020	Figure: 3
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Traffic Noise Mitigation Measures	Date: Oct. 21, 2020	Figure: 4
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

Legend

Point Source

Line Source

N

Street "I" (New Haig)

Street "H" (Hydro)

Street "A"

WWTP_HW_EF5
WWTP_HW_CUS 2
WWTP_HW_CUS 1
WWTP_HW_EF4
WWTP_BF_L1
WWTP_FCB_EE
WWTP_FCB_IS
WWTP_HW_EF3
WWTP_HW_EF2
WWTP_HW_EF1
WWTP_BF_L2
WWTP_FCB_OD
WWTP_PTP
WWT_Trucks
WWT_Garbage Truck
WWTP_OUB_OUS1
WWTP_OUB_OUS2
WWTP_WGAC

616900 616950 617000 617050 617100 617150 617200 617250 617300 617350

4826300 4826250 4826200 4826150 4826100 4826050 4826000 4825950 4825900 4825850 4825800 4825750 4825700 4825650 4825600 4825550 4825500 4825450

616850 616900 616950 617000 617050 617100 617150 617200 617250 617300 617350

VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Predicted Sound Levels due to GE Booth - Non-Emergency Sources (dBA) - Daytime	Date: Oct. 21, 2020	Figure: 5A
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterplar2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted: 12.11.20

Legend

Point Source

Line Source

N

Street "I" (New Haig)

Street "H" (Hydro)

Street "A"

616850 616900 616950 617000 617050 617100 617150 617200 617250 617300 617350

4826300 4826250 4826200 4826150 4826100 4826050 4826000 4825950 4825900 4825850 4825800 4825750 4825700 4825650 4825600 4825550 4825500 4825450

VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Predicted Sound Levels due to GE Booth - Non-Emergency Sources (dBA) - Nighttime	Date: Oct. 21, 2020	Figure: 5B
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterpla2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:11.11.20

Legend

Point Source

N

Street "I" (New Haig)

Street "H" (Hydro)

Street "A"

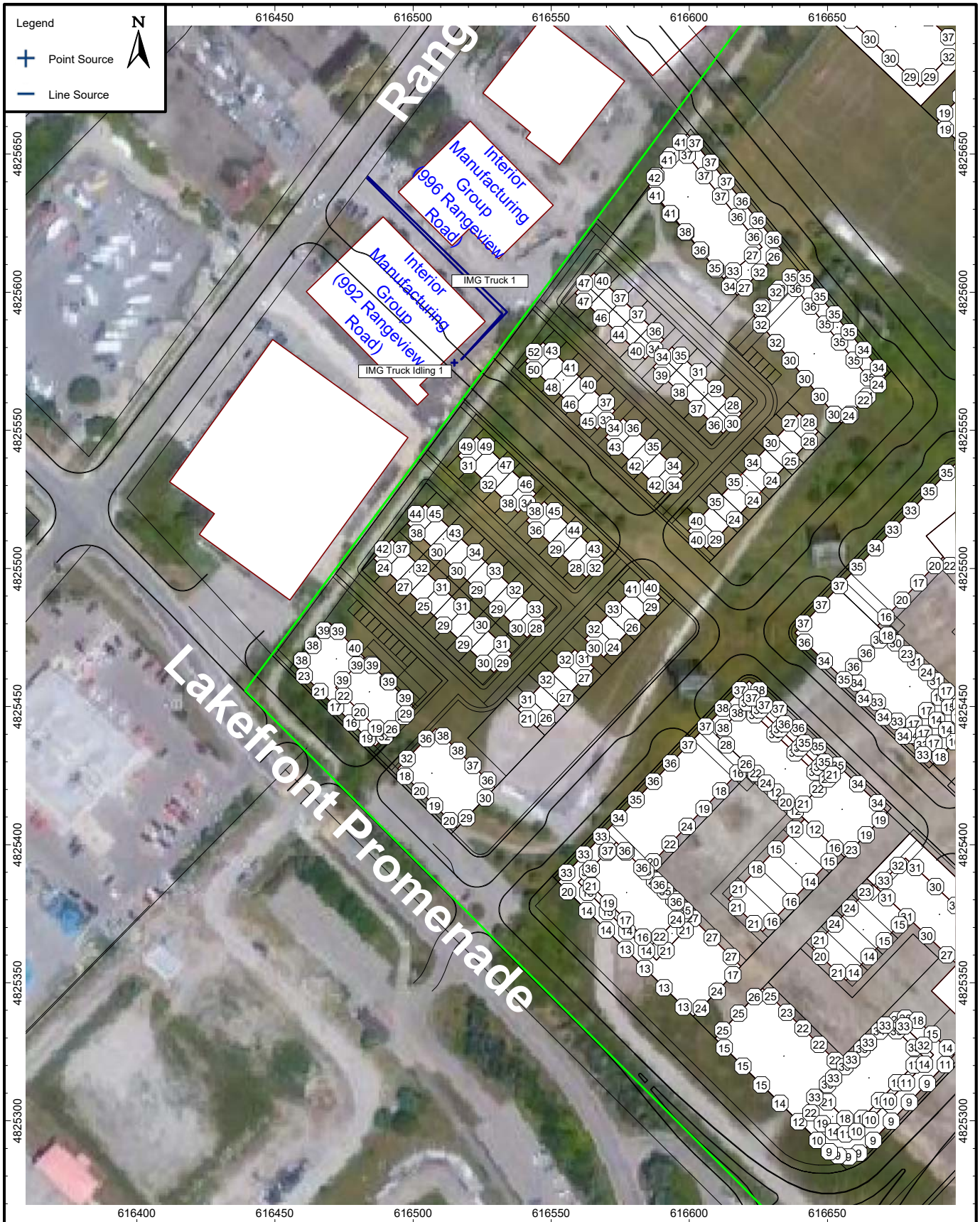
616850 616900 616950 617000 617050 617100 617150 617200 617250 617300 617350

4826300 4826250 4826200 4826150 4826100 4826050 4826000 4825950 4825900 4825850 4825800 4825750 4825700 4825650 4825600 4825550 4825500 4825450

VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Predicted Sound Levels due to GE Booth - Emergency Generators (dBA) - Daytime	Date: Oct. 21, 2020	Figure: 6
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterplar2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

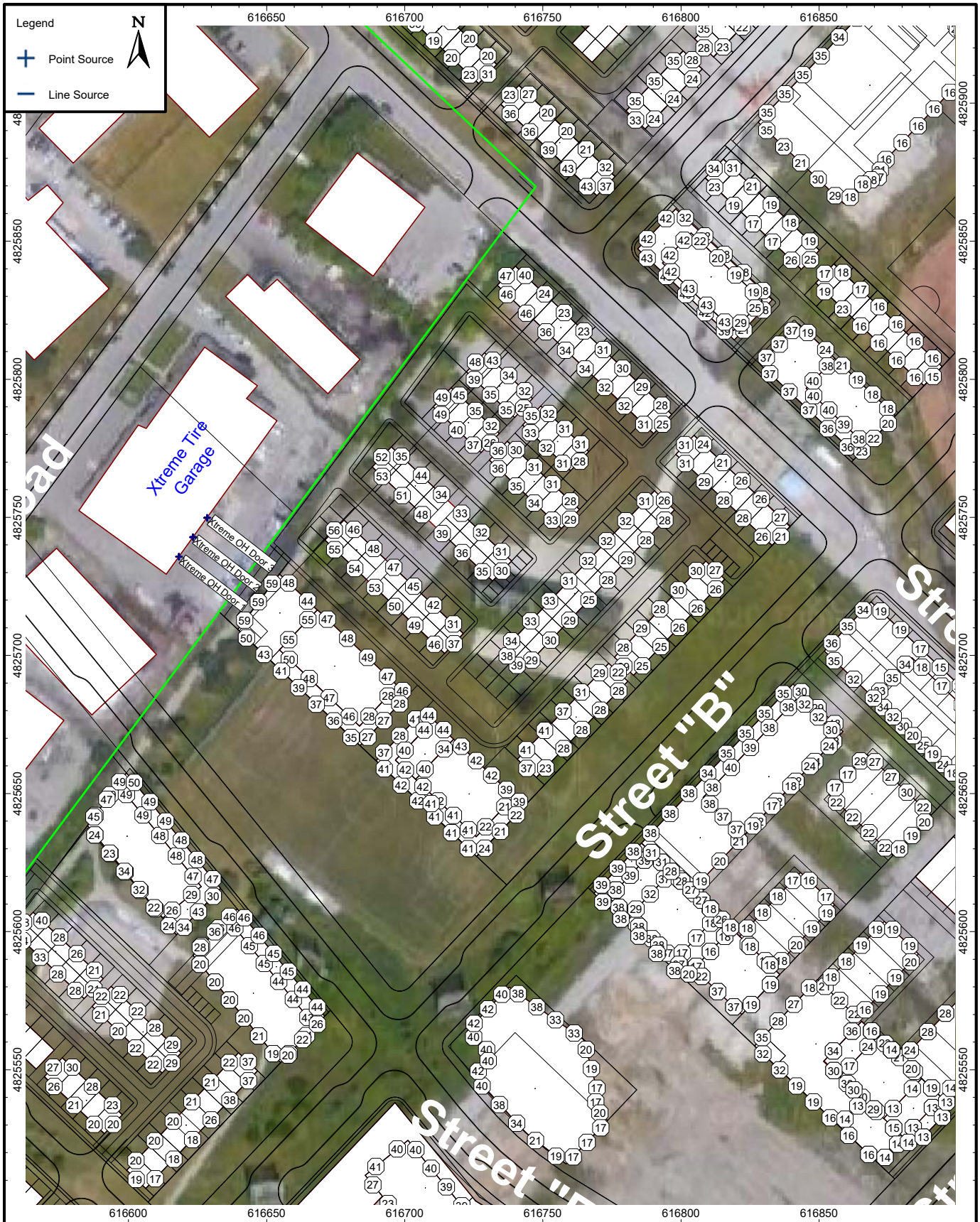
Date Plotted:12.11.20



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Predicted Sound Levels due to IMG (dBA)	Date: Oct. 21, 2020	Figure: 7
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:23.10.20



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Predicted Sound Levels due Xtreme Tire Garage (dBA)	Date: Oct. 21, 2020	Figure: 8
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:23.10.20

Legend

N

Receptor

Point Source

Line Source

Unmitigated

Mitigated

Foundry_Trucks

Foundry Furnace Dust Collector

Foundry Furnace Exhaust Fan

Foundry_BayDoor01

OPOR
63 dBA

Long Branch Foundry

Foundry Furnace Exhaust Fan

Foundry Trucks

Foundry Furnace Dust Collector

Foundry Furnace Exhaust Fan

Foundry_BayDoor01

OPOR
55 dBA

Foundry Furnace Exhaust Fan
15 dB reduction (max PWL: 86 dBA)

Street "B"

616600 616650 616700 616750 616800 616850

4825900 4825850 4825800 4825750 4825700 4825650 4825600 4825550

VALCOUSTICS
Canada Ltd.
consulting acoustical engineers

Title: Predicted Sound Levels due to Long Branch Foundry (dBA)	Date: Oct. 21, 2020	Figure: 9
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\120030\2\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWD! Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

Unmitigated

Mitigated

Legend

- Receptor
- Point Source
- Line Source

N

616500 616550 616600 616650 616700 616750 616800

4826250 4826200 4826150 4826100 4826050 4826000 4825950 4825900

Plasterform

Plasterform_Truck Loading Bay

Plasterform_Trucks

Plasterform EF 10

Plasterform EF 3

Plasterform EF 9

Plasterform EF 6

Plasterform EF 8

Plasterform EF 2

Plasterform EF 5

Plasterform EF 7

Plasterform EF 13

Plasterform EF 1

Plasterform EF 4

Plasterform EF 11

Plasterform EF 12

Plasterform EF 14

OPOR
69 dBA

Plasterform EF 14
12 dB reduction (max PWL: 95 dBA)

OPOR
54 dBA

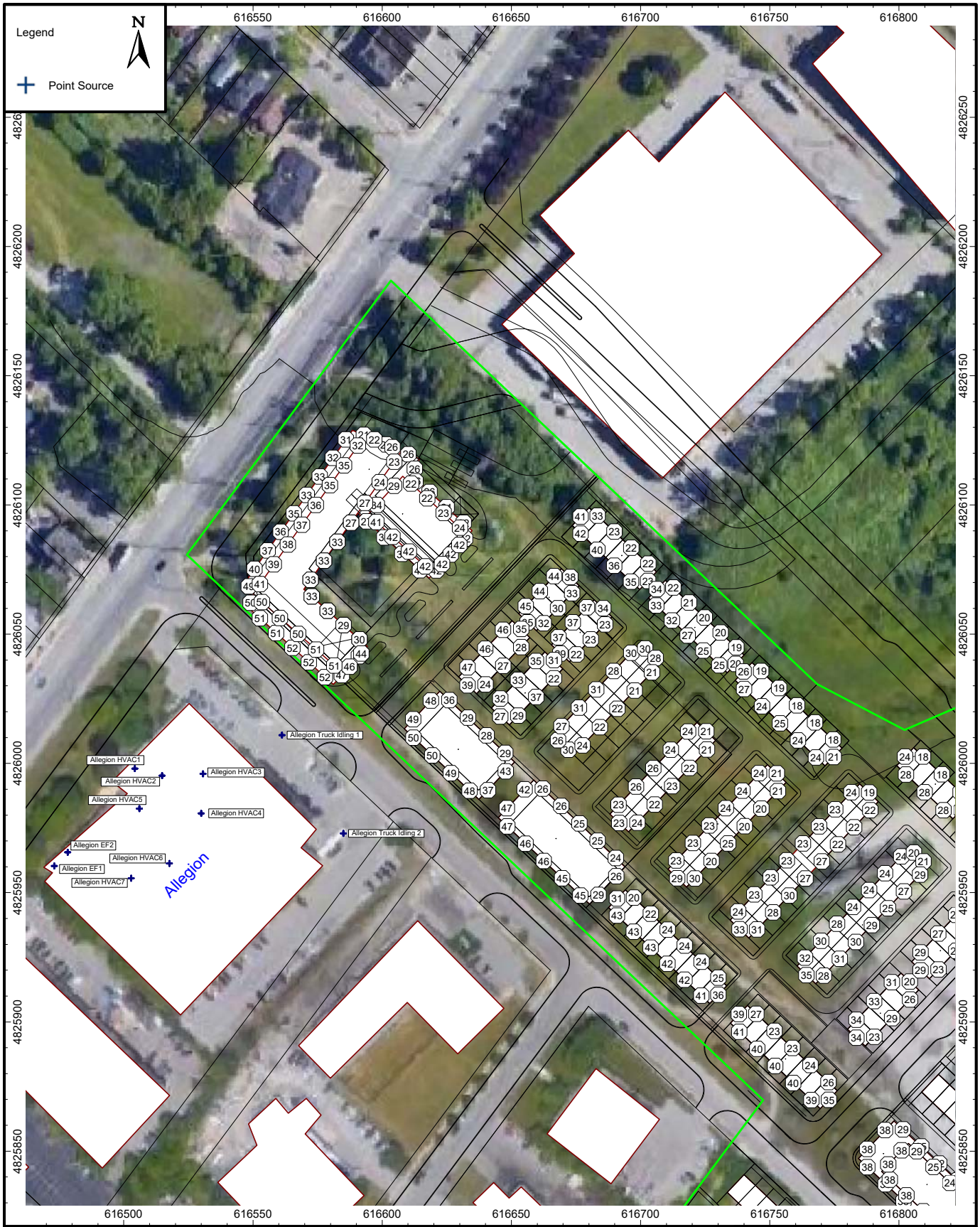
2.5 m high
sound barrier

VALCOUSTICS
Canada Ltd.
consulting acoustical engineers

Title	Predicted Sound Levels due to Plasterform (dBA)
Project Name	Lakeview Village
Date	Oct. 21, 2020
Project No.	120-0302
Figure	10

J:\2020\120302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

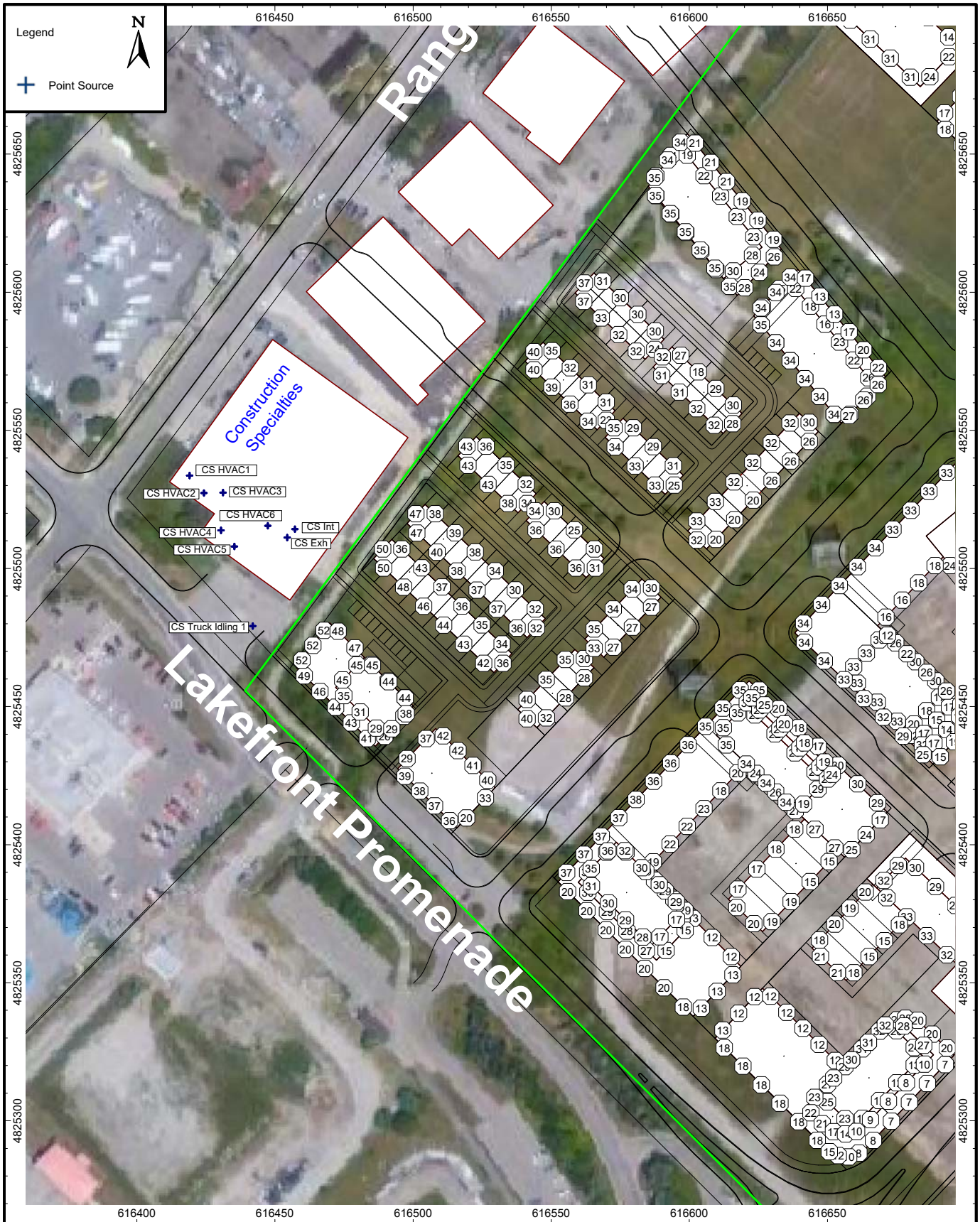
Date Plotted:22.10.20



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Predicted Sound Levels due to Allegion (dBA)	Date: Oct. 21, 2020	Figure: 11
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Predicted Sound Levels due to Construction Specialties (dBA)	Oct. 21, 2020	12
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:23.10.20

APPENDIX A
DRAWINGS

Building Program Axon

Innovation


Lakeshore Retail

Lakeshore


Lakeview Guidelines

APPENDIX B

SUMMARY OF MECP NPC-300 NOISE GUIDELINE CRITERIA

APPENDIX B

ENVIRONMENTAL NOISE GUIDELINES – MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)

Reference: MECP Publication NPC-300, October 2013: "Environmental Noise Guideline, Stationary and Transportation Source – Approval and Planning".

