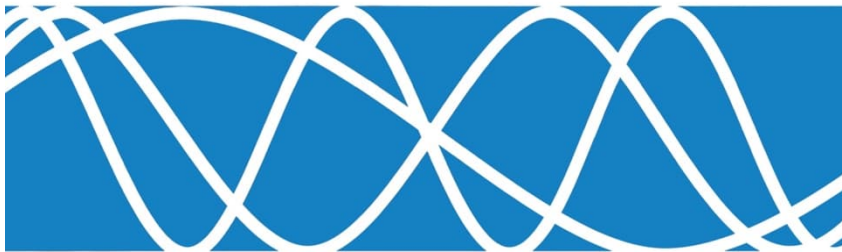


Noise Feasibility Study  
Proposed Residential Development  
Forestell Road, Between  
Sideroad 10 & Sideroad 12  
Puslinch, Ontario

May 25, 2026  
HGC Project#: 02600250

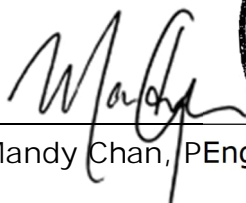


Prepared for:  
Cox Construction Ltd.  
c/o Stovel & Associates Inc.  
651 Orangeville Road  
Fergus, ON N1M 1T9

Version Control

Ver.	Date	Version Description	Prepared By
1	May 25, 2026	Noise Feasibility Study to support applications for an Official Plan Amendment	M. Chan

Prepared by:



Mandy Chan, PEng



Howe Gastmeier Chapnik Limited

Limitations

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# 1 INTRODUCTION & SUMMARY

HGC Noise Vibration Acoustics was retained by Cox Construction Ltd. to conduct a noise feasibility study for a proposed 39-lot residential development on the south side of Forestell Road, between Sideroad 10 and Sideroad 12, in Puslinch, Ontario (the Site). The noise study supports applications for an Official Plan Amendment.

Licensed aggregate extraction facilities are located north and west of the Site. This assessment is based on applicable MECP and MNRF guidelines, operational plans, discussions with Stovel and Associates Inc. regarding equipment locations and future operations, and source sound levels from the Noise Impact Study prepared for the adjacent pits.

The results indicate that the applicable sound level limits can be met at the proposed development. Additional noise mitigation is not required. A warning clause is recommended to advise future residents that sound from the aggregate extraction facilities may be audible at times.

# 2 SITE DESCRIPTION & NOISE SOURCES

## 2.1 Site Description

Figure 1 shows the location of the proposed residential development. The Site is on the south side of Forestell Road between Sideroad 10 and Sideroad 12 in Puslinch, Ontario. Figure 2 shows the concept plan prepared by Stovel and Associates Inc., dated December 15, 2025. The development will consist of 39 residential lots and associated roadways.

HGC personnel visited the Site on May 5, 2026, to observe the acoustical environment. The Site is vacant. Licensed aggregate extraction lands are located to the north, northeast, and west, as described in Section 2.2. Existing noise-sensitive receptors are closer to these extractive areas than the proposed



development, and noise controls at the aggregate lands are required to meet the applicable sound level limits at those receptors.

## 2.2 Noise Sources

Due to the proximity of existing aggregate extraction facilities, an assessment was conducted to determine potential noise impacts at the proposed development. Figure 3 shows the existing and former licensed aggregate areas by licence number.

Lafarge's Snyder's Pit (Licence No. 129817) is located to the northeast. The southern portion has already been extracted, and the closest extraction area is approximately 800 m from the proposed lots. Given this distance, and the closer proximity of other noise-sensitive uses to Snyder's Pit, significant noise from that facility is not expected at the proposed development.

The gravel pits to the north and west (Licence Nos. 20212, 624889, 5710, and 625710) are owned by Cox Construction Ltd. Lands immediately north of the Site and Forestell Road have been rehabilitated, and the aggregate licences have been surrendered; no significant noise sources are associated with these lands. Additional lands to the northeast have also been rehabilitated, and the aggregate licences are expected to be surrendered soon. Processing does not take place north of these surrendered areas. Equipment storage was observed in this area.