Space	Time	Sound Level Limit (Leq)						
		Road (dBA)	Rail (dBA)	Aircraft (NEF)	Sound Source (dBA)[5]			
					Class 1[6]	Class 2[6]	Class 3[6]	Class 4[6]
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	0700 – 2300 16 hours	45[1]	40[1]	5[4]	—	—	—	—
	2300 – 0700 8 hours	45[2], [3]	40[2], [3]	5[4]	—	—	—	—
Sleeping quarters	0700 – 2300	45[1]	40[1]	0[4]	—	—	—	—
	2300 – 0700	40[2]	35[2]	0[4]	—	—	—	—
Outdoor Living Areas	0700 – 2300	55 – 60	55 – 60	—	—	—	—	—
Plane of Window	0700 – 1900	—	—	—	50	50	45	60
	1900 – 2300	—	—	—	50	50	40	60
	2300 – 0700	—	—	—	45	45	40	55
Outdoor Point of Reception	0700 – 1900	—	—	—	50	50	45	55
	1900 – 2300	—	—	—	50	45	40	55

Notes:

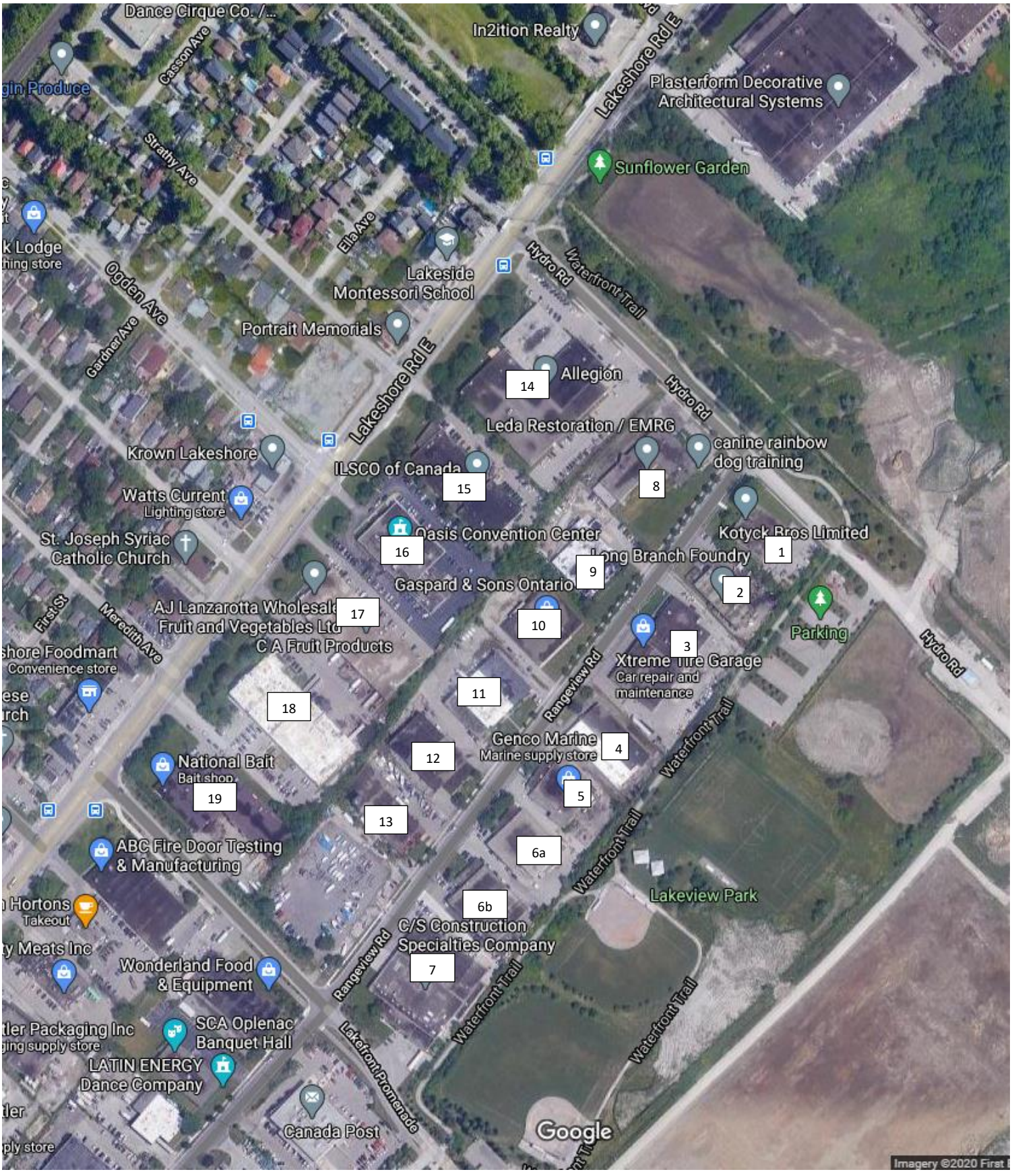
(1) 16 hour Leq.
(2) 8 hour L_{eq}.
(3) Not including schools, daycare centres.
(4) Over 24 hours.
(5) One-hour L_{eq} (dBA).
(6) Receptor area class

APPENDIX C

INVENTORY OF STATIONARY SOURCES IN THE VICINITY

120-0302 – Lakeview Village

Neighbouring industries to the North



1. **Kotyck Bros Limited (1076 Rangeview Road)**
   - Industrial plumbing, heating, hydraulic and industrial supplier.
   - Noise sources associated with the facility are anticipated to be the rooftop mechanical equipment and activities inside the building.
   - Aerial imagery shows small rooftop exhausts. Overhead door to the facility is located on the rear façade.
   - Due to the small size of the mechanical units and the nature of the use, significant noise impact is not expected.
2. **Long Branch Foundry (1062 Rangeview Road)**
   - Metal casting facility
   - Noise sources associated with the facility are the mechanical units and indoor activities (when overhead doors are open)
   - Noise from the facility was audible during VCL site visit
   - Facility was included in the assessment
3. **Xtreme Tire Garage (1044 Rangeview Road)**
   - Auto shop (include repair and maintenance).
   - Tool noise audible from open overhead doors at the rear of the building during VCL site visit
   - Facility was included in the assessment
4. **Stratos Industries Inc. (1024 Rangeview Road)**
   - Cabinet manufacturer
   - No signs visible. Not clear whether the building is in use.
   - No noise sources observed during site visit by VCL staff.
5. **Genco Marine (1008 Rangeview Road)**
   - Boating supply store
   - Main noise sources are the rooftop HVAC units (3 units visible on aerial imagery)
   - Due to the size of the units and the setback distance to the site, no significant noise impact is expected.
6. **Interior Manufacturing Group (996 and 992 Rangeview Road)**
   - a. 992 Rangeview – Plastics plant/digital printing
   - b. 996 Rangeview – Assembly
   - Main noise sources are the rooftop HVAC units at 895 Rangeview Road and truck activities at the rear loading docks of 992 and 996 Rangeview Road.
   - Facility was included in the assessment
7. **Construction Specialties (895 Lakefront Promenade)**
   - Architectural building products manufacturer
   - Main noise sources are the rooftop HVAC units and the truck activities at the loading dock
   - Facility was included in the assessment
8. **Leda Restoration / EMRG (1083 Rangeview Road)**
   - Water damage restoration service
   - Main noise sources are anticipated to be the rooftop HVAC units.
   - Due to small size of rooftop units (visible on aerial imagery) and setback distance to the subject site, no significant noise impact is expected.
9. **Wilcox Door Services Inc. (1045 Rangeview Road)**
   - Industrial door supplier
   - Main noise source is anticipated to be activities at the rear loading area
   - Due to the location of the loading area (on the opposite side of the building to the site), distance separation and screening by the intervening building, no significant noise impact is expected.
10. **Gaspard and Sons Ontario (1035 Rangeview Road)**
    - Graduation cap and gown store
    - Main noise sources are anticipated to be rooftop HVAC units and activities at the rear loading area.

- Due to the small size of the HVAC unit (visible on aerial imagery), location of the loading area (on the opposite side of the building to the site), distance separation and screening by the intervening building, no significant noise impact is expected.

11. **Aqua Force Power Clean Inc., Transatlas Moving Services (1025 Rangeview Road) – Facilities names are from address search. No signs visible.**
    - Aqua Force Power Clear – Cleaning services to commercial kitchens
    - Transatlas – Moving company
    - Main noise sources are anticipated to be rooftop HVAC units and activities at the rear loading area.
    - Due to the small size of the HVAC unit (visible on aerial imagery), location of the loading area (on the opposite side of the building to the site), distance separation and screening by the intervening building, no significant noise impact is expected.
12. **Toronto Fabricating and Mfg. Co. (1021 Rangeview Road)**
    - Outdoor furniture manufacturer
    - Main noise sources are anticipated to be rooftop HVAC units and noise from activity inside facility (overhead door on east façade).
    - Due to the small size of the HVAC unit (visible on aerial imagery), location of the overhead door (toward the rear of the building), distance separation and screening by the intervening buildings, no significant noise impact is expected.
13. **City Marine (983 Rangeview Road)**
    - Boat storage facility
    - Main noise sources are anticipated to be rooftop HVAC units and noise from activity inside facility (overhead doors on east and west façades).
    - Due to distance separation, location of the overhead doors and screening by intervening buildings, no significant noise impact is expected.
14. **Allegion (1076 Lakeshore Road East)**
    - Security system supplier
    - Main noise sources are anticipated to be rooftop HVAC units, exhaust fans and activities at the loading area at east side of building.
    - Facility was included in the assessment
15. **ILSCO of Canada (1050 Lakeshore Road East)**
    - Electrical connector manufacturer
    - Main noise sources are anticipated to be rooftop mechanical equipment and dust collector.
    - Due to distance separation, no significant noise impact is expected.
16. **Oasis Convention Centre (1036 Lakeshore Road East)**
    - Convention centre/banquet hall
    - Main noise sources are anticipated to be rooftop HVAC units.
    - Due to distance separation, no significant noise impact is expected.
17. **A.J. Lanzarotta Wholesale Fruit and Vegetable Ltd. (1000 Lakeshore Road East)**
    - Produce wholesaler
    - Main noise sources are anticipated to be rooftop HVAC units and activities at loading areas on west facade.
    - Due to distance separation and screening by the intervening buildings, no significant noise impact is expected.
18. **Interior Manufacturing Group (974 Lakeshore Road East)**
    - Head office/wood plant
    - Main noise sources are anticipated to be rooftop HVAC units, dust and activities at the loading area at the east side of the building.
19. Due to distance separation and screening by the intervening buildings, no significant noise impact is expected.
    National Bait Inc. (946 Lakeshore Road East)
    - Bait and tackle shop

- Main noise sources are anticipated to be the rooftop HVAC units and activities at the loading areas on the west façade.
- Due to distance separation and screening by the intervening buildings, no significant noise impact is expected.

Neighbouring Industries to the Northeast and East

20. **Plasterform Decorative Architectural Systems (1880 Lakeshore Road East)**
    - Architectural castings (part of Armstrong Ceilings and Walls)
    - Main noise sources are anticipated to the rooftop and grade level mechanical equipment.
    - Facility was included in the assessment.
21. **Cintube Ltd. (1200 Lakeshore Road East)**
    - Pipe bending and fabrication
    - Main noise sources are anticipated to be the rooftop HVAC units and activities at the loading area.
    - Due to the distance separation and the orientation of the loading areas (facing north, away from the subject site), no significant noise impact is expected.
22. **Bluebird Self Storage (1230 Lakeshore Road East)**
    - Self storage facility
    - Main noise sources are anticipated to be the rooftop HVAC units and vehicle movements on site.
    - Due to the distance separation, no significant noise impact is expected.
23. **Canadian Food for Children (1258 Lakeshore Road East)**
    - Charity warehouse
    - Main noise sources are anticipated to be the activities at the rear loading docks
    - Due to distance separation and small size of facility, no significant noise impact is expected
24. **McKenna Logistics Centre (1260 Lakeshore Road East)**
    - Truck facility
    - Main noise sources are anticipated to be the rooftop HVAC units and activities at the loading areas.
    - Due to the distance separation and the orientation of the loading docks (on the east façade, the opposite side of the building to the site), no significant noise impact is expected.
25. **Lakeshore Arms Academy (1300 A Lakeshore Road East)**
    - Private gun club
    - Indoor facility that is mostly below grade
    - Due to the activities being indoors, no significant noise impact is expected.
26. **G.E. Booth Lakeview Wastewater Treatment Plant (1300 Lakeshore Road East)**
    - Wastewater treatment facility
    - Noise sources and sound levels taken from the AAR for the facility and the model provided by RWDI.
    - Facility was included in the assessment.

Neighbouring Industries to the Northwest and West

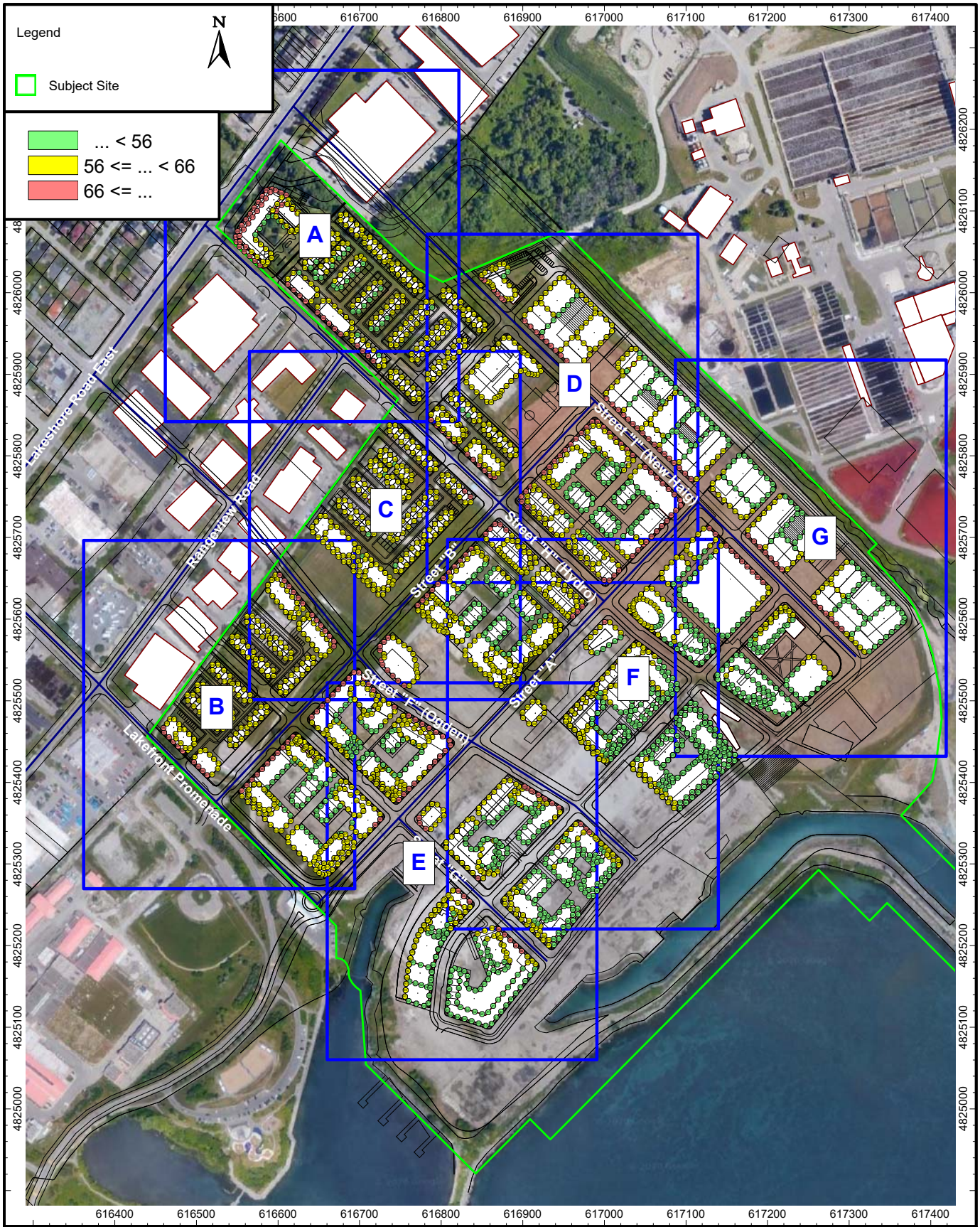
27. **Canada Post (890 Rangeview Road)**
    - Port Credit letter carrier depot
    - Main noise sources are anticipated to be the rooftop HVAC units and vehicle movements on site
    - Due to the distance separation, no significant noise impact is expected.
28. **Filamat (880 Lakeshore Road East)**
    - Fiberglass/composites products manufacturer
    - Main noise sources are anticipated to be the rooftop mechanical equipment, activities in the loading area and activities in the outdoor storage area
    - Due to the distance separation and the orientation of the loading areas (on the west façade, the opposite side of the building to the subject site), no significant noise impact is expected
29. **Interior Manufacturing Group Inc. (850 Rangeview Road)**
    - Metal plant/wood assembly
    - Main noise sources are anticipated to be activities at the rear (south) loading areas.
    - Due to distance separation and screening by intervening buildings, no significant noise impact is expected.
30. **Wonderland Food and Equipment Inc. (930 Lakefront Promenade)**
    - Concession food and equipment supplier
    - Main noise sources are anticipated to be the rooftop HVAC units and activities at the loading areas.
    - Due to distance separation, location on the loading areas (loading dock on the north façade and overhead door at the northeast corner of the building) and screening from intervening buildings, no significant noise impact is expected.
31. **SCA Oplenac Banquet Hall (895 Rangeview Road)**
    - Serbian Cultural Association Banquet Hall
    - Main noise sources are anticipated to be the rooftop HVAC units
    - Due to distance separation, no significant noise impact is expected
32. **Focused on Food, Tech Sox, Minimax Foods (885 Rangeview Road) – From address search. No signs visible.**
    - Focused on Food – Prepared food supplier
    - Tech Sox – unknown
    - Minimax Foods – unknown
    - Main noise source is anticipated to be loading activity at the front (south side) and rear (north side) of the building.
    - Due to distance separation and screening by intervening buildings, no significant noise impact is expected.
33. **C2P (865 Rangeview Road)**
    - Industrial design, engineering and manufacturing company
    - Main noise sources are anticipated to be the rooftop HVAC units and loading activities at the front (south side) of the building.
    - Due to distance separation and screening by intervening buildings, no significant noise impact is expected.
34. **Komandor (863 Rangeview Road)**
    - Closet door manufacturer
    - Main noise sources are anticipated to be the rooftop HVAC units and loading activities at the front (south side) of the building.
    - Due to distance separation and screening by intervening buildings, no significant noise impact is expected.
35. **ProSource Canada Inc. (861 Rangeview Road)**
    - Industrial equipment supplier
    - Main noise sources are anticipated to be the rooftop HVAC units and loading activities at the rear of the building.
    - Due to distance separation and screening by intervening buildings, no significant noise impact is expected.
36. **ABC Fire Door Ltd. (920 Lakeshore Road East)**
    - Metal door and frame manufacturer

- Main noise sources are anticipated to be the rooftop HVAC units and loading activities at the front (east side) of the building.
- Due to distance separation and screening by intervening buildings, no significant noise impact is expected.

37. **Tim Horton's (910 Lakeshore Road East)**
    - Restaurant
    - Main noise sources are anticipated to be the rooftop HVAC units and activities at the drive-thru.
    - Due to distance separation and screening by intervening building, no significant noise impact is expected.
38. **Meaty Meats Inc. (896 Lakeshore Road East)**
    - Meat supplier
    - Main noise sources are anticipated to be the rooftop HVAC units and condensers and activities at the loading areas at the front of the building.
    - Due to distance separation and the orientation the loading area (on the opposite side of the building to the site), no significant noise impact is expected.
39. **Chantler Packaging Inc. (880 Lakeshore Road East)**
    - Flexible packaging manufacturer
    - Main noise sources are anticipated to be the rooftop HVAC units, exhaust fans and truck activity on site.
    - Due to the distance separation and screening from intervening buildings, no significant noise impact is expected.
40. **VCA Lakeshore Animal Hospital (872 Lakeshore Road East), Stonehooker Brewing Co. (866 Lakeshore Road East), Triton Sails (864 Lakeshore Road East), The Wine Butler (860 Lakeshore Road East), Wood Studio (852 Lakeshore Road East), Canadian Rooter (848 Lakeshore Road East)**
    - Various small businesses
    - Main noise sources are anticipated to be the rooftop HVAC units and activities at the rear (south side) loading areas.
    - Due to distance separation and screening by intervening buildings, no significant noise impact is expected.
41. **Lakefront Graphix Technology (832 Lakeshore Road East)**
    - Sign manufacturer
    - Main noise sources are anticipated to be the rooftop HVAC units and activities at the rear (south side) loading areas.
    - Due to distance separation and screening by intervening buildings, no significant noise impact is expected.
42. **Park Maintenance Compound (725 Lakefront Promenade)**
    - City of Mississauga park maintenance facility
    - Main noise source is anticipated to be vehicle movements on site
    - Due to distance separation and partial screening by the building itself, no significant noise impact is expected.
43. **Lakeview Water Treatment Plan (920 East Avenue)**
    - Peel Region water treatment plant
    - Ortech report states that Lakeview WTP has emergency generators that comply with MOE limits. No other significant noise sources.

APPENDIX D

TRANSPORTATION SOURCE ASSESSMENT DETAILS



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Predicted Sound Levels due to Road and Rail Traffic (dBA)	Date: Oct. 21, 2020	Figure: D1
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterplan2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

Legend

... < 56

56 <= ... < 66

66 <= ...

N

Daytime (0700-2300) Building Evaluations

Nighttime (2300-0700) Building Evaluations

616500 616550 616600 616650 616700 616750 616800

4826250 4826200 4826150 4826100 4826050 4826000 4825950 4825900

VALCOUSTICS
Canada Ltd.
consulting acoustical engineers

Title	Predicted Sound Levels due to Road and Rail Traffic - Area A
Project Name	Lakeview Village
Date	Oct. 21, 2020
Project No.	120-0302
Figure	D1-A

J:\2020\120302\000\Analysis\Cadna\2020-10-06 With current masterplan2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

Legend

... < 56

56 <= ... < 66

66 <= ...

N

Daytime (0700-2300) Building Evaluations

Nighttime (2300-0700) Building Evaluations

Rang

Lakefront Promenade

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Predicted Sound Levels due to Road and Rail Traffic - Area B
Project Name	Lakeview Village
Date	Oct. 21, 2020
Project No.	120-0302
Figure	D1-B

J:\2020\120302\000\Analysis\Cadna\2020-10-06 With current masterplan\2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

Legend

N

... < 56

56 <= ... < 66

66 <= ...

Daytime (0700-2300) Building Evaluations

Nighttime (2300-0700) Building Evaluations

616600 616650 616700 616750 616800 616850

4825900 4825850 4825800 4825750 4825700 4825650 4825600 4825550

Street "B"

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Predicted Sound Levels due to Road and Rail Traffic - Area C		Date: Oct. 21, 2020	Figure: D1-C
Project Name: Lakeview Village		Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterplar2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

Legend

N

... < 56

56 <= ... < 66

66 <= ...

Daytime (0700-2300) Building Evaluations

Nighttime (2300-0700) Building Evaluations

616800 616850 616900 616950 617000 617050 617100

4826050 4826000 4825950 4825900 4825850 4825800 4825750 4825700

Street "H"

Street "I" (New Haig)

Street "B"

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Predicted Sound Levels due to Road and Rail Traffic - Area D	Date: Oct. 21, 2020
Project Name: Lakeview Village	Project No.: 120-0302
	Figure: **D1-D**

J:\2020\120302\000\Analysis\Cadna\2020-10-06 With current masterplai2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

Legend

N

... < 56

56 <= ... < 66

66 <= ...

Daytime (0700-2300) Building Evaluations

Nighttime (2300-0700) Building Evaluations

616650 616700 616750 616800 616850 616900 616950 617000

4825500 4825450 4825400 4825350 4825300 4825250 4825200 4825150 4825100

Street "F" (Ogden)

Street "G"

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Predicted Sound Levels due to Road and Rail Traffic - Area E	Oct. 21, 2020	D1-E
Project Name	Project No.	
Lakeview Village	120-0302	

J:\2020\120302\000\Analysis\Cadna\2020-10-06 With current masterplan\2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

Legend

N

... < 56

56 <= ... < 66

66 <= ...

Daytime (0700-2300) Building Evaluations

Nighttime (2300-0700) Building Evaluations

616800 616850 616900 616950 617000 617050 617100 617150

4825650 4825600 4825550 4825500 4825450 4825400 4825350 4825300

Street "H" (Hydro)

Street "B"

Street "A"

Street "G" (Ogden)

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Predicted Sound Levels due to Road and Rail Traffic - Area F		Date: Oct. 21, 2020	Figure: D1-F
Project Name: Lakeview Village		Project No.: 120-0302	

J:\2020\120302\000\Analysis\Cadna\2020-10-06 With current masterplan\2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

Legend

... < 56

56 <= ... < 66

66 <= ...

N

Daytime (0700-2300) Building Evaluations

Nighttime (2300-0700) Building Evaluations

617100 617150 617200 617250 617300 617350 617400

4825900 4825850 4825800 4825750 4825700 4825650 4825600 4825550 4825500

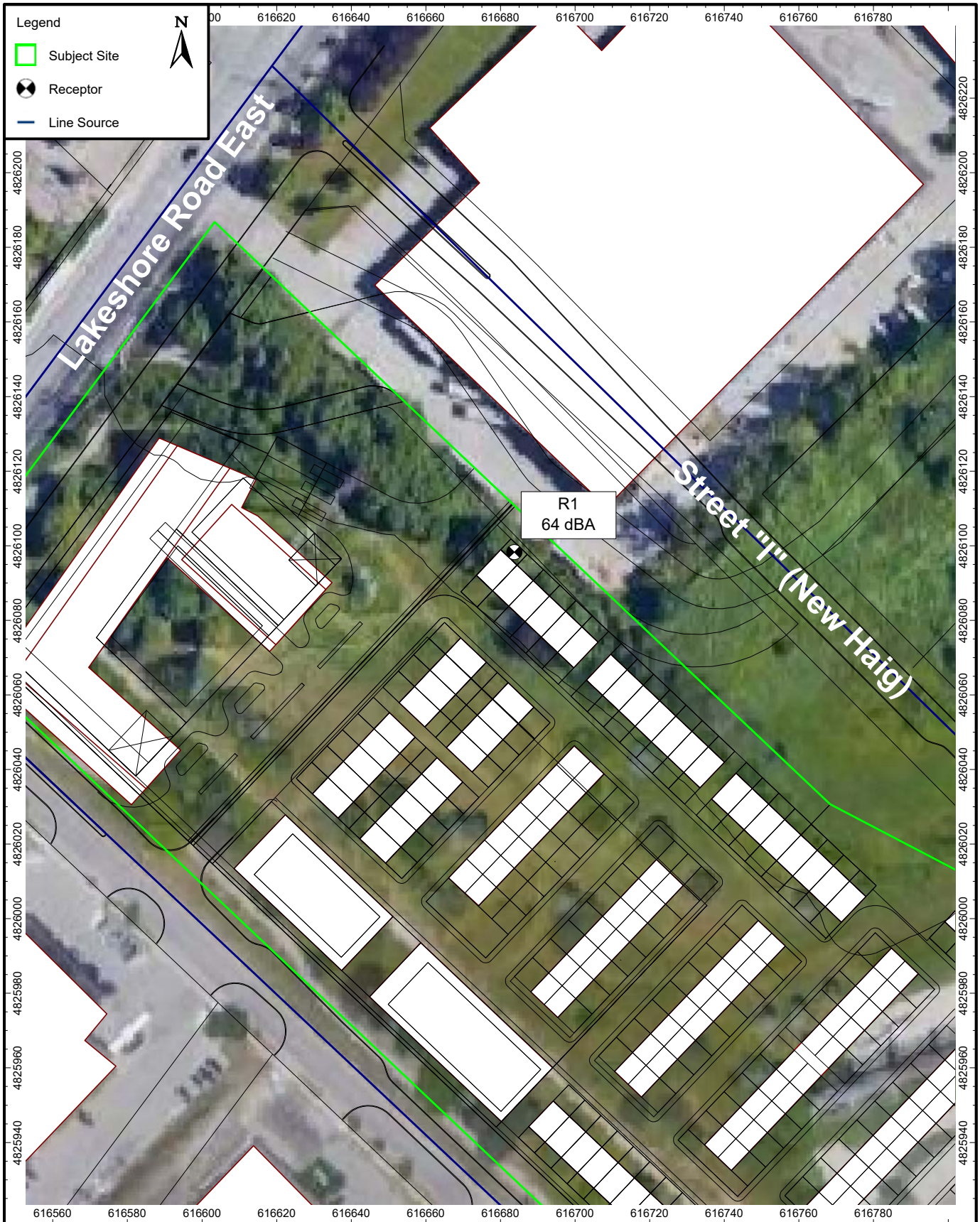
New Haig

VALCOUSTICS
Canada Ltd.
consulting acoustical engineers

Title: Predicted Sound Levels due to Road and Rail Traffic - Area G	Date: Oct. 21, 2020	Figure: D1-G
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\120302\000\Analysis\Cadna\2020-10-06 With current masterplan\2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:26.11.20

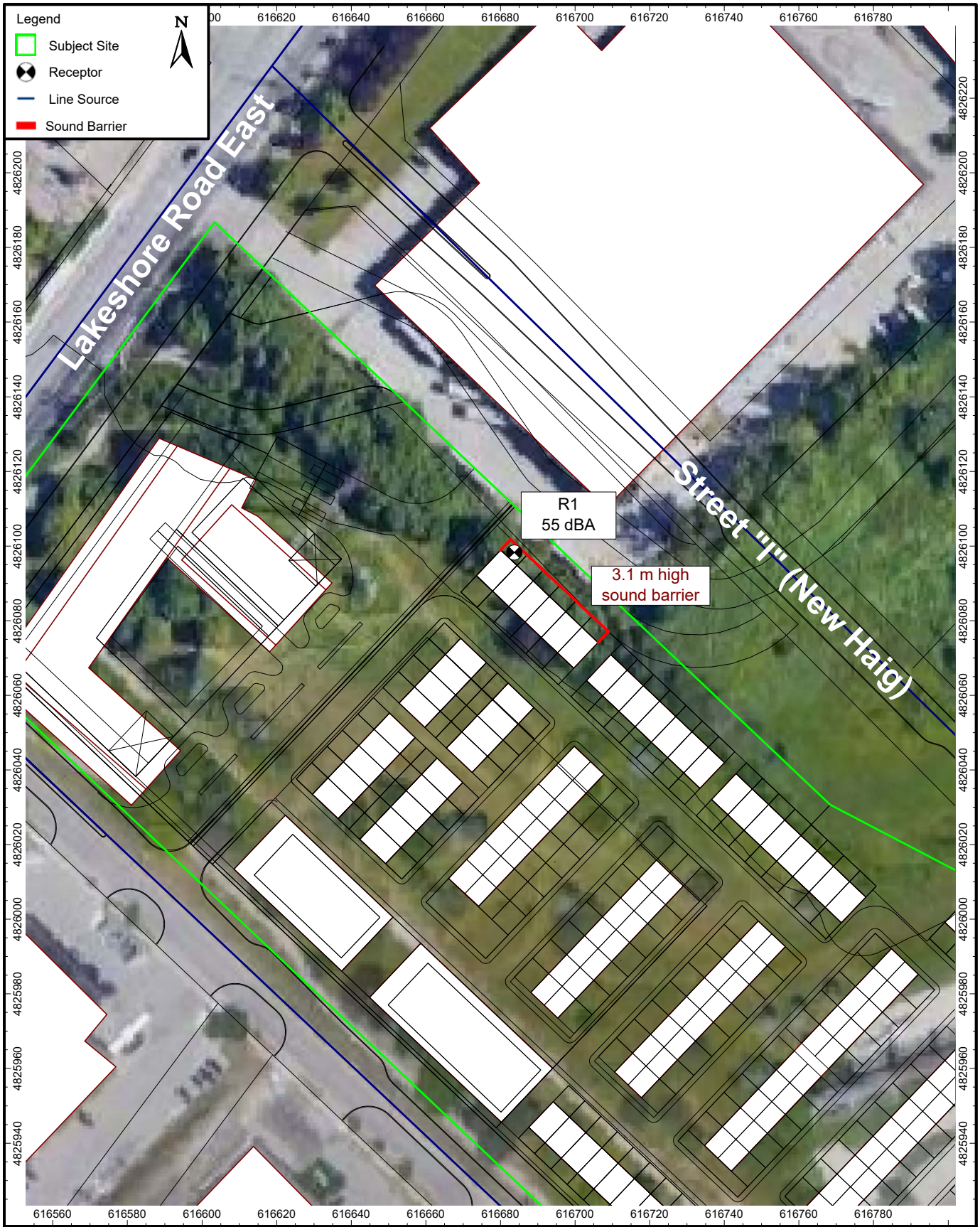


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Unmitigated Daytime OLA Sound Level (dBA)	Oct. 21, 2020	D2-A
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - traffic sound barriers.cna

Date Plotted:23.10.20

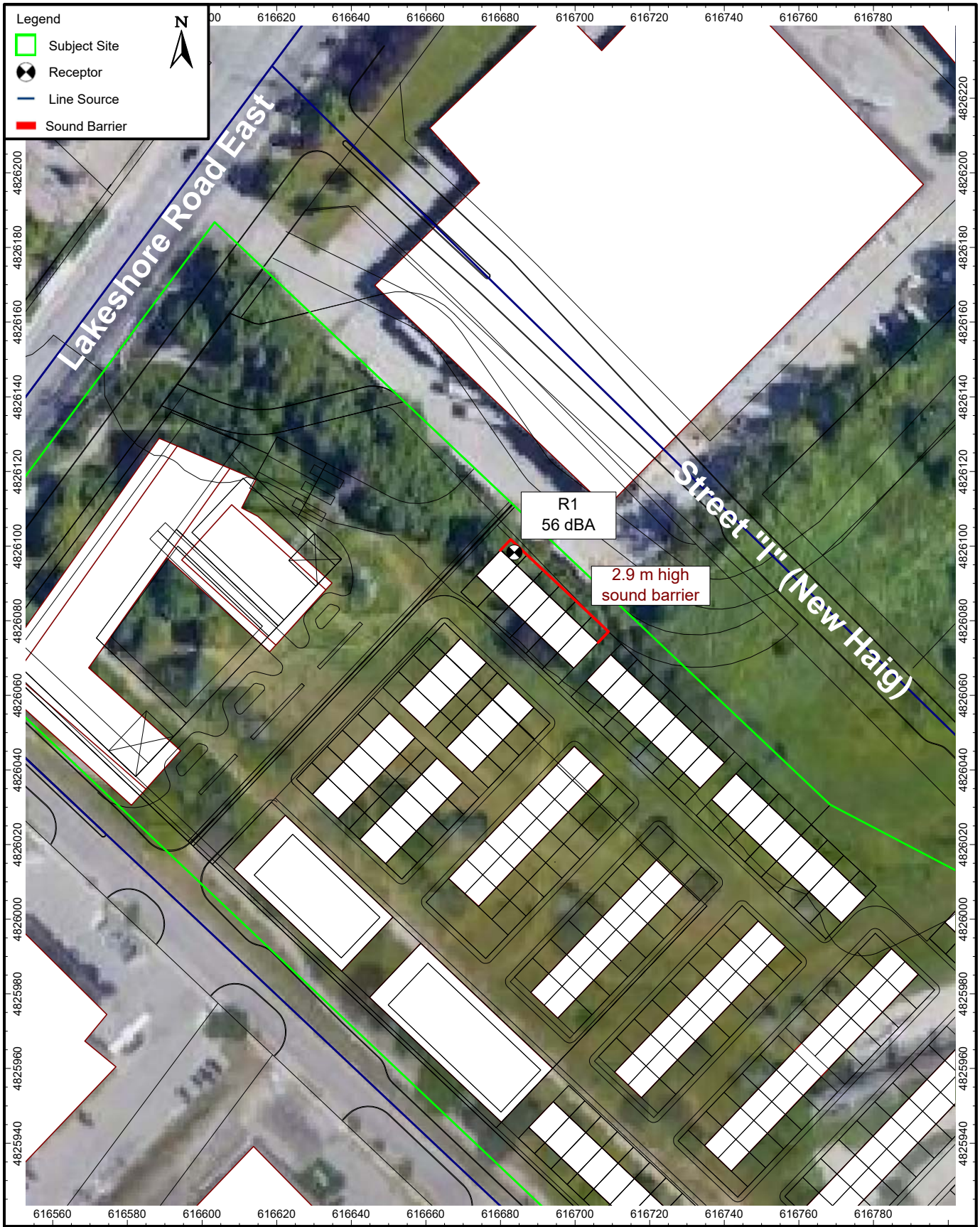


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Sound Barrier Height to meet 55 dBA	Oct. 21, 2020	D2-B
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - traffic sound barriers.cna

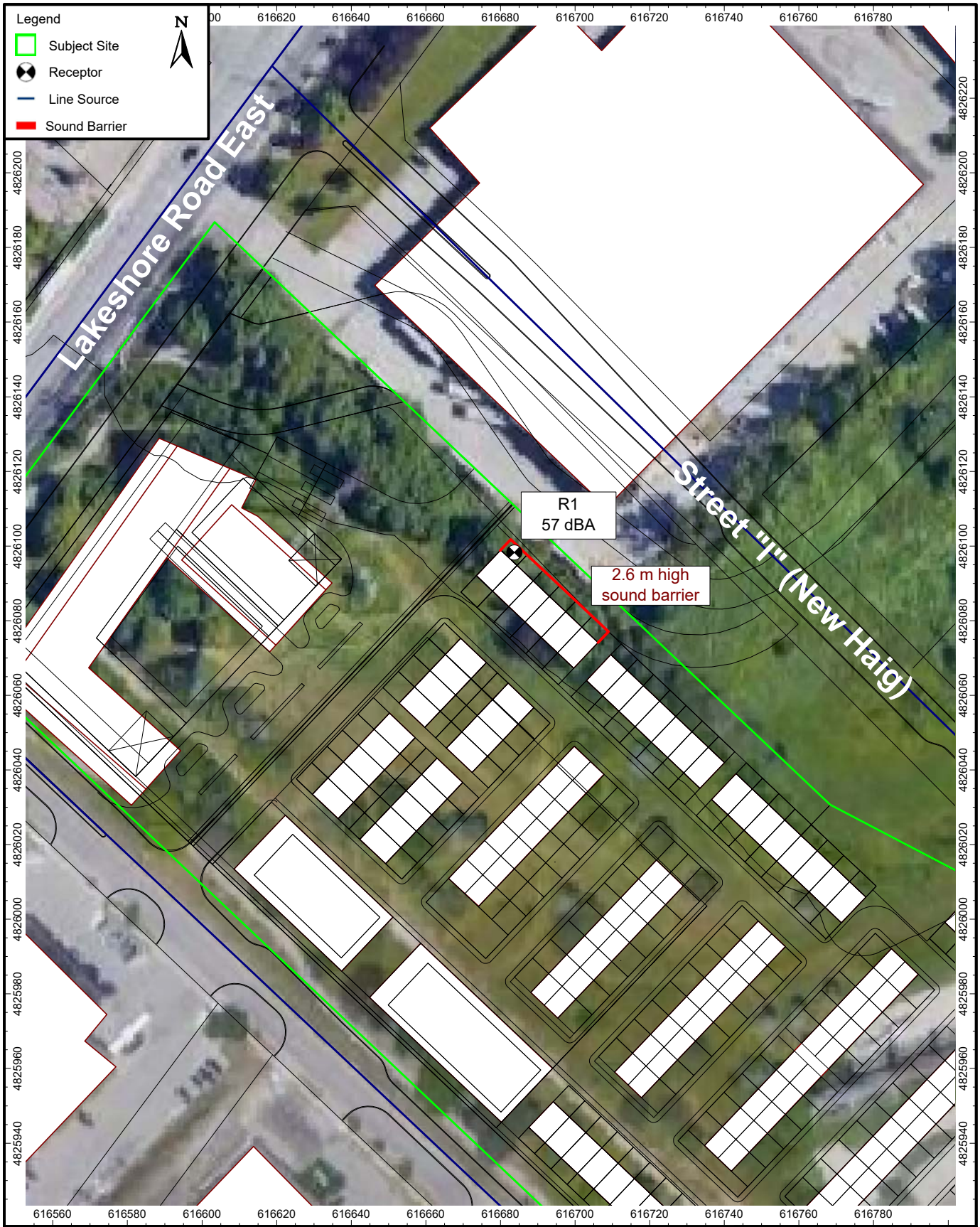
Date Plotted:23.10.20



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Sound Barrier Height to meet 56 dBA	Date: Oct. 21, 2020	Figure: D2-C
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - traffic sound barriers.cna