The main noise sources associated with the adjacent gravel pits include crushing and screening, a wash plant, an asphalt plant, and associated loaders and excavators. Source locations are shown in Appendix A.

This assessment relies on the Noise Impact Study prepared by Acoustics Engineering Limited, dated February 6, 1996 (NIS) [1], and the Operational Plans for Licence Nos. 20212, 624889, 5710, and 625710. Source sound levels and noise control requirements were taken from the NIS and Operational Plans. For the asphalt plant, source sound levels and noise control requirements were



taken from the Consolidated Certificate of Approval (Air & Noise) [ECA] application report prepared by Church & Trought Inc., dated June 8, 2010 [2].

Loading and shipping may take place between 6 am to 7 pm, Monday to Fridays and 7 am to 5 pm on Saturdays. Extraction and processing may take place 7am to 7 pm Monday to Friday and 7 am till 12 pm on Saturdays.

### 3 STATIONARY NOISE CRITERIA

The aggregate extraction facilities are stationary sources of sound, and the applicable limits are set out in MECP publication NPC-300 [3]. Additional requirements for aggregate facilities are provided in Aggregate Resources of Ontario Provincial Standards [4].

Based on the NIS, the noise-sensitive receptors along Forestell Road were classified as being in a Class 2 acoustic area, and the same classification is applied to the Site. Under NPC-300, the sound level limit at any receptor in a Class 2 area due to a stationary source is the higher of the background one-hour energy-equivalent sound level ( $L_{EQ,1h}$ ) or 50 dBA during daytime hours and 45 dBA during nighttime hours. The daytime limits also apply to outdoor living areas (OLAs) within 30 m of the dwelling. As the facilities operate during daytime hours only, the exclusionary minimum daytime sound level limit of 50 dBA during the day and 45 dBA at night is used in the following sections to assess the impact of the aggregate extraction and processing operations at the proposed development.

These criteria apply to ongoing daily operations. Activities used to prepare the site for excavation, such as stripping topsoil, locating the crushing and screening plants at their permanent locations at the final pit floor elevation, constructing berms, and remediating the site after extraction, are considered construction activities regulated under municipal by-laws and NPC-115 [5].



## 4 STATIONARY NOISE ASSESSMENT

### 4.1 Acoustical Modelling

Predictive modelling was used to estimate worst-case sound levels from the gravel pits at the proposed development. The CadnaA model is based on established MECP and ISO 9613-2 [6] methods that account for sound reduction with distance due to geometrical spreading, air absorption, ground attenuation, and acoustical shielding by intervening structures such as barriers.

Topographical data for the Site and surrounding areas was obtained from the Government of Canada's High Resolution Digital Elevation Model (HRDEM). Additional modelling details are provided in Appendix A.

The worst-case operating scenarios are considered to be extraction and processing in the southeastern area of Licence No. 20212 pit (Scenario 1) and the southern area of Licence No. 625710 pit (Scenario 2), closest to the Site.

The worst-case daytime operating scenario assumes the following:

- Extraction occurs at the closest permitted location to each receptor under the Operational Plans;
- 15 haul trucks arrive and depart during the busiest daytime hour for each main processing plant;
- Loaders and/or haul trucks travel between extraction areas and processing areas;
- Loader activity is associated with processing and truck loading;
- Processing and extraction equipment is located on the floor of the first lift (8 m below grade) or at pit floor elevation, whichever is higher, at locations specified in the Operational Plans;
- The asphalt plant and wash plant remain in their current locations.



We note that shipping activities can commence at 6:00 at each pit per the Operation Plans. Nighttime hour activity consisting of loaders and trucking activities were considered.

The source levels used in the analysis, taken from the NIS and ECA, are listed below.