Date Plotted:23.10.20

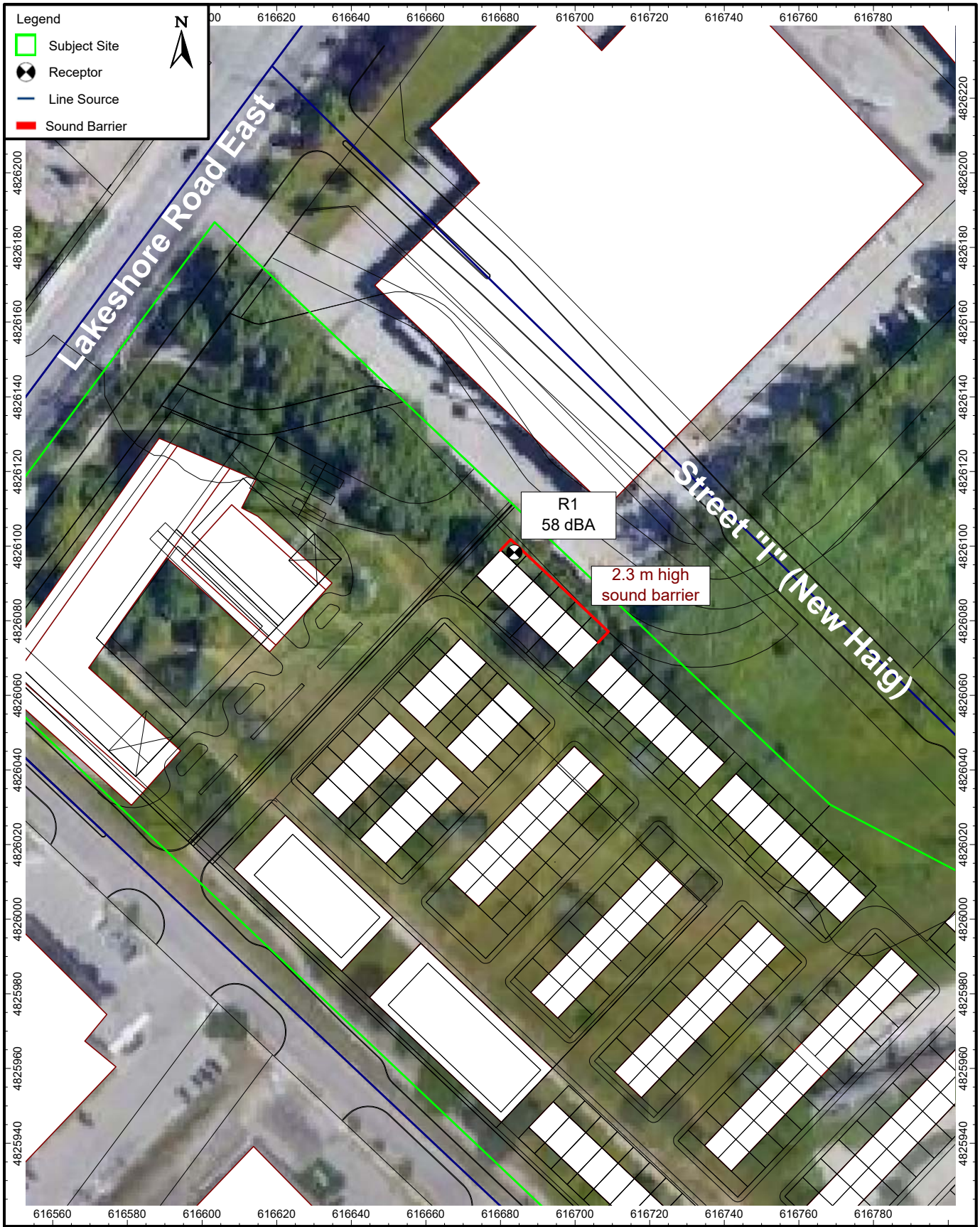


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Sound Barrier Height to meet 57 dBA	Oct. 21, 2020	D2-D
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - traffic sound barriers.cna

Date Plotted:23.10.20

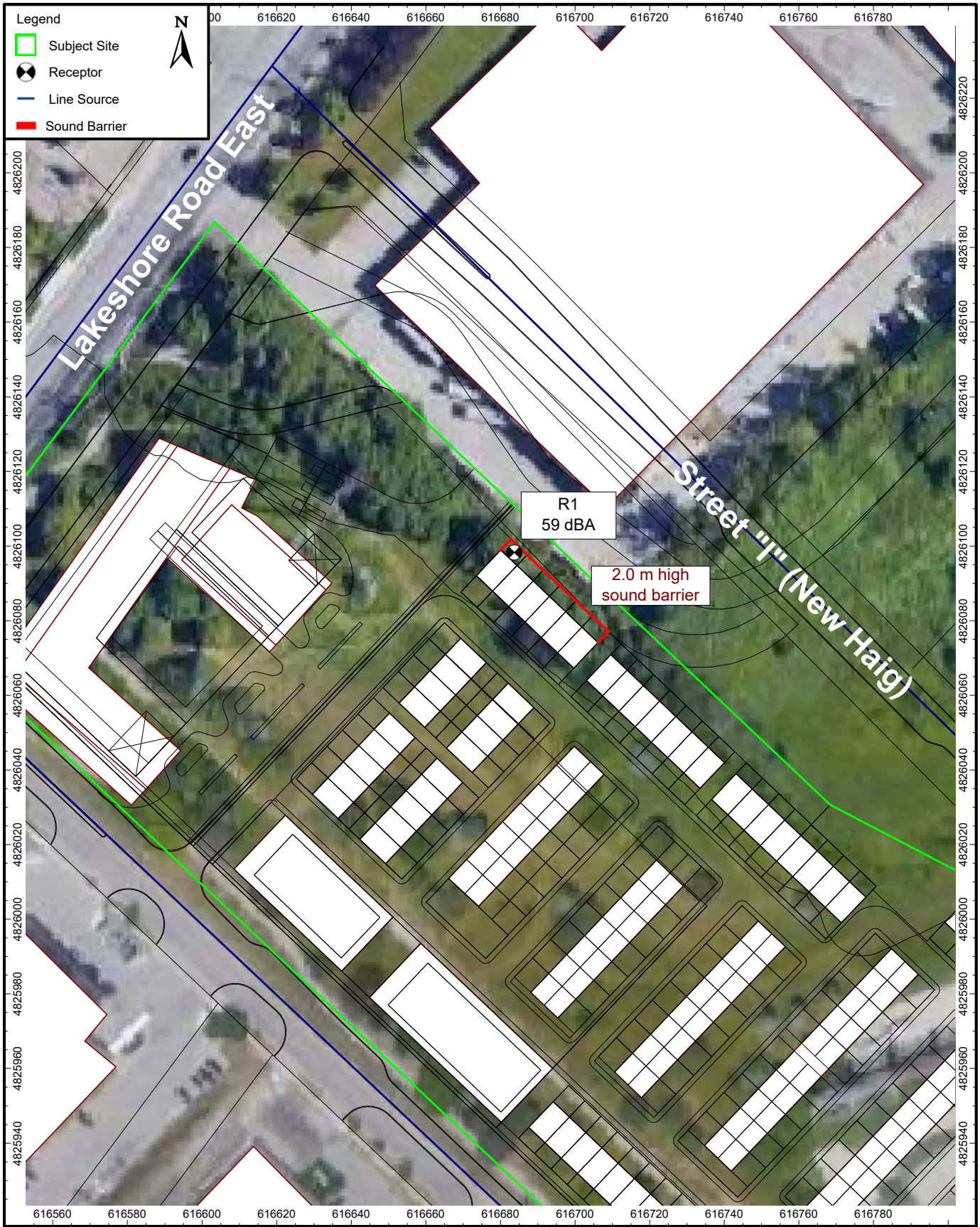


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Sound Barrier Height to meet 58 dBA	Oct. 21, 2020	D2-E
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - traffic sound barriers.cna

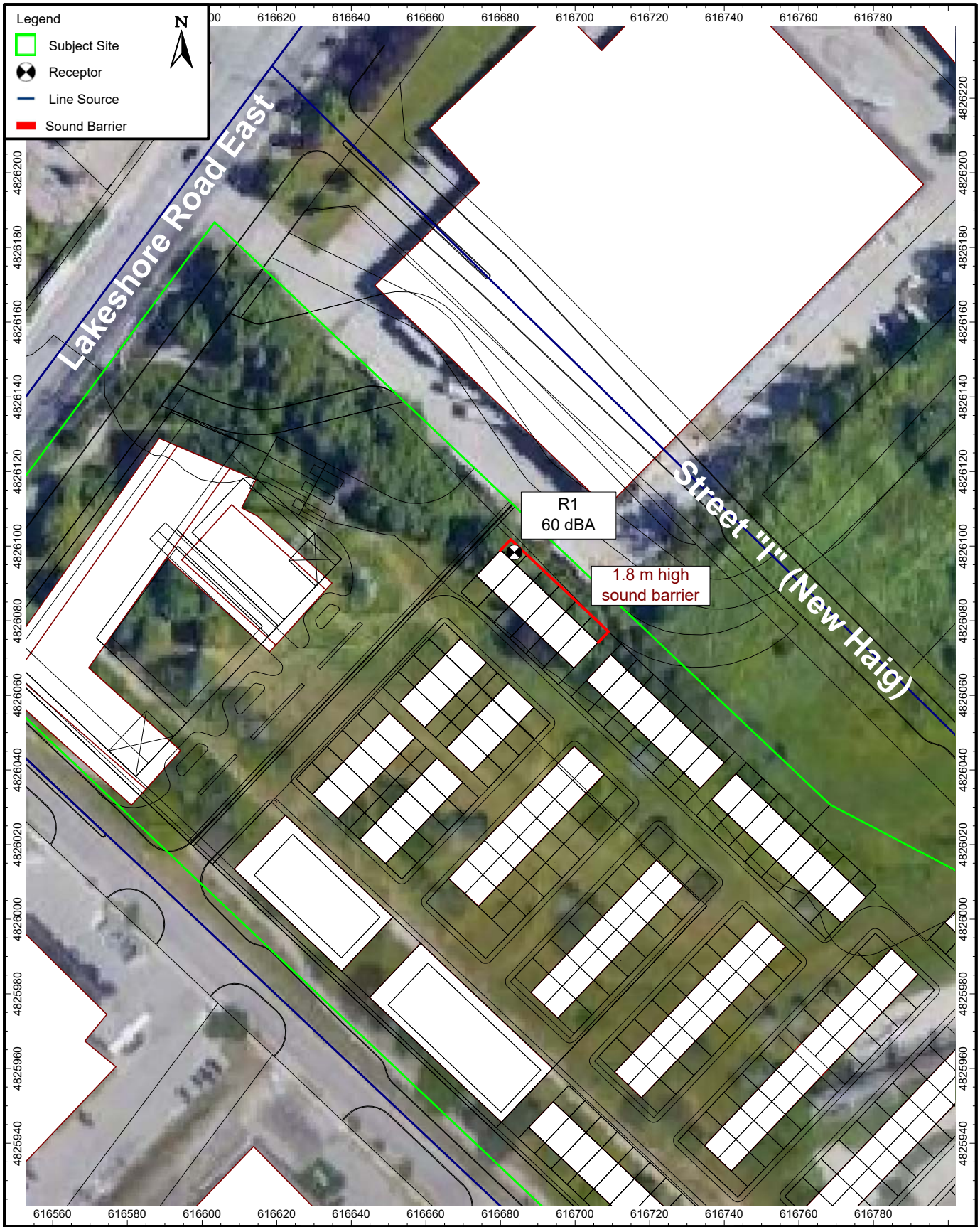
Date Plotted:23.10.20



VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Sound Barrier Height to meet 59 dBA	Date: Oct. 21, 2020	Figure: D2-F
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - traffic sound barriers.cna

Date Plotted:23.10.20



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Sound Barrier Height to meet 60 dBA	Oct. 21, 2020	D2-G
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site - traffic sound barriers.cna

Date Plotted:23.10.20

APPENDIX E

STATIONARY SOURCE ASSESSMENT DETAILS

TABLE 1: NOISE SOURCES AT GE BOOTH[1]

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[5]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
Non-Emergency Sources					
WWTP_BB_AI1	Blower Building Air Intake1	82.7[4]	6	60	60
WWTP_BB_AI2	Blower Building Air Intake2	86.4[4]	6	60	60
WWTP_BB_AI2	Blower Building Air Intake2	86.4	6	60	60
WWTP_BB_AI3	Blower Building Air Intake3	86.4[4]	6	60	60
WWTP_BB_AI3	Blower Building Air Intake3	86.4	6	60	60
WWTP_BB_AI4	Blower Building Air Intake4	86.4[4]	6	60	60
WWTP_BB_AI5	Blower Building Air Intake5	86.4[4]	6	60	60
WWTP_BB_OD	Blower Building Overhead Door	86.4[4]	2	60	60
WWTP_BB_OD	Blower Building Overhead Door	86.4	2	60	60
WWTP_BF_L1	Biofilter Building Louvre 1	78.8[4]	2	60	60
WWTP_BF_L1	Biofilter Building Louvre 1	74.9	2[6]	60	60
WWTP_BF_L2	Biofilter Building Louvre 2	74.9[4]	2	60	60
WWTP_BF_L2	Biofilter Building Louvre 2	74.9[4]	2	60	60
WWTP_CB_CU1	Condenser 1 - Centrifuge Building	84.1	29.8	60	60
WWTP_CB_MAU1	Makeup Air Unit 1 - Centrifuge Building	89.3	29.8	60	60
WWTP_CB_MAU2	Makeup Air Unit 2 - Centrifuge Building	89.3	30.1	60	60
WWTP_FC TB	Ferrous Chloride Truck Blower	100.4	0.5	60	0
WWTP_FC TEI	Sodium Hypochlorite Truck Engine Idling	109.6	1	60	0
WWTP_FCB_OD	Ferrous Chloride Building Open Door	81.2[4]	1	60	60
WWTP_HW_CUS1	Headworks Carbon Unit Stack 1	88.2	16.8	60	60
WWTP_HW CUS 1	Headworks Carbon Unit Stack 1	88.2	16.8	60	60
WWTP_HW_CUS2	Headworks Carbon Unit Stack 2	88.2	16.8	60	60
WWTP_HW CUS 2	Headworks Carbon Unit Stack 2	88.2	16.8	60	60
WWTP_HW_EF1	Headworks Exhaust Fan 1	86.7[3]	12.3	60	60
WWTP_HW EF1	Headworks Exhaust Fan 1	86.7[3]	12.3	60	60
WWTP_HW_EF2	Headworks Exhaust Fan 2	95.4	12.3	60	60
WWTP_HW EF2	Headworks Exhaust Fan 2	95.4	12.3	60	60
WWTP_HW EF3	Headworks Exhaust Fan 3	93.3	15.3	60	60
WWTP_HW EF4	Headworks Exhaust Fan 4	93.3	15.3	60	60
WWTP_HW_EF5	Headworks Exhaust Fan 5	97[4]	2.5[6]	60	60
WWTP_OUB_CUS1	Odour Unit Building Carbon Unit Stack 1	88	13	60	60
WWTP_OUB_CUS2	Odour Unit Building Carbon Unit Stack 2	88	13	60	60
WWTP_OUB_CUS2	Odour Unit Building Carbon Unit Stack 2	88	13	60	60
WWTP_PO_TB	Polymer Truck Blower	100.8	0.75	30	0
WWTP_PO_TEI	Polymer Truck Engine Idling	96.4	1	30	0
WWTP_SH_OD1	Solids Handling Overhead Door 1	99	3[6]	60	60
WWTP_SH_OD2	Solids Handling Overhead Door 2	99	3[6]	60	60
WWTP_SH_TB	Sodium Hypochlorite Truck Blower	102.8	0.5	60	0
WWTP_SH_TEI	Sodium Hypochlorite Truck Engine Idling	100.4	1[6]	60	0
WWTP_SHCB_EF1	Exhaust Fan 1 Solids Handling/Centrifuge Building	82	29.8	60	60
WWTP_TOX_B1	Boiler Exhaust 1	85	32.6	60	60

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[5]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
WWTP_TOX_B2	Boiler Exhaust 2	85	32.6	60	60
WWTP_TOX_B2	Boiler Exhaust 2	85	32.6	60	60
WWTP_TOX_B3	Boiler Exhaust 3	85	32.6	60	60
WWTP_TOX_B4	Boiler Exhaust 4	85	32.6	60	60
WWTP_TOX_BE	TOX HVAC & Fluidized Air Blower Exhaust	82.5[3] [4]	4	60	60
WWTP_TOX1_2EF1	TOX1&2 Exhaust Fan 1	72[3]	23.5	60	60
WWTP_TOX1_2EF2	TOX1&2 Exhaust Fan 2	72[3]	23.5	60	60
WWTP_TOX1_2EF3	TOX1&2 Exhaust Fan 3	72[3]	23.5	60	60
WWTP_TOX1_2EF4	TOX1&2 Exhaust Fan 4	72[3]	23.5	60	60
WWTP_TOX1_2EF5	TOX1&2 Exhaust Fan 5	72[3]	23.5	60	60
WWTP_TOX1_2EF6	TOX1&2 Exhaust Fan 6	72[3]	26.4	60	60
WWTP_TOX1_2EF6	TOX1&2 Exhaust Fan 6	72[3]	26.4	60	60
WWTP_TOX1_2EF7	TOX1&2 Exhaust Fan 7	72[3]	26.4	60	60
WWTP_TOX1_2EF7	TOX1&2 Exhaust Fan 7	72[3] [4]	26.4	60	60
WWTP_TOX1_2EF8	TOX1&2 Exhaust Fan 8	72[3]	26.4	60	60
WWTP_TOX1_2EF8	TOX1&2 Exhaust Fan 8	72[3]	26.4	60	60
WWTP_TOX1_2EF9	TOX1&2 Exhaust Fan 9	72[3]	26.4	60	60
WWTP_TOX1_2EF9	TOX1&2 Exhaust Fan 9	72[3]	26.4	60	60
WWTP_TOX1_Inlet1	TOX1&2 Inlet 1	88[4]	4	60	60
WWTP_TOX1_Inlet2	TOZ1&2 Inlet 2	88[4]	4	60	60
WWTP_TOX1_OD	TOX1&2 Overhead Door	91.7	2.5[6]	60	60
WWTP_TOX2_OD	TOX1&2 Overhead Door	91.7	2.5[6]	60	60
WWTP_TOX3_EF1	TOX3 Exhaust Fan 1	83.7[3]	24.9	60	60
WWTP_TOX3_EF2	TOX3 Exhaust Fan 2	87	25.5	60	60
WWTP_TOX3_EF2	TOX3 Exhaust Fan 2	87	25.5	60	60
WWTP_TOX3_EF3	TOX3 Exhaust Fan 3	73.5[3]	25.5	60	60
WWTP_TOX3_EF4	TOX3 Exhaust Fan 4	90	25.5	60	60
WWTP_TOX3_EF5	TOX3 Exhaust Fan 5	73.5[3]	25.5	60	60
WWTP_TOX3_Inlet1	TOX3 Inlet 1	88	4	60	60
WWTP_TOX3_L1	HVAC Intake Louvre 1 (TOX3)	83.7[3]	7	60	60
WWTP_TOX3_L2	HVAC Intake Louvre 2 (TOX3)	75.9[3]	7	60	60
WWTP_TOX4_EF1	TOX4 Exhaust Fan 1	82.5[3]	24.9	60	60
WWTP_TOX4_EF2	TOX4 Exhaust Fan 2	82.5[3]	24.9	60	60
WWTP_TOX4_EF3	TOX4 Exhaust Fan 3	82.5[3]	24.9	60	60
WWTP_TOX4_L	HVAC Intake Louvre1 (TOX4)	95.3	25.1	60	60
WWTP_TOX4_OD	TOX4 Overhead Door	89.2	8[6]	60	0
WWTP_WGAC	West GAC Odour Control Unit Exhaust	89.4[3] [4]	2.5	60	60
WWTP_ITT	Idling Transport Truck	97	1	60	60
WWT_Trucks	Unloading Truck Passby	97.6	2.5	1 movement	0 movements
WWT_Garbage Truck	Garbage Truck Passby	102.1	2.4	1 movement	0 movements
WWT_PTP	Polymer Blow-Off Delivery Truck Passby	102.1	2.4	1 movement	0 movements
WWT_SRTP	Sludge Receiving Truck Passby	102.1	2.4	1 movement	0 movements
WWT_FCTP	Ferrous Chloride Blow-Off Delivery Truck Passby	102.1	2.4	1 movement	0 movements
WWT_SHTP	Sodium Hypochlorite Blow-Off Delivery Truck Passby	102.1	2.4	1 movement	0 movements
Emergency Sources					
WWTP_HWGenIntake	Headworks Generator Room Intake	92.7	4	60	0

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[5]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
WWTP_HWGenRadExh	Headworks Generator Radiator Exhaust	93.2	4	60	0
WWTP_HWGenStackExh	Headworks Generator Exhaust Stack	87.9	16.8	60	0
WWTP_TCFGenIntake	Thermal Conditioning Facility Generator Room Intake	104.8	2	60	0
WWTP_TCFGenRadExh	Thermal Conditioning Facility Radiator Exhaust	111.6	2.4	60	0

Notes:

(1) Source ID's, source heights, sound power levels and operating times were taken from the Acoustic Assessment Report.
(2) See Figures E1-A to E1-E.
(3) Includes sound reduction from the mitigation measures recommended in the Acoustic Assessment Report.
(4) In the model, a K_0=3 correction was applied.
(5) Source height relative to grade unless otherwise noted.
(6) Source height relative to the top of the roof.

TABLE 2: NOISE SOURCES AT INTERIOR MANUFACTURING GROUP[1]

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[3]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
IMG Truck Idling 1	Truck Idling at Loading Dock	100.9	2.4	2	0
IMG Truck 1	Truck Movements	106.1	2.4	1 movement	0 movements

Notes:

(1) Source ID's, source heights, sound power levels and operating times were assumed.
(2) See Figure E2.
(3) Source height relative to grade.

TABLE 3: NOISE SOURCES AT XTREME TIRE[1]

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[3]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
Xtreme OH Door 1	Tool operation inside repair bay	97	2	30	0
Xtreme OH Door 2	Tool operation inside repair bay	97	2	30	0
Xtreme OH Door 3	Tool operation inside repair bay	97	2	30	0

Notes:

(1) Source ID's, source heights, sound power levels and operating times were assumed.
(2) See Figure E3.
(3) Source height relative to grade.

TABLE 4: NOISE SOURCES AT LONG BRANCH FOUNDRY[1]

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[4]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
Foundry_BayDoor01	Open Bay Door	90.3[3]	2	60	0
Foundry Furnace Dust Collector	Furnace Dust Collector	96	3.6	20	0
Foundry Furnace Exhaust Fan	Furnace Exhaust Fan	85.5	1.7[5]	60	0
Foundry Furnace Exhaust Fan	Furnace Exhaust Fan	101.3	1.7	60	0
Foundry_Trucks_ss	Truck Movements	97.6	3.5	1 movement	0 movements

Notes:

(1) Source ID's, source heights, sound power levels and operating times were taken from ???.
(2) See Figure E4.
(3) In the model, a K_0=3 correction was applied.
(4) Source height relative to grade unless otherwise noted.
(5) Source height relative to the top of the roof.

TABLE 5: NOISE SOURCES AT PLASTERFORM[1]

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[3]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
Plasterform AC 1	Compressor	93	1	60	0
Plasterform AC 2	Compressor	93	1	60	0
Plasterform EF 1	Exhaust Fan	91.8	6.4[4]	60	0
Plasterform EF 2	Exhaust Fan	91.8	6.4[4]	60	0
Plasterform EF 3	Exhaust Fan	91.8	6.4[4]	60	0
Plasterform EF 4	Exhaust Fan	91.8	6.4[4]	60	0
Plasterform EF 5	Exhaust Fan	91.8	6.4[4]	60	0
Plasterform EF 6	Exhaust Fan	91.8	6.4[4]	60	0
Plasterform EF 7	Exhaust Fan	89.6	4.72[4]	60	0
Plasterform EF 8	Exhaust Fan	89.6	4.72[4]	60	0
Plasterform EF 9	Exhaust Fan	89.6	4.72[4]	60	0
Plasterform EF 10	Exhaust Fan	91.8	4.72[4]	60	0
Plasterform EF 11	Exhaust Fan	92.5	5.03[4]	60	0
Plasterform EF 12	Exhaust Fan	92.5	5.03[4]	60	0
Plasterform EF 13	Exhaust Fan	92.5	4.88[4]	60	0
Plasterform EF 14	Baghouse	106.5	6.4	60	0
Plasterform_Truck Loading Bay	Truck Loading	96	2.5	60	0
Plasterform_Trucks	Truck Movements	97.6	3.5	1 movement	0 movements

Notes:

(1) Source ID's, source heights, sound power levels and operating times were taken from Reference 15 and 16.
(2) See Figure E5.
(3) Source height relative to grade unless otherwise noted.
(4) Source height relative to the top of the roof.

TABLE 6: NOISE SOURCES AT CONSTRUCTION SPECIALTIES[1]

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[3]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
CS HVAC 1	HVAC Unit	75.6	1.6	60	30
CS HVAC 2	HVAC Unit	75.6	1.6	60	30
CS HVAC 3	HVAC Unit	75.6	1.6	60	30
CS HVAC 4	HVAC Unit	75.6	1.6	60	30
CS HVAC 5	HVAC Unit	75.6	1.6	60	30
CS HVAC 6	HVAC Unit	75.6	1.6	60	30
CS Int	Paint booth intake	84.5	1.0	30	0
CS Exh	Paint booth exhaust	90.5	2.0	30	0
CS Truck Idling 1	Truck idling at loading dock	100.9	2.4	2	0

Notes:

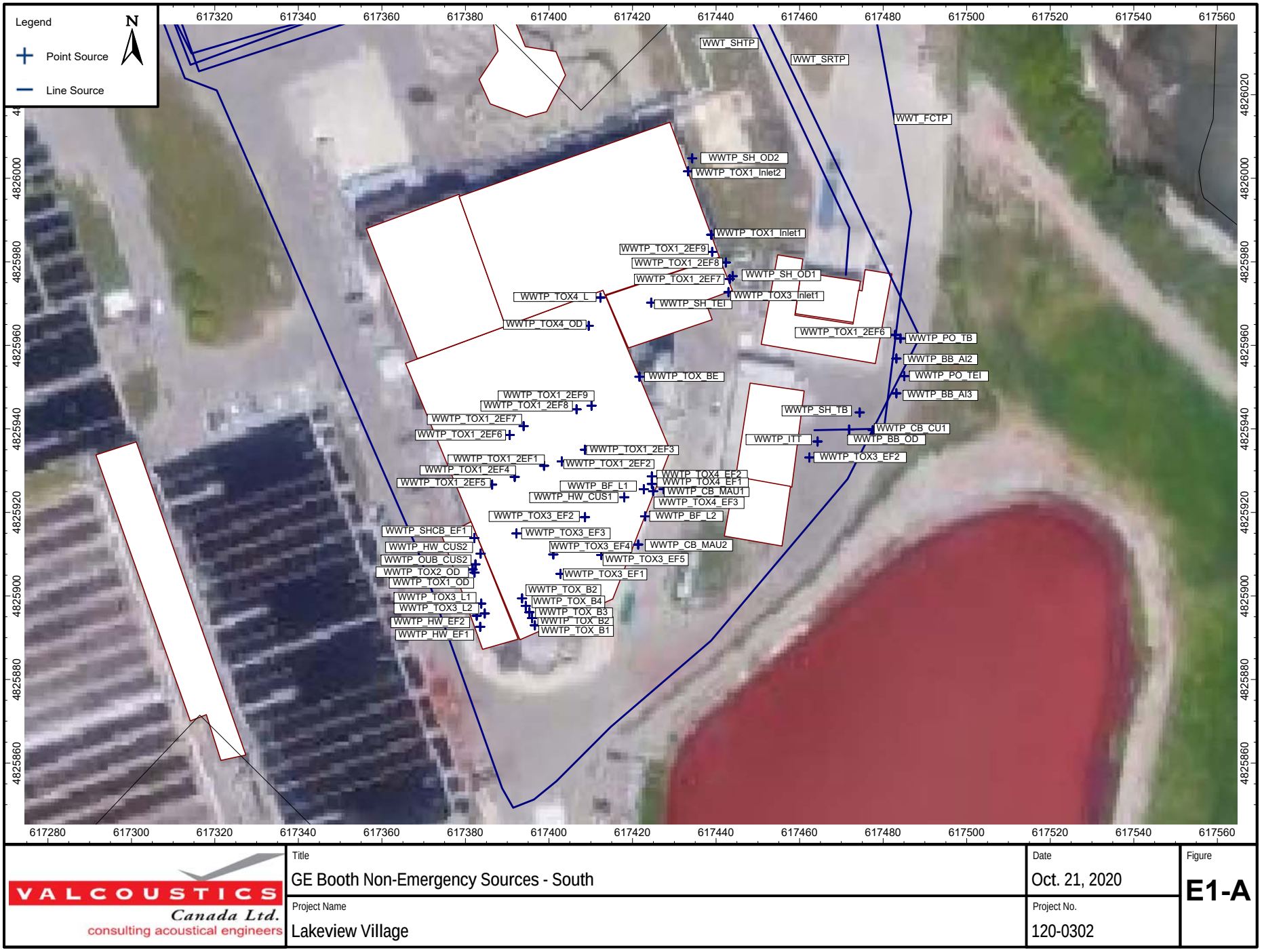
(1) Source ID's, source heights, sound power levels and operating times were assumed.
(2) See Figure E6.
(3) Source height relative to the top of the roof.

TABLE 7: NOISE SOURCES AT ALLEGION[1]

Source ID[2]	Source Description	Sound Power Level (dBA)	Source Height (m)[3]	Operating Time (min/hour) or (movements/hour)	
				Daytime / Evening	Nighttime
Allegion Truck Idling 1	Truck idling at loading dock	100.9	2.4	2	0
Allegion Truck Idling 2	Truck idling at loading dock	100.9	2.4	2	0
Allegion HVAC1	Rooftop HVAC unit	88.3	1.8	60	30
Allegion HVAC2	Rooftop HVAC unit	88.3	1.8	60	30
Allegion HVAC3	Rooftop HVAC unit	88.3	1.8	60	30
Allegion HVAC4	Rooftop HVAC unit	88.3	1.8	60	30
Allegion HVAC5	Rooftop HVAC unit	88.3	1.8	60	30
Allegion HVAC6	Rooftop HVAC unit	88.3	1.8	60	30
Allegion HVAC7	Rooftop HVAC unit	88.3	1.8	60	30
Allegion EF1	Exhaust stack	81.7	1.0	60	0
Allegion EF2	Exhaust stack	81.7	1.0	60	0

Notes:

(1) Source ID's, source heights, sound power levels and operating times were assumed.
(2) See Figure E7.
(3) Source height relative to grade.



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: GE Booth Non-Emergency Sources - South		Date: Oct. 21, 2020	Figure: E1-A
Project Name: Lakeview Village		Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

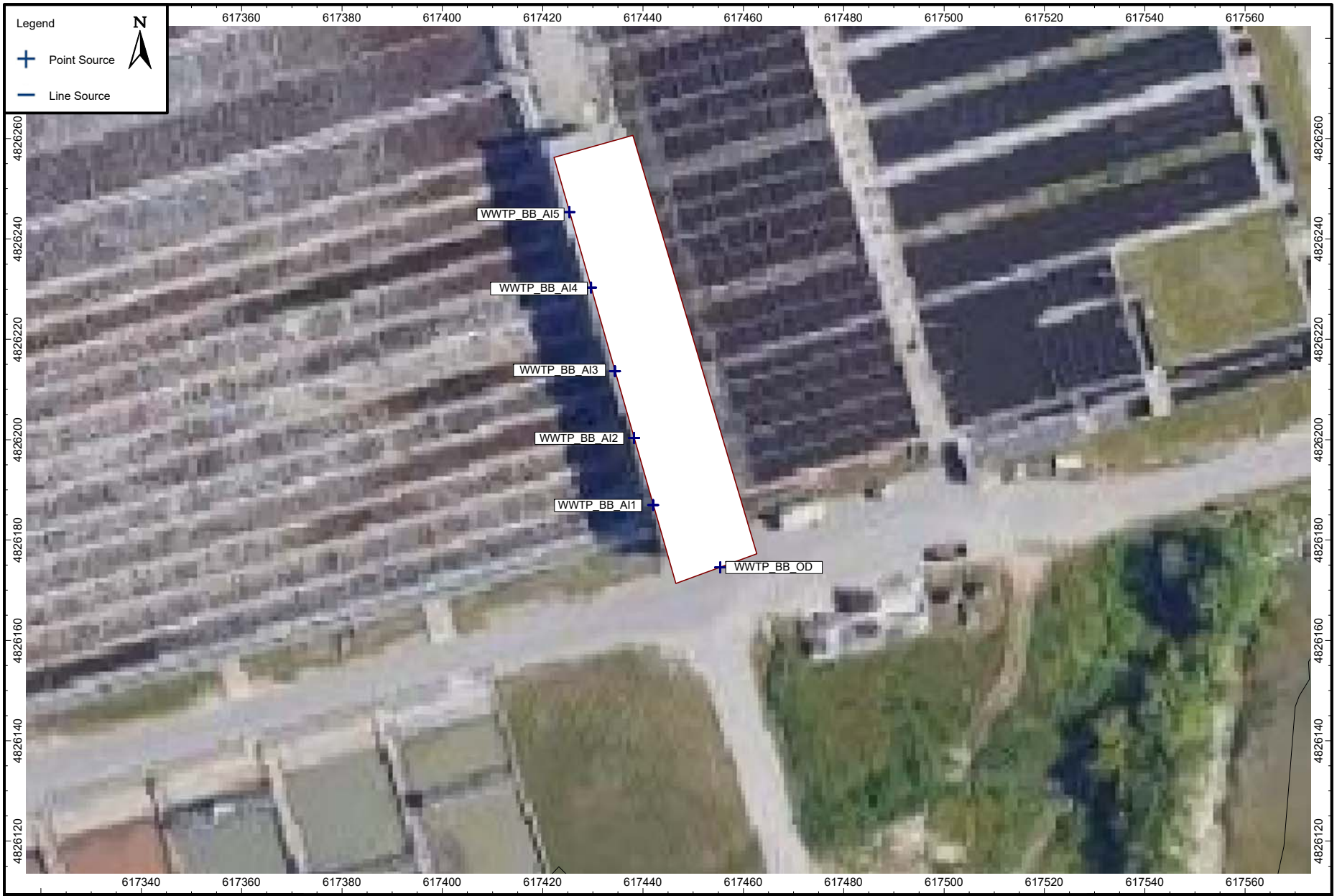
Date Plotted:22.10.20

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: GE Booth Non-Emergency Sources - Northwest	Date: Oct. 21, 2020	Figure: E1-B
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

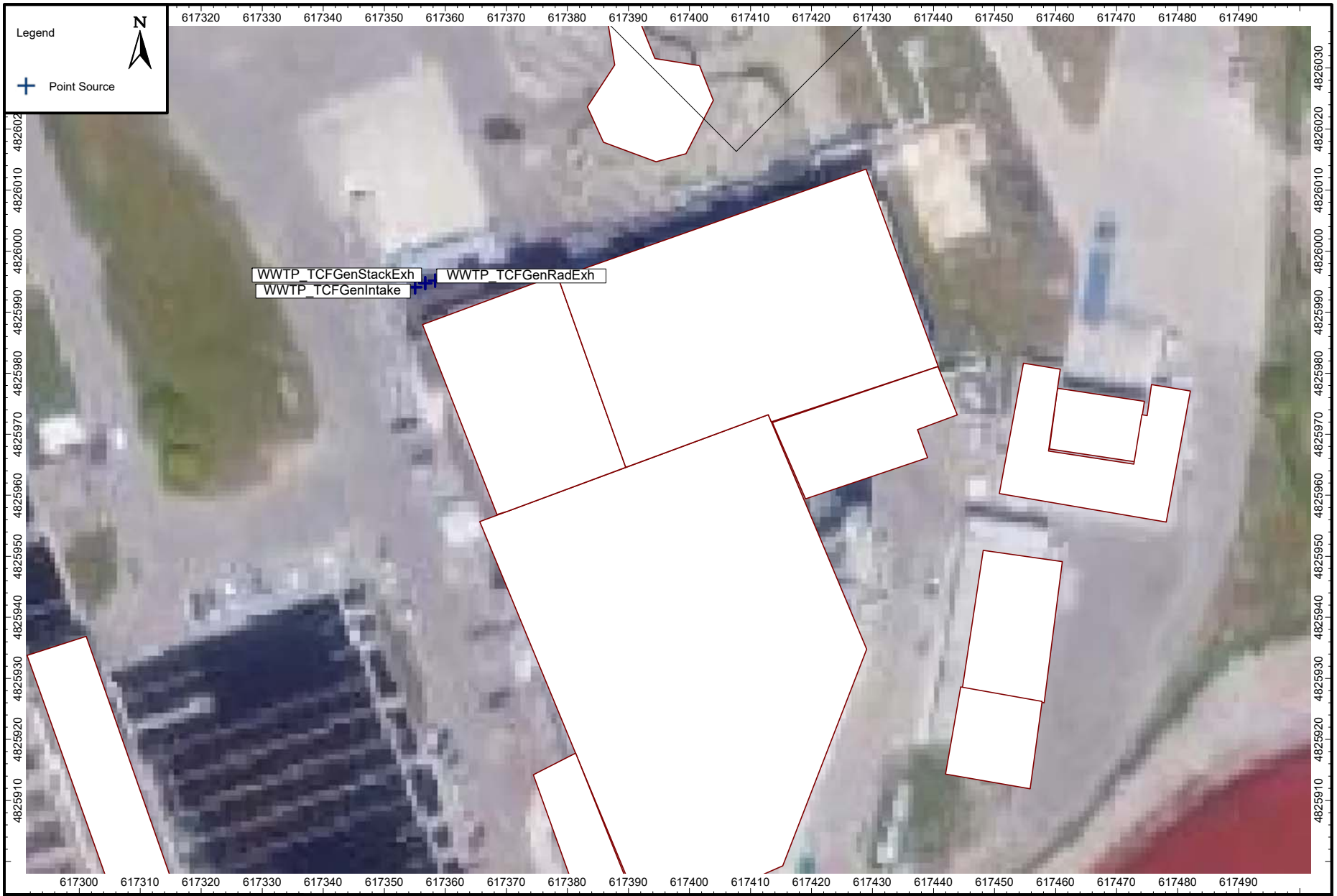


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
GE Booth Non-Emergency Sources - Northeast	Oct. 21, 2020	E1-C
Project Name	Project No.	
Lakeview Village	120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