Table 1: Source Sound Power Levels [dB re 10<sup>-12</sup> W]

Source	Octave Band Centre Frequency [Hz]								dBA
	63	125	250	500	1k	2k	4k	8k	
Asphalt Plant (Overall)	122	116	114	109	108	106	105	99	114
Crushing Plant	120	116	112	113	114	115	110	102	120
Screening Plant	114	110	109	109	110	110	108	103	116
Wash Plant	114	109	109	112	110	109	105	102	115
Loader (Asphalt Plant)	119	113	105	96	89	85	78	73	102
Loader (Wash plant and Active Extraction Area)	117	110	107	102	101	96	96	96	107

Noise source and receptor locations are shown in Figures A1 and A2 in Appendix A.

## 4.2 Assessment Results and Recommendations

Predicted sound levels at the representative receptors (R1 to R4), assuming 2-storey dwellings, under the worst-case busiest-hour operating scenario are summarized in Tables 2 and 3. Daytime results are shown graphically on Figures 4 and 5. The higher predicted sound level is shown for each receptor. Sound levels predicted at existing residences were used to calibrate the model against the NIS and were found to be comparable. CadnaA calculation summaries are provided in Appendix B.

Table 2: Predicted Daytime Sound Levels,  $L_{EQ}$  [dBA]

Receptor	Daytime Façade	Daytime OLA	Criteria	Criteria Met
R1 – Lot 36	47	47	50	Y
R2 – Lot 27	44	43	50	Y
R3 – Lot 21	43	43	50	Y
R4 – Lot 1	45	43	50	Y

Table 3: Predicted Nighttime Sound Levels (Shipping Only),  $L_{EQ}$  [dBA]

Receptor	Daytime Façade	Criteria	Criteria Met
R1 – Lot 36	38	45	Y
R2 – Lot 27	35	45	Y
R3 – Lot 21	34	45	Y
R4 – Lot 1	33	45	Y

The analysis indicates that sound levels from the existing aggregate facilities under a worst-case operating scenario are expected to meet the applicable limits at the proposed development.

A warning clause is recommended to advise future residents of nearby industrial facilities, as outlined in NPC-300.

Type E:

Purchasers/tenants are advised that, due to the proximity of adjacent industrial facilities, noise from these facilities may be audible at times.

## 5 SUMMARY

HGC reviewed the operational plans and prior noise studies, prepared an acoustical model of activities in the adjacent pits, and assessed those operations under worst-case operating scenarios. The results indicate that sound levels from the nearby gravel pits are expected to meet the applicable MECP limits at the proposed development. Additional noise controls are not required. A warning clause is recommended to advise future occupants that noise from nearby facilities may be audible at times.



## 6 REFERENCES

1. *Noise Impact Study, Acoustics Engineering Limited, February 6, 1996*
2. *Consolidated Certificate of Approval (Air & Noise), Church & Trought Inc., June 8, 2010*
3. *Ontario Ministry of the Environment, Conservation and Parks, Publication NPC-300, Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning, August 2013.*
4. *Ontario Ministry of Natural Resources and Forestry, Aggregate Resources of Ontario – Provincial Standards, August 2020.*
5. *Ontario Ministry of the Environment, Conservation and Parks, Publication NPC-115, Sound Level Limits for Motorized Construction Equipment.*
6. *International Organization for Standardization, Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation, ISO-9613-2, Switzerland, 1996.*
7. *Google Maps Aerial Imagery, Internet application: [maps.google.com](https://maps.google.com).*