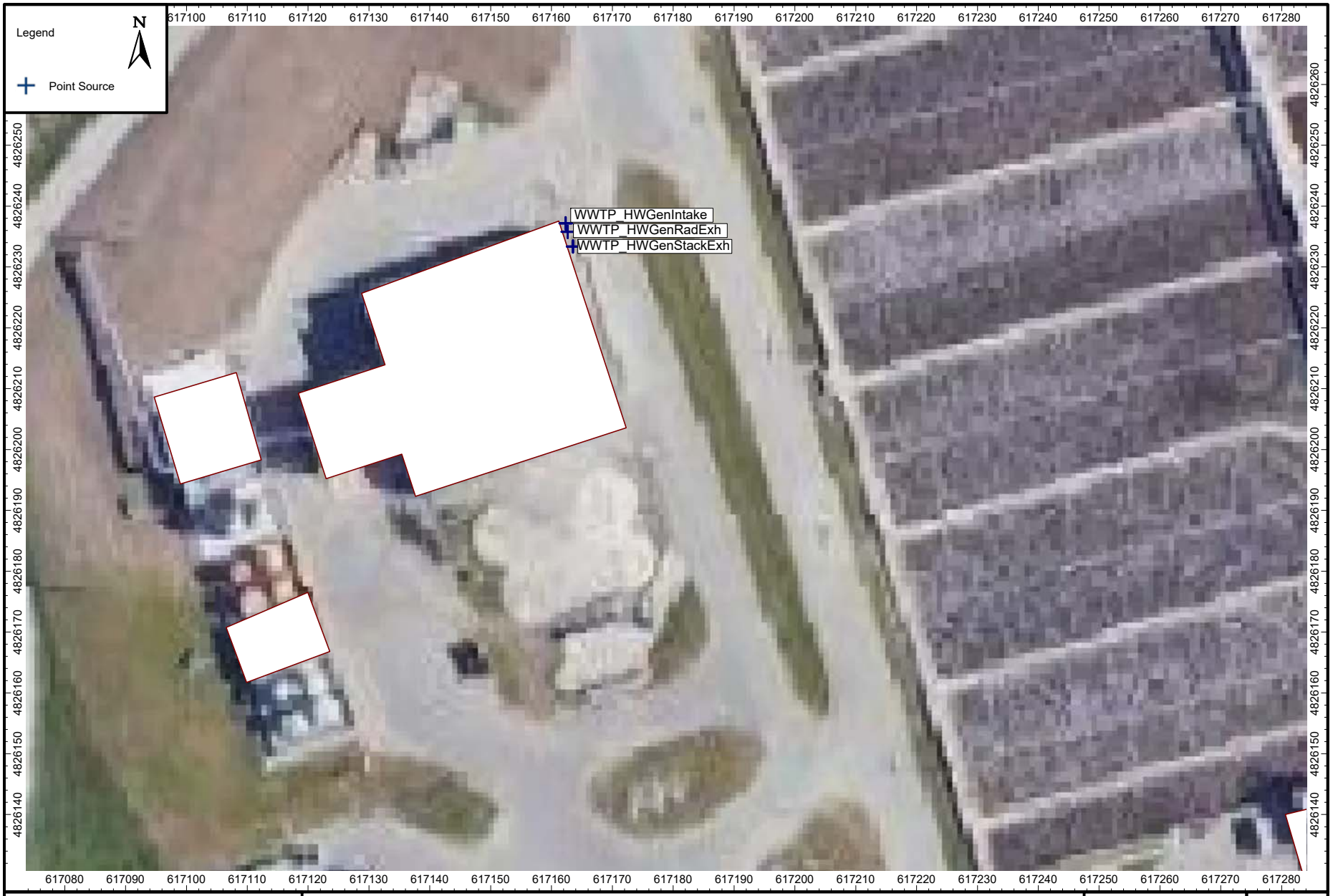


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: GE Booth Emergency Sources - South	Date: Oct. 21, 2020	Figure: E1-D
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: GE Booth Emergency Sources - North	Date: Oct. 21, 2020	Figure: E1-E
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: IMG Sources	Date: Oct. 21, 2020	Figure: E2
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

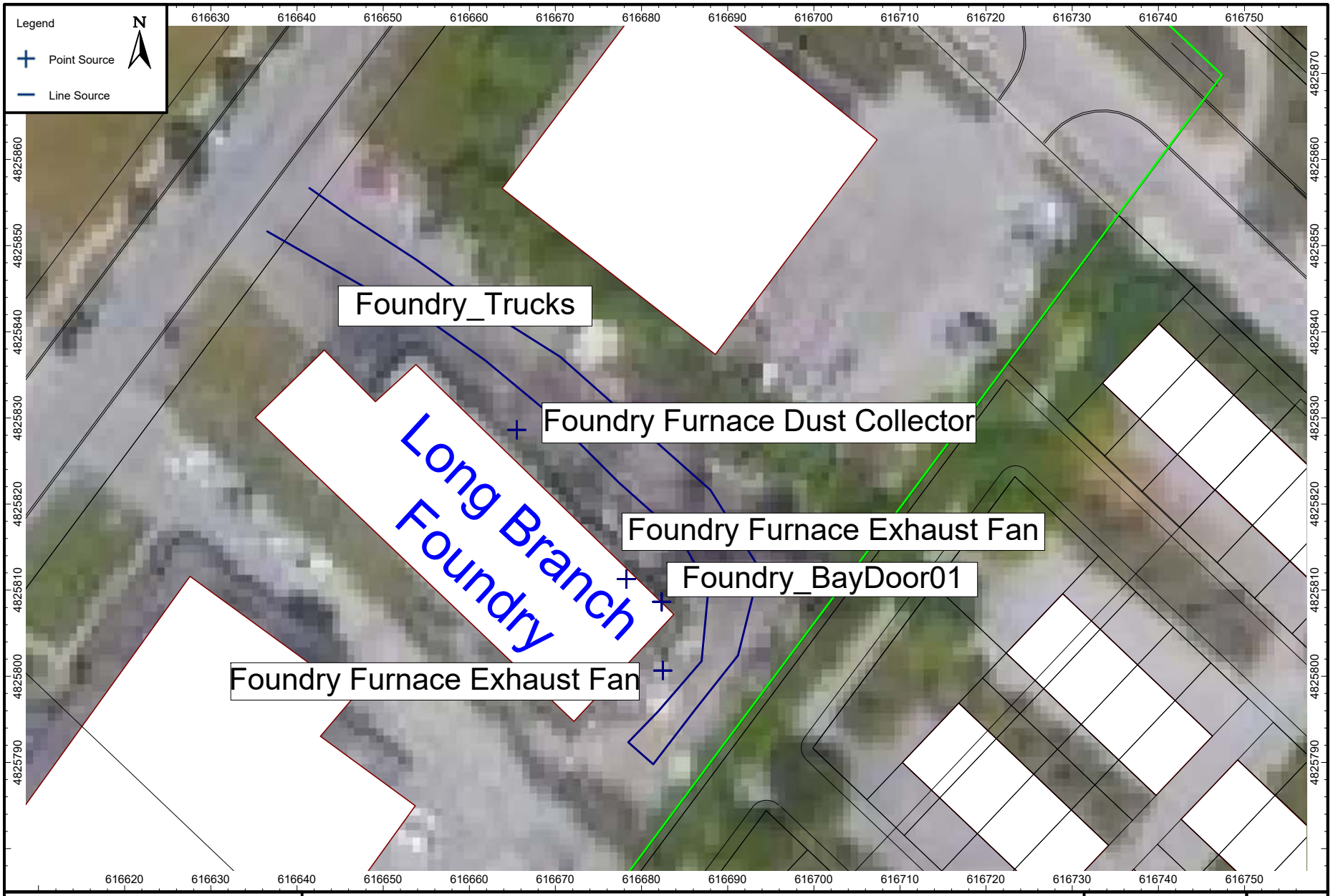
Date Plotted:22.10.20

VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Xtreme Tire Garage Sources	Date: Oct. 21, 2020	Figure: E3
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

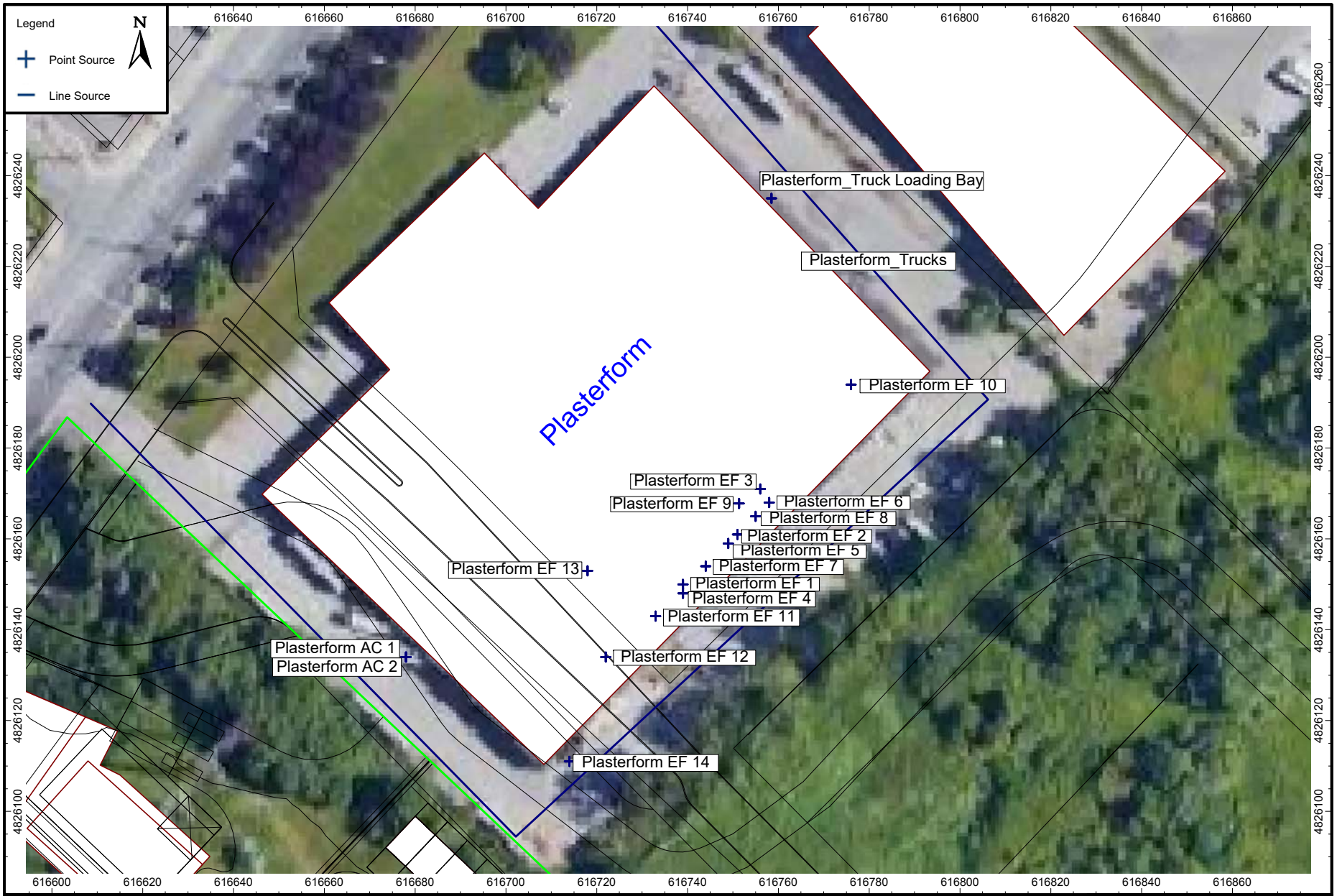


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Long Branch Foundry Sources		Date: Oct. 21, 2020	Figure: **E4**
Project Name: Lakeview Village		Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

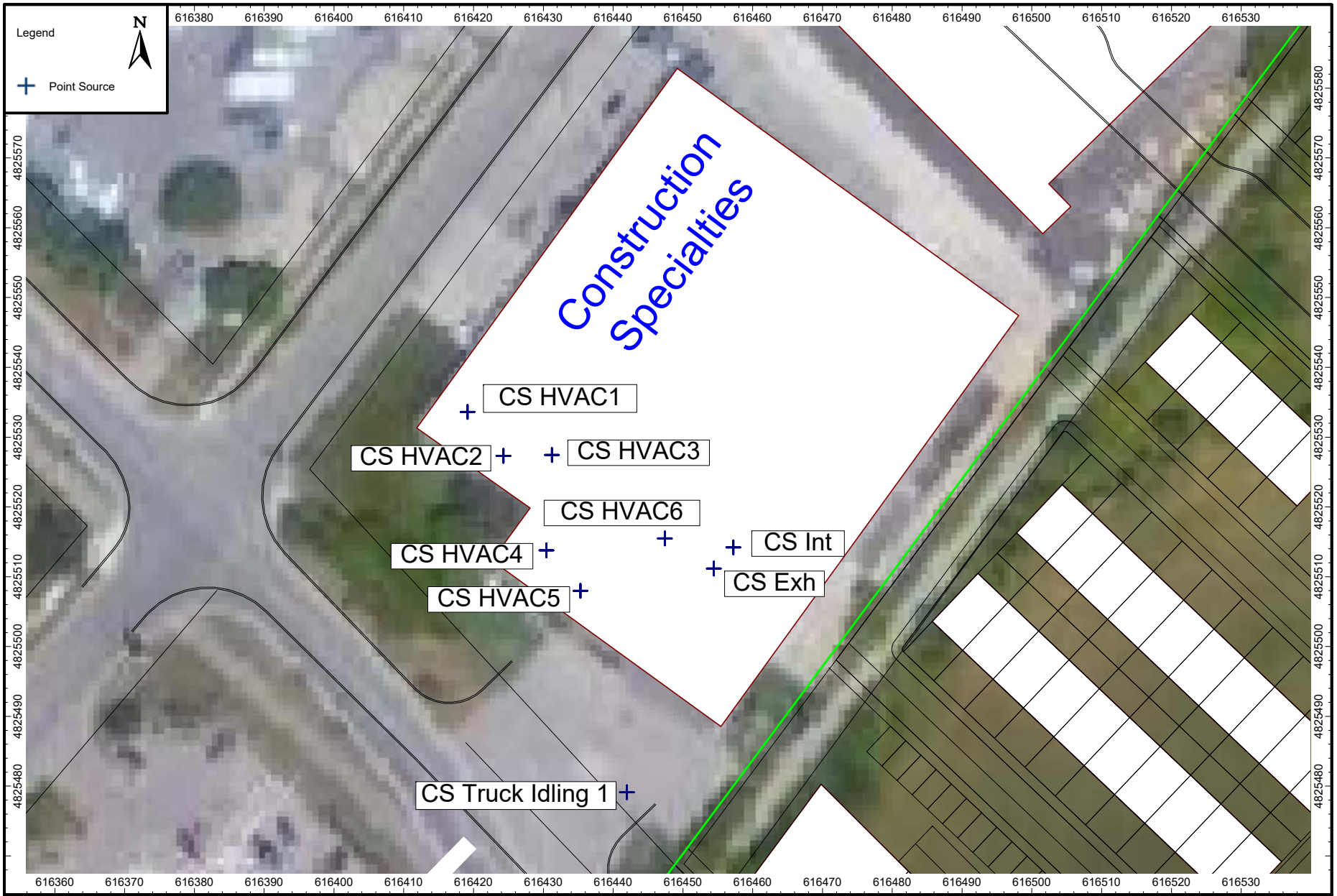


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Plasterform Sources	Date: Oct. 21, 2020	Figure: E5
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterplar2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:02.12.20

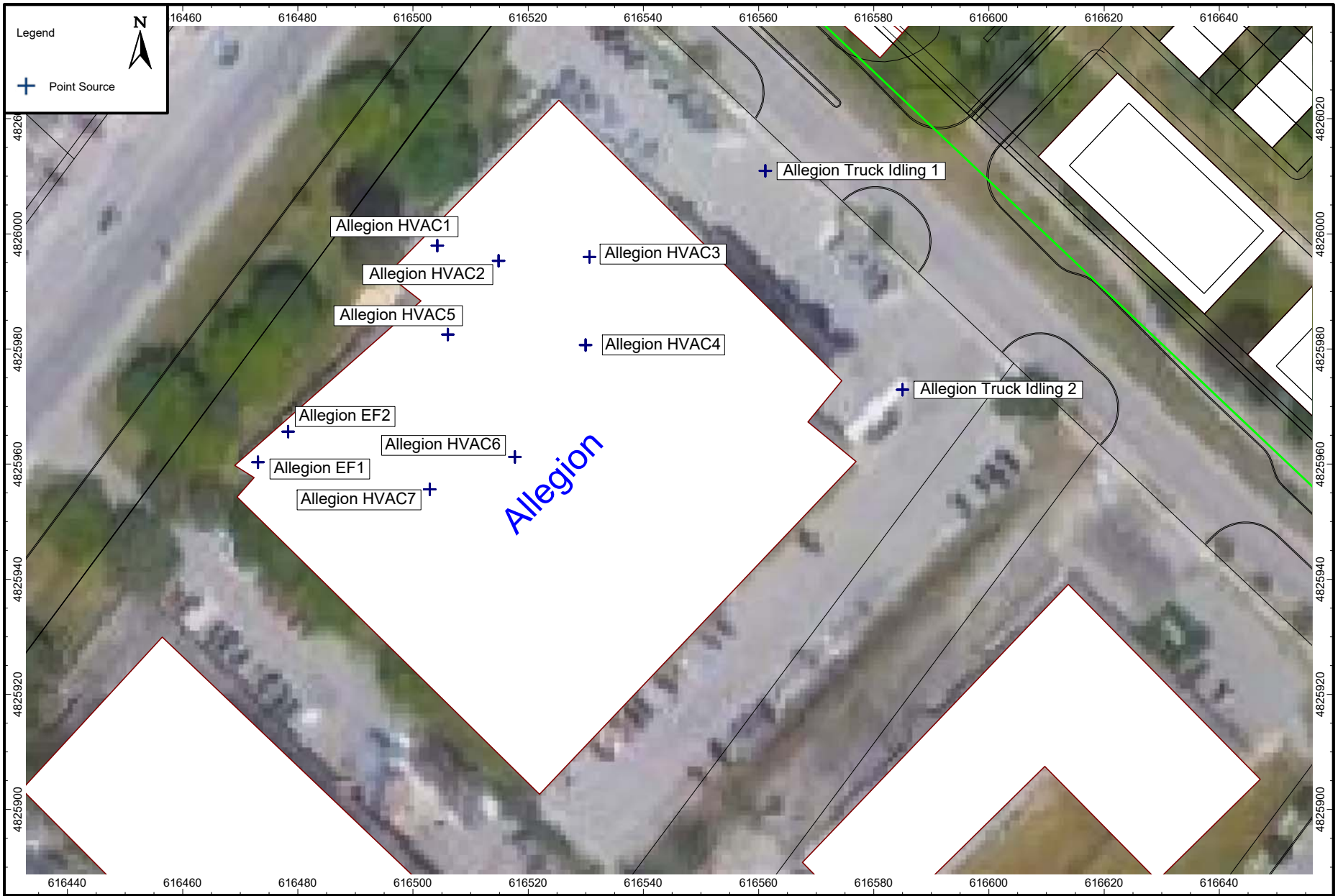


VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Construction Specialties Sources	Date: Oct. 21, 2020	Figure: E6
Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20



VALCOUSTICS
Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Allegion Sources	Oct. 21, 2020	E7
Project Name	Project No.	
Lakeview Village	120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 Site impor2020-10-18 - 200904 RWDI Lakeview Village 1804164 - w updated site.cna

Date Plotted:22.10.20

APPENDIX F

STATIONARY SOURCES

CLASS 1 ASSESSMENT

APPENDIX F

CLASS 1 ASSESSMENT

An assessment of the predicted sound levels from the various stationary sources relative to the Class 1 sound level limits has been done. The results indicate that sound level excesses occur at the proposed dwellings closest to the various facilities and that mitigation would be required. With the Class 1 status, "on-building" noise control measures cannot be used. Thus, the mitigation required would most likely need to take the form of property line sound barriers or direct to source controls (such as silencers on fan openings, acoustical enclosures, etc.). However, given the extensive nature of the required noise controls and the likelihood that the current noise environment is only a temporary condition (due to the overall regeneration of the area), mitigation to meet the Class 1 sound level limits is not considered cost effective or warranted. These, in part, are the reasons the Class 4 status is considered appropriate and is being sought. A more detailed assessment of each facility is presented below.

The Class 1 assessment is shown in Figures F1 to F6. The octagons around the building facades indicate the highest predicted sound level at that location of the building, occurring at any storey height (either absolute sound level or sound level excess over Class 1 criteria). The left pane shows the excesses over the Class 1 sound level limits and the right pane shows the overall sound level reduction needed to meet the Class 1 sound level limits as well as the predicted mitigated sound levels. A discussion of potential measures to achieve that reduction is also included. It is noted that the at-source mitigation would be subject to a detailed engineering review of the specific sources and confirmation/acceptance from the commercial/industrial facilities.

ALLEGION

See Figure F1.

Minor sound level excesses of up to 2 dBA are predicted to occur at the west façade of the 10-storey portion of the northern-most building on the site (adjacent to Lakeshore Road East). The excesses are due to truck activity at the loading area at Allegion, which faces the building, and one rooftop HVAC unit.

Mitigation to achieve the Class 1 sound level limits could include:

- Truck activity – 6 dBA reduction required
    - Enclose the loading dock area;
- Rooftop HVAC unit – 6 dBA reduction required
    - Due to the height of the proposed residential building (10 storeys), a rooftop acoustic screen, with practicable height, will not be effective.
    - The unit will either need to be replaced with a quieter unit; or
    - Direct to source mitigation, such as an enclosure, would be required.

It is noted that the assessment uses the most conservative minimum exclusion limits to set the guideline limits at all locations at Lakeview. Given the proximity of this building to Lakeshore Road East, and that Allegion is expected to only operate during the daytime hours, there is a high probability that the ambient sound environment will exceed the minimum exclusion limits at this building. Thus, increasing the noise limits and lessening (or eliminating) the excess. This can be reviewed in greater detail at the time of the detailed noise studies.

XTREME TIRE GARAGE

See Figure F2.

Sound level excesses up to 9 dBA are predicted at the adjacent 10 storey building. Excesses of up to 6 dBA are also predicted at the two closest 3-storey townhouse buildings.

The excesses are due to noise from maintenance activity occurring within the building being emitted to the exterior via the open overhead doors at the rear of the garage building.

With the height of the closest proposed building, 10-storeys, a property line sound barrier would need to be impractically high to provide the required mitigation. (A sound barrier needs to at least interrupt the line of sight between a source and receiver to provide any attenuation. To provide acoustical screening for a 10 storey building, the sound barrier would need to be similarly high, which is clearly impractical).

Another option would be to ensure that the rear overhead doors can remain closed while maintenance activity is occurring within. Typically, these facilities leave these doors open for ventilation purposes. Thus, if the doors are to be kept closed, a mechanical ventilation system would likely need to be added. If the doors were to remain closed, the sound level excesses would be eliminated.

LONG BRANCH FOUNDRY

See Figure F3

The greatest excess of 14 dBA occurs at the 3-storey townhouse dwellings, closest to the foundry. Excesses of up to 6 dBA also occur at the high-rise buildings in the vicinity (10, 17 and 18 storey buildings).

Again, due to the height of the proposed buildings, a property line sound barrier would need to be impractically high to provide sufficient mitigation.

Several sources would therefore require at-source treatment, including:

- The furnace exhaust fan would require 21 dBA reduction:
    - This would likely be achieved with either a replacement of the fan, an enclosure around the unit and a silencer.
- The overhead bay door (which emits noise from activity occurring within the building) requires 9 dBA reduction:

- This could be addressed by ensuring the door remains closed. This would likely require the installation of a mechanical ventilation system.

- The furnace exhaust fan requires 6 dBA reduction:

- This could likely be achieved with either the replacement of the unit with one that emits less noise or the installation of a silencer.

- The furnace dust collector requires 3 dBA reduction.

  - This could likely be achieved with either the replacement of the unit with one that emits less noise or the installation of a silencer.

PLASTERFORM

See Figure F4.

Excesses of up to 18 dBA occur at the closest 3-storey townhouse units. Excesses of up to 10 dBA also occur at the higher buildings in the area (15 storeys and 6 storeys)

The excesses are due to the grade level dust collector, several rooftop exhausts fans, grade level AC units and truck movements on the property.

As above with the height of the proposed buildings, a property line sound barrier would need to be impractically high to provide sufficient mitigation. Direct to source measures would be the most feasible in this case.

- The rooftop exhaust fans could be addressed with the implementation of silencers.

- Acoustical enclosures could be added to the grade level AC units.

- The grade level dust collector would either need to be replaced with a quieter unit, or an acoustical enclosure and silencers would be needed.

- Truck movements would likely need to be re-routed, so they do not pass as close to the proposed residential. This is likely not practicable.

CONSTRUCTION SPECIALTIES

See Figure F5.

Minor sound level excesses of up to 2 dBAA are predicted to occur at the north façade of the adjacent 8-storey building. The excesses are due to truck activity at the loading area.

Since the excess is occurring at an 8-storey high building, a property line sound barrier would need to be impractically high to provide sufficient mitigation. To achieve the Class 1 sound level limits the mitigation could include:

- Truck idling – 3 dBA reduction required

  - Enclose the loading dock area;

As an alternative to the loading dock enclosure, the building could be designed with no noise sensitive widows on the north façade. Noise sensitive windows include windows to bedrooms, living rooms, dens, etc. With no noise sensitive windows on this façade, there would be no receptors where the excesses are predicted. Thus, the limits would not apply, and the excesses could be eliminated through the design of the building.

Similar to the above with Allegion, there is the potential that the daytime ambient sound levels may exceed the minimum exclusion limits at this one building where the excess is predicted. This is due to the proximity of Lakefront Promenade. The ambient assessment can be reviewed in greater detail at the time of the detailed noise studies.

Interior Manufacturing Group

See Figure F6.

Minor sound level excesses of up to 2 dBA are predicted to occur at the north (end) façade of the adjacent 3-storey townhouse building. The excesses are due to truck activity at the loading area.

If the northern-most dwelling unit(s) in this one townhouse block, were designed such that there were no noise-sensitive windows (windows to bedrooms, living rooms, dens, etc.) on the north façade, there would be no receptors at the locations where excesses are predicted. Thus, the limits would not apply, and the excesses would be eliminated.

Alternatively, if the noise sensitive windows can not be removed, then the truck idling would need to be reduced by 3 dBA. This would likely be achieved by enclosing the loading dock or adding a property line barrier. Although it is noted that the sound barrier would still likely need to be impractically high.

Excesses over Class 1 Guideline Limits

Mitigation Measures and Mitigated Sound Levels

Legend

- Point Source
- Buildings with Excesses over Class 1 Limits
- Sources Requiring Mitigation

N

616500 616550 616600 616650 616700 616750 616800

4826250 4826200 4826150 4826100 4826050 4826000 4825950 4825900

Allegion HVAC1
Allegion HVAC2
Allegion HVAC3
Allegion HVAC4
Allegion HVAC5
Allegion HVAC6
Allegion HVAC7
Allegion EF1
Allegion EF2
Allegion Truck Idling 1
Allegion Truck Idling 2
Allegion

Allegion Truck Idling 1
6 dBA reduction
Allegion HVAC3
6 dBA reduction

15 storeys
10 storeys
6 storeys
5 storeys
3 storeys
2 storeys

VALCOUSTICS Canada Ltd. consulting acoustical engineers	Title: Mitigation Requirements to meet Class 1 Guideline Limits - Allegion	Date: Nov. 2, 2020	Figure: F-1
	Project Name: Lakeview Village	Project No.: 120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterpla2020-11-02 - 200904 RWDI Lakeview Village 1804164 - Class 1 mitigation.cna

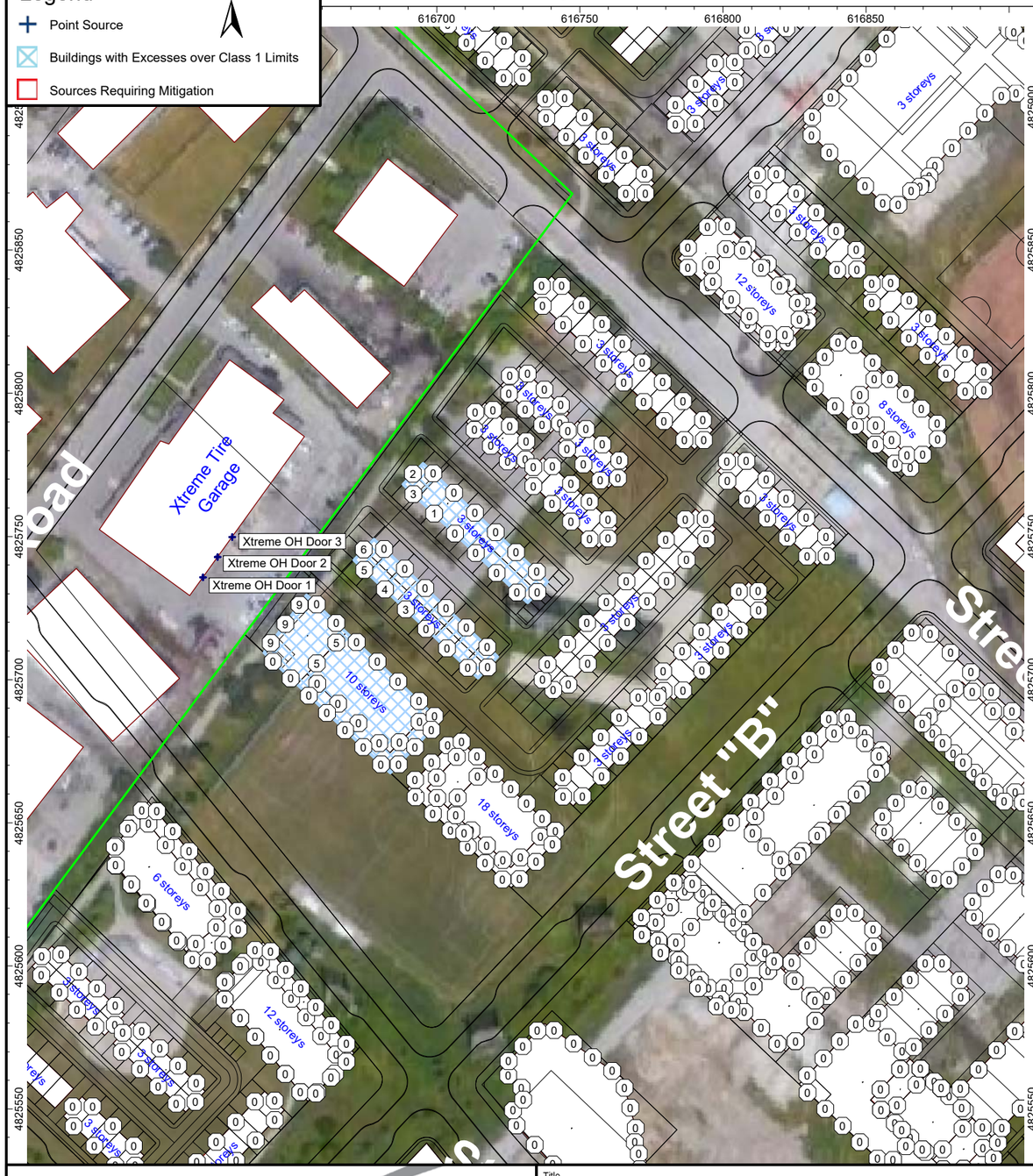
Date Plotted:11.11.20

Legend

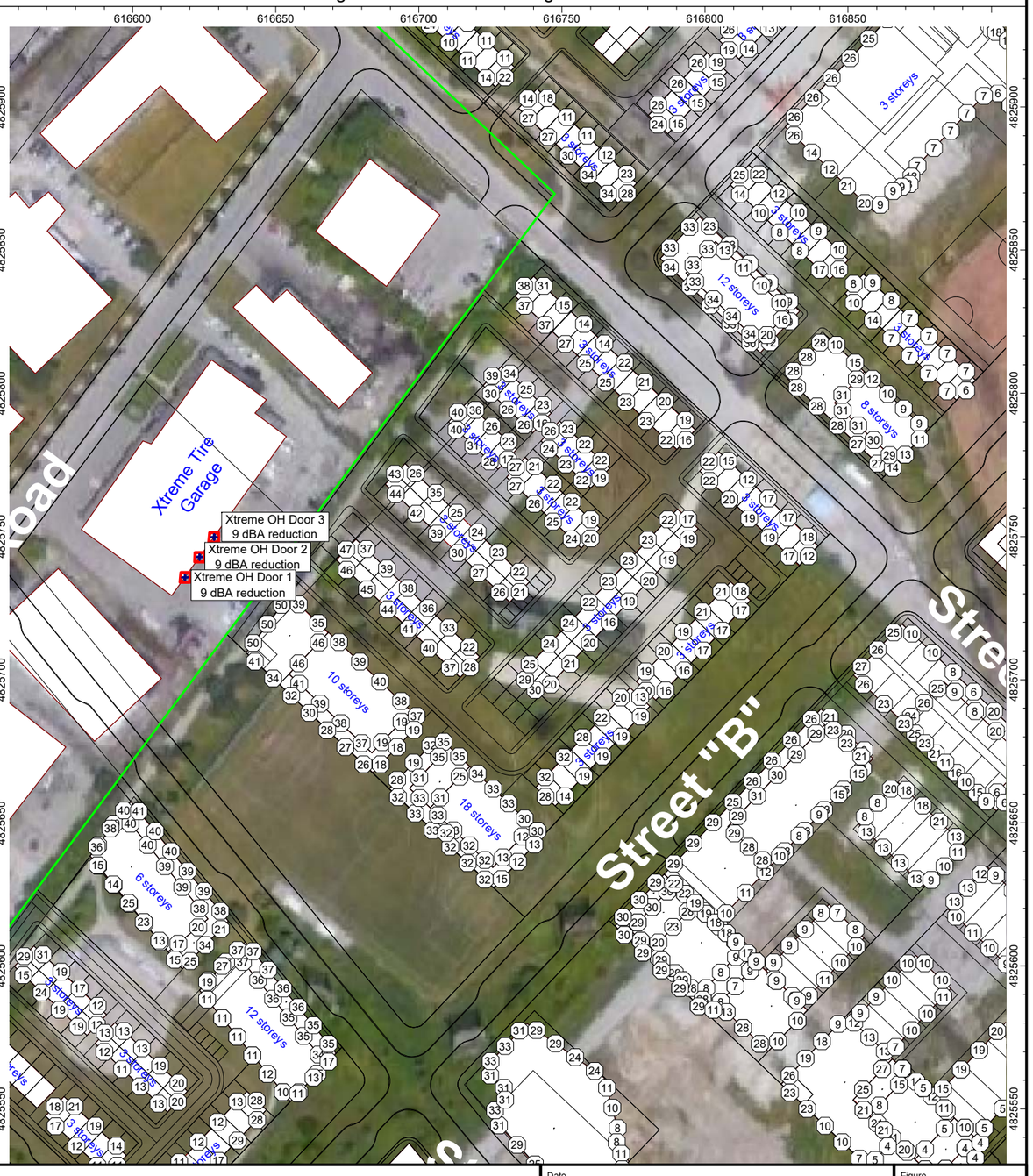
N

- Point Source
- Buildings with Excesses over Class 1 Limits
- Sources Requiring Mitigation

Excesses over Class 1 Guideline Limits



Mitigation Measures and Mitigated Sound Levels



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

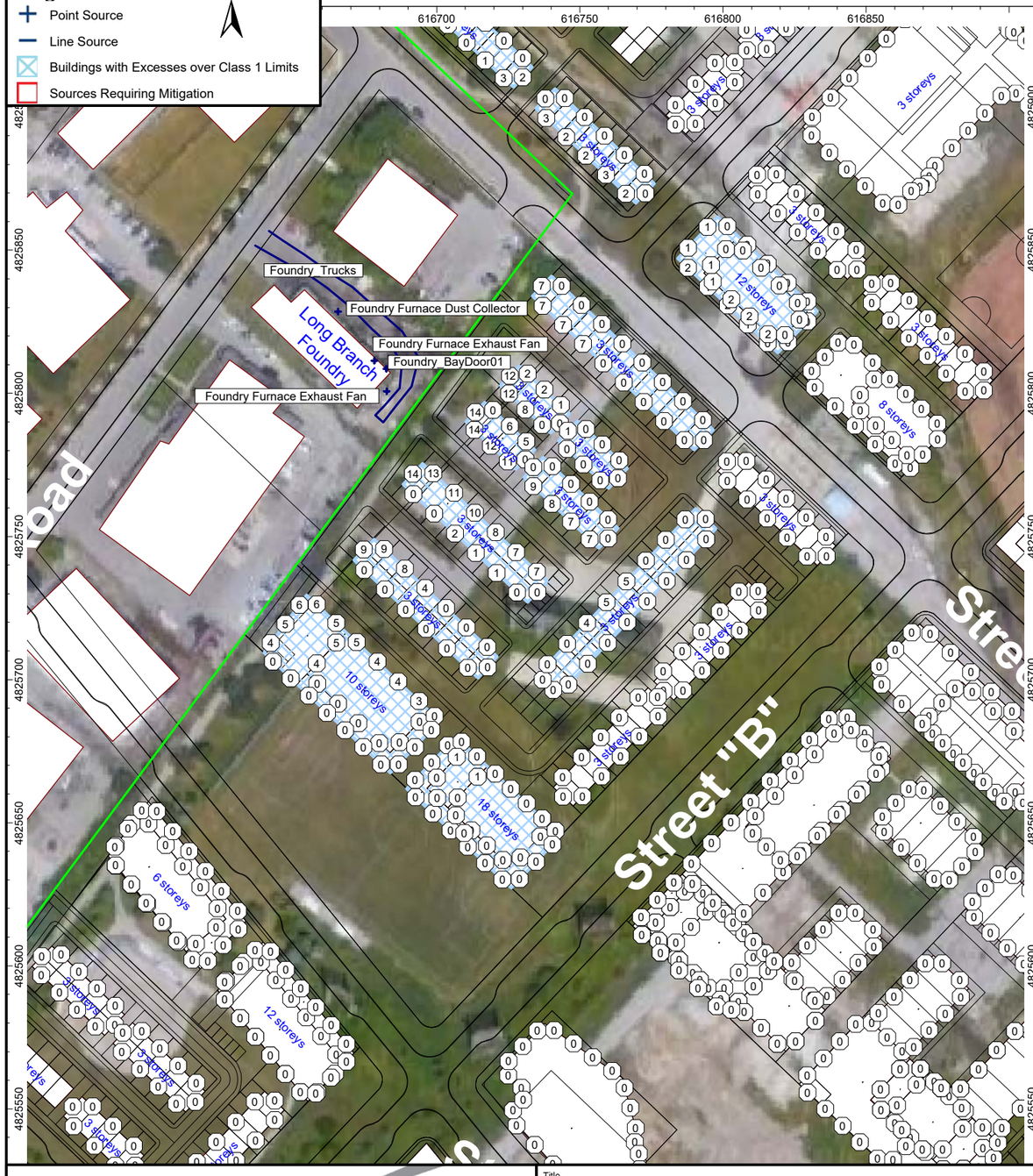
Title: Mitigation Requirements to meet Class 1 Guideline Limits - Xtreme Tire	Date: Nov. 2, 2020
Project Name: Lakeview Village	Project No.: 120-0302

Figure: **F-2**

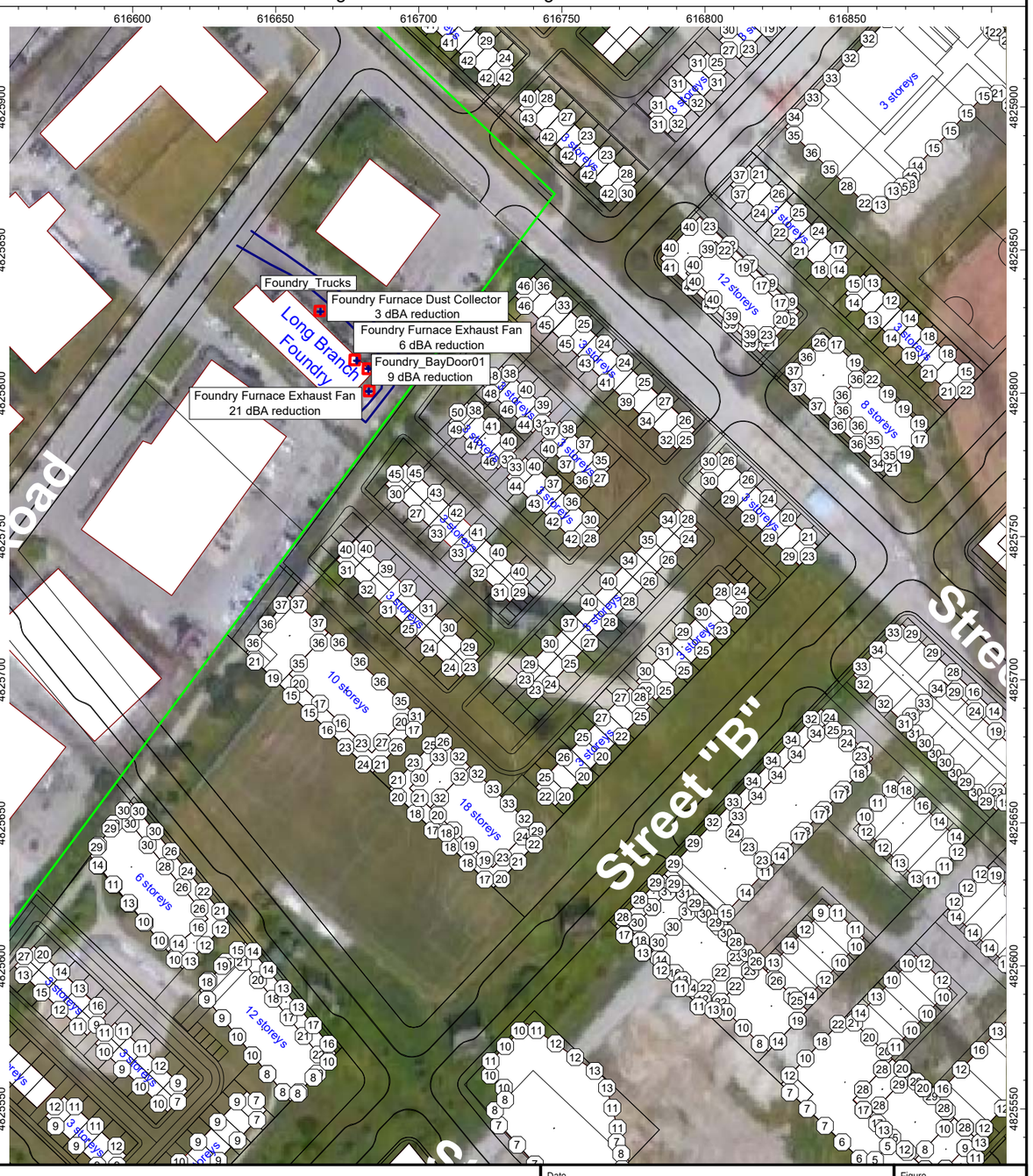
J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterpla2020-11-02 - 200904 RWDI Lakeview Village 1804164 - Class 1 mitigation.cna

Date Plotted:11.11.20

Excesses over Class 1 Guideline Limits



Mitigation Measures and Mitigated Sound Levels



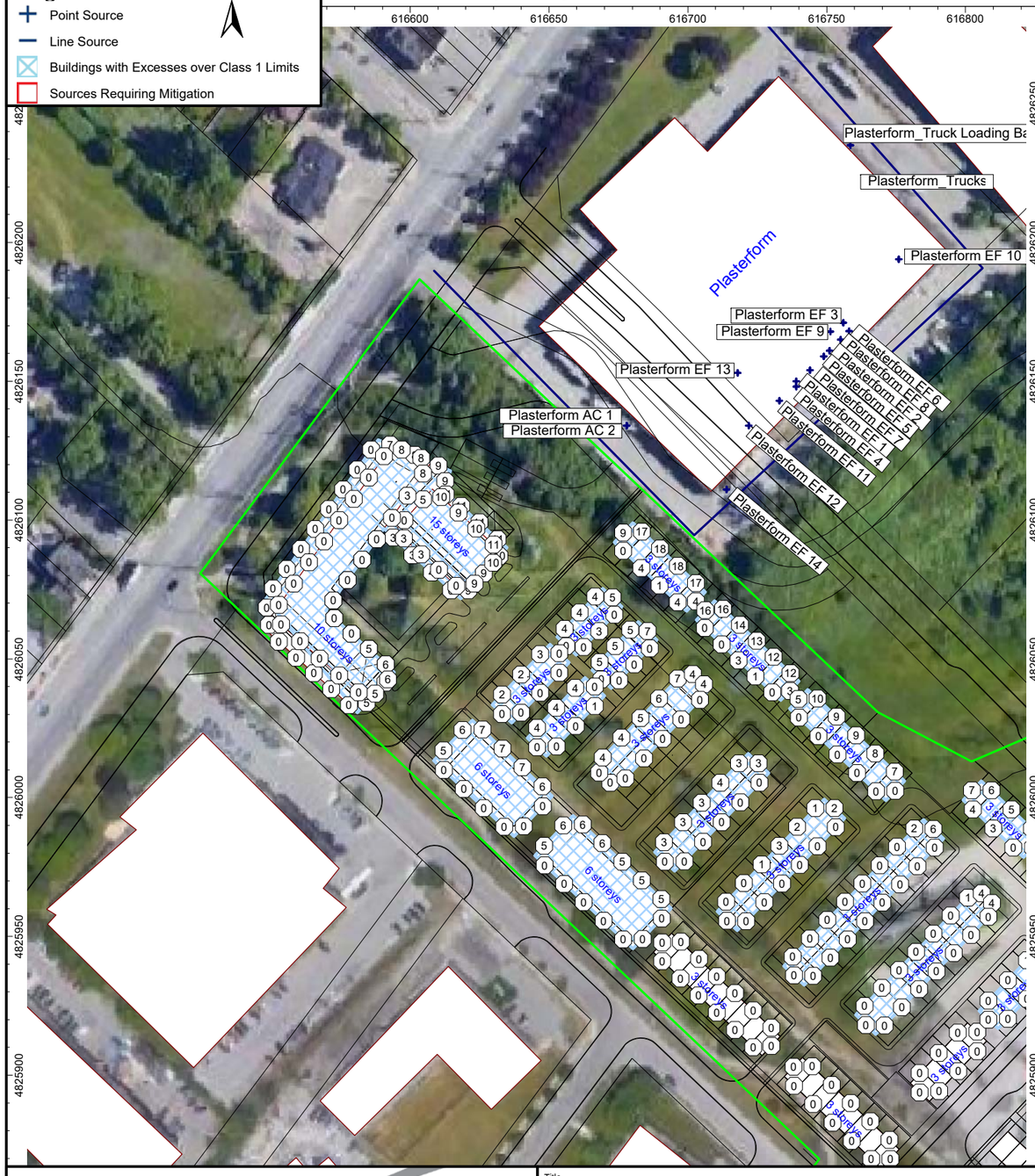
VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Mitigation Requirements to meet Class 1 Guideline Limits - Long Branch Foundry	Date: Nov. 2, 2020
Project Name: Lakeview Village	Project No.: 120-0302
	Figure: **F-3**

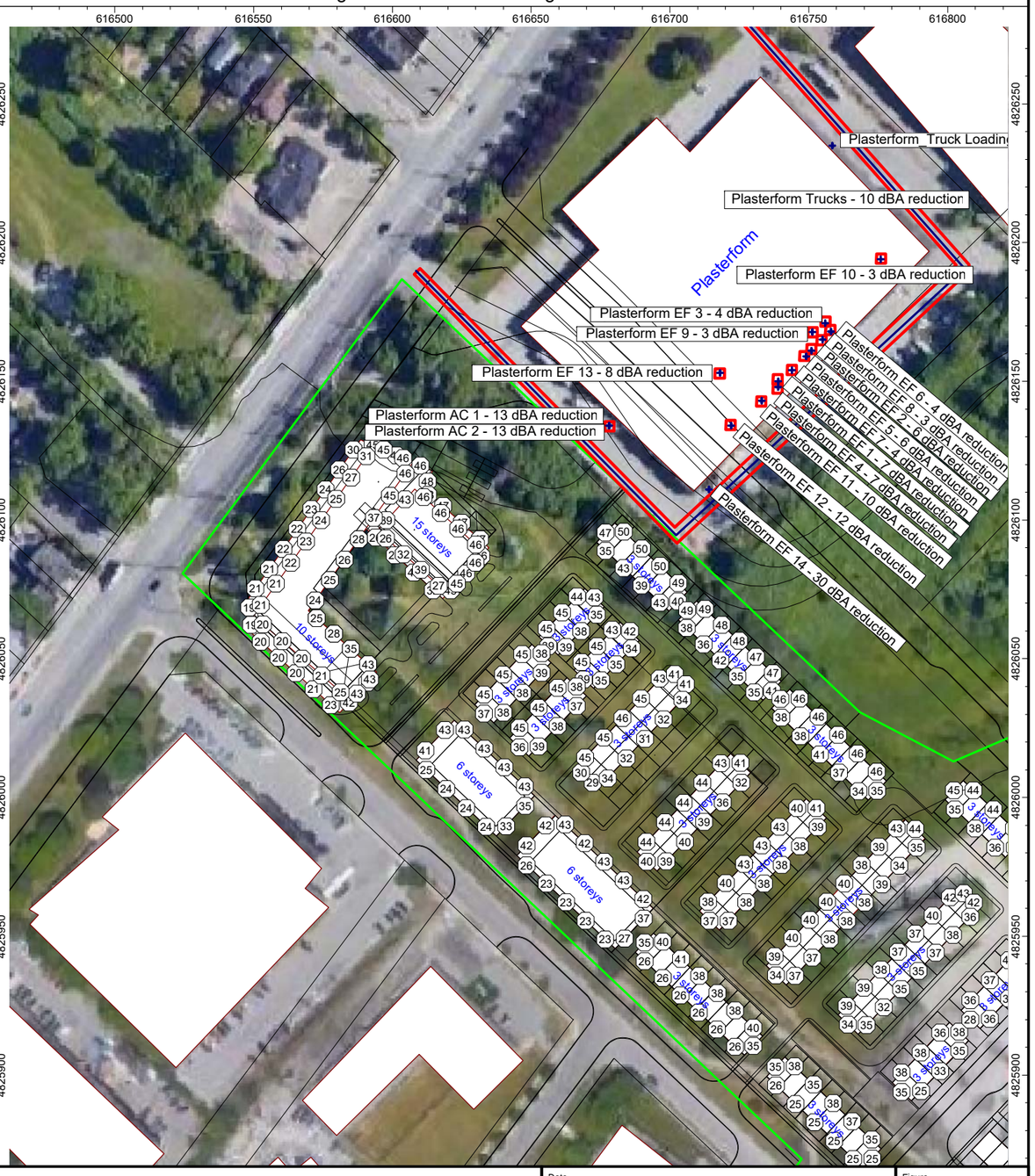
J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterpla2020-11-02 - 200904 RWDI Lakeview Village 1804164 - Class 1 mitigation.cna

Date Plotted:11.11.20

Excesses over Class 1 Guideline Limits



Mitigation Measures and Mitigated Sound Levels



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Mitigation Requirements to meet Class 1 Guideline Limits - Plasterform	Date: Nov. 2, 2020
Project Name: Lakeview Village	Project No.: 120-0302

Figure: **F-4**

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterpla2020-11-02 - 200904 RWDI Lakeview Village 1804164 - Class 1 mitigation.cna

Date Plotted:11.11.20

Legend

N

- Point Source
- Buildings with Excesses over Class 1 Limits
- Sources Requiring Mitigation

Excesses over Class 1 Guideline Limits

Mitigation Measures and Mitigated Sound Levels

Construction Specialties

CS HVAC1
CS HVAC2
CS HVAC3
CS HVAC4
CS HVAC5
CS HVAC6
CS Int
CS Exh
CS Truck Idling 1
CS Truck Idling 1
3 dBA reduction

Lakefront Promenade

VALCOUSTICS
Canada Ltd.
consulting acoustical engineers

Title	Date	Figure
Mitigation Requirements to meet Class 1 Guideline Limits - Construction Specialties	Nov. 2, 2020	F-5
Project Name	Project No.	
Lakeview Village	120-0302	

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterpla2020-11-02 - 200904 RWDI Lakeview Village 1804164 - Class 1 mitigation.cna

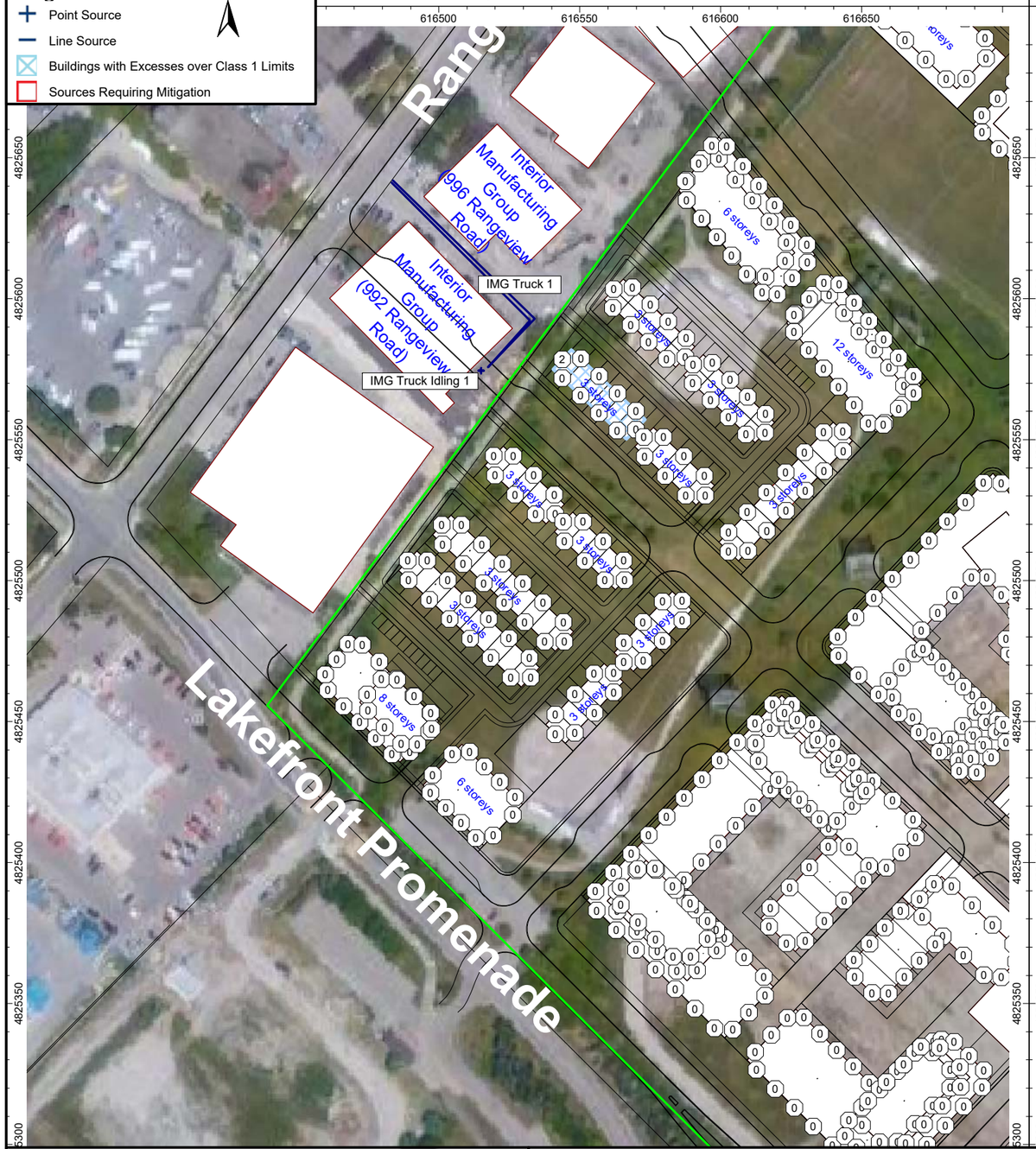
Date Plotted:11.11.20

Legend

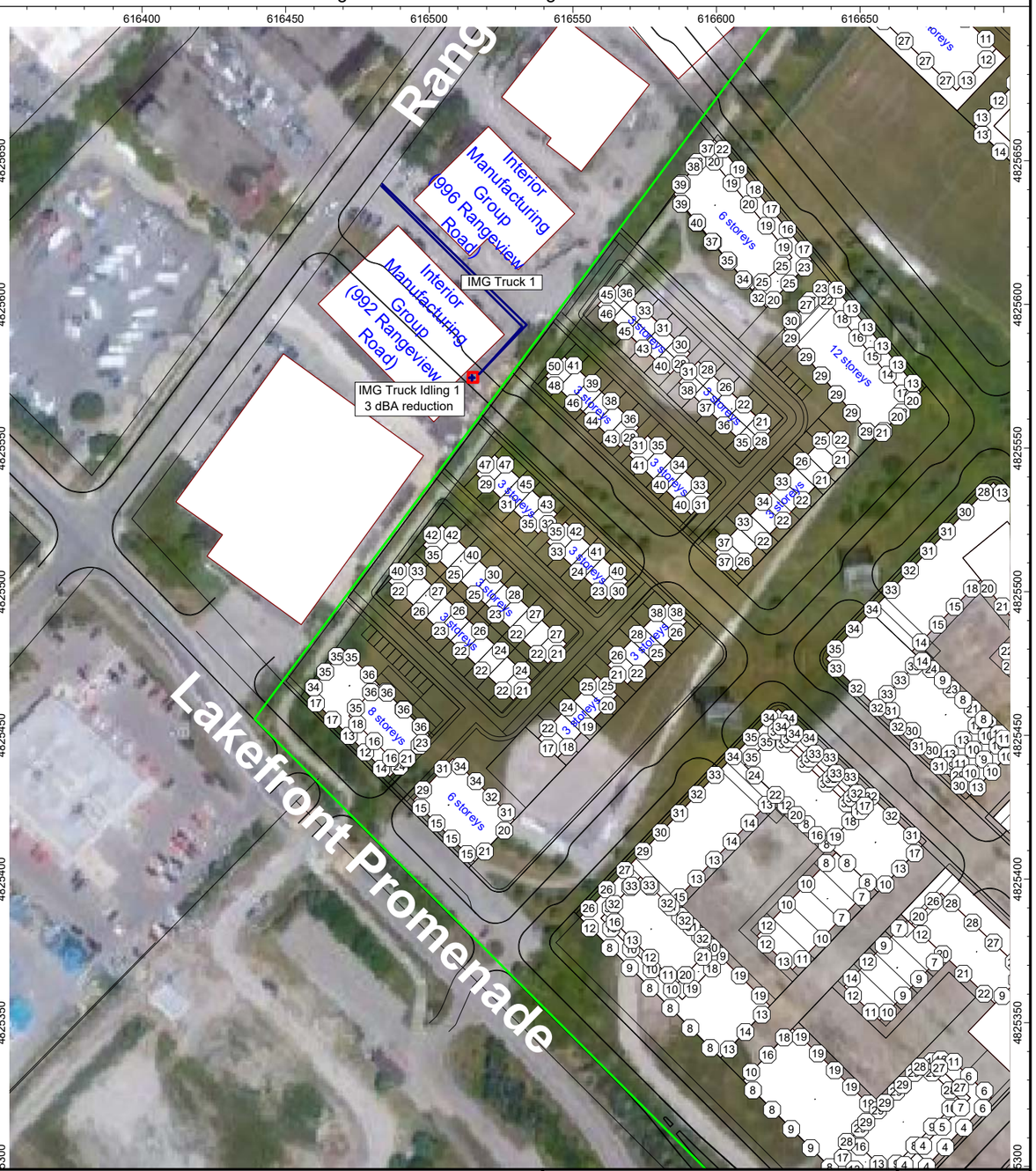
- Point Source
- Line Source
- Buildings with Excesses over Class 1 Limits
- Sources Requiring Mitigation

N

Excesses over Class 1 Guideline Limits



Mitigation Measures and Mitigated Sound Levels



VALCOUSTICS Canada Ltd.
consulting acoustical engineers

Title: Mitigation Requirements to meet Class 1 Guideline Limits - Interior Manufacturing Group	Date: Nov. 2, 2020
Project Name: Lakeview Village	Project No.: 120-0302

Figure: **F-6**

J:\2020\1200302\000\Analysis\Cadna\2020-10-06 With current masterpla2020-11-02 - 200904 RWDI Lakeview Village 1804164 - Class 1 mitigation.cna

Date Plotted:01.12.20