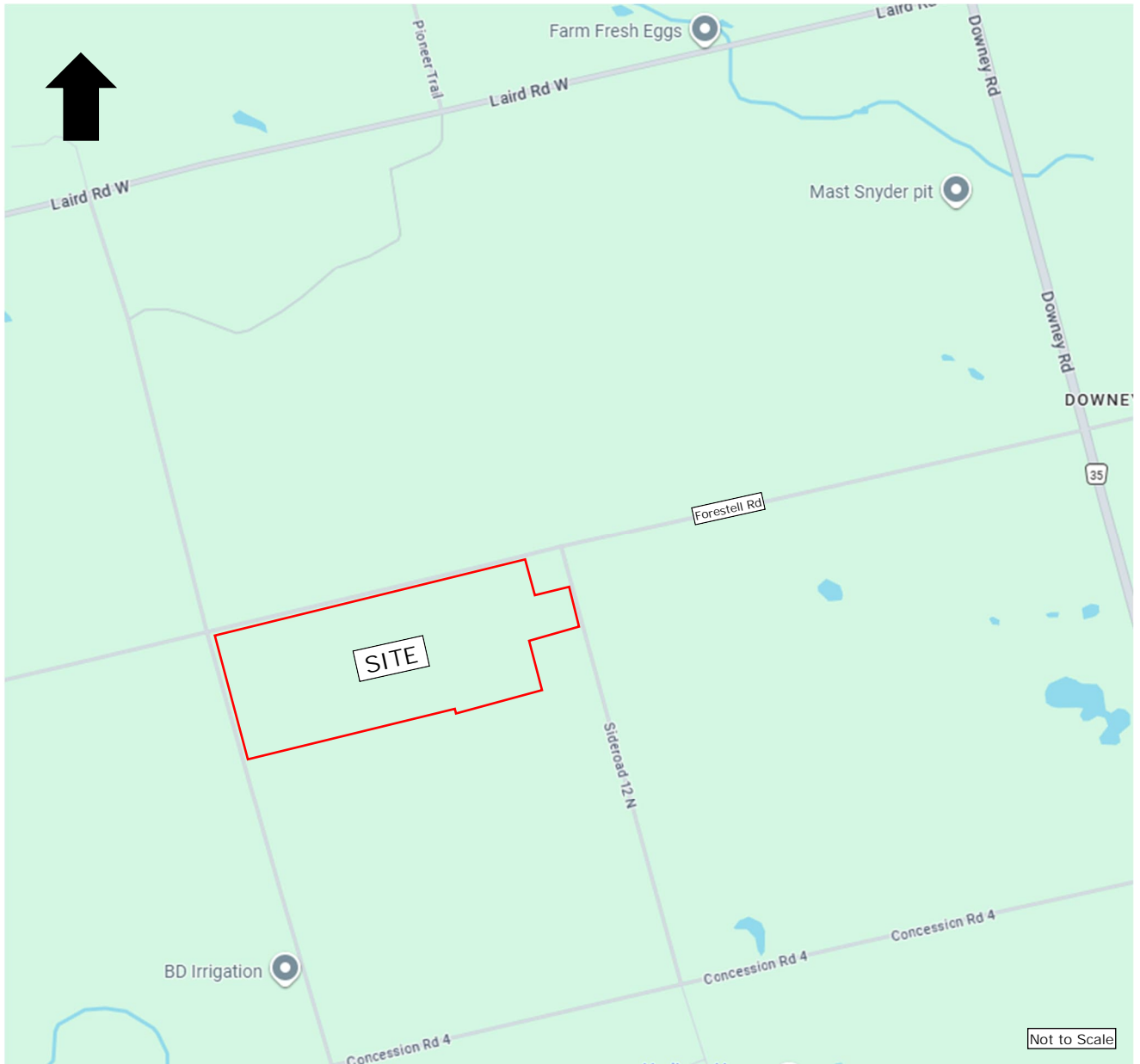


Figure 1: Key Plan

**PUSLINCH WEST DEVELOPMENT  
CONCEPT PLAN  
Figure 4  
Cox Construction Limited**

PT LOT 11 and 12 CON 4  
TOWNSHIP OF PUSLINCH  
COUNTY OF WELLINGTON

KEYMAP (NOT TO SCALE)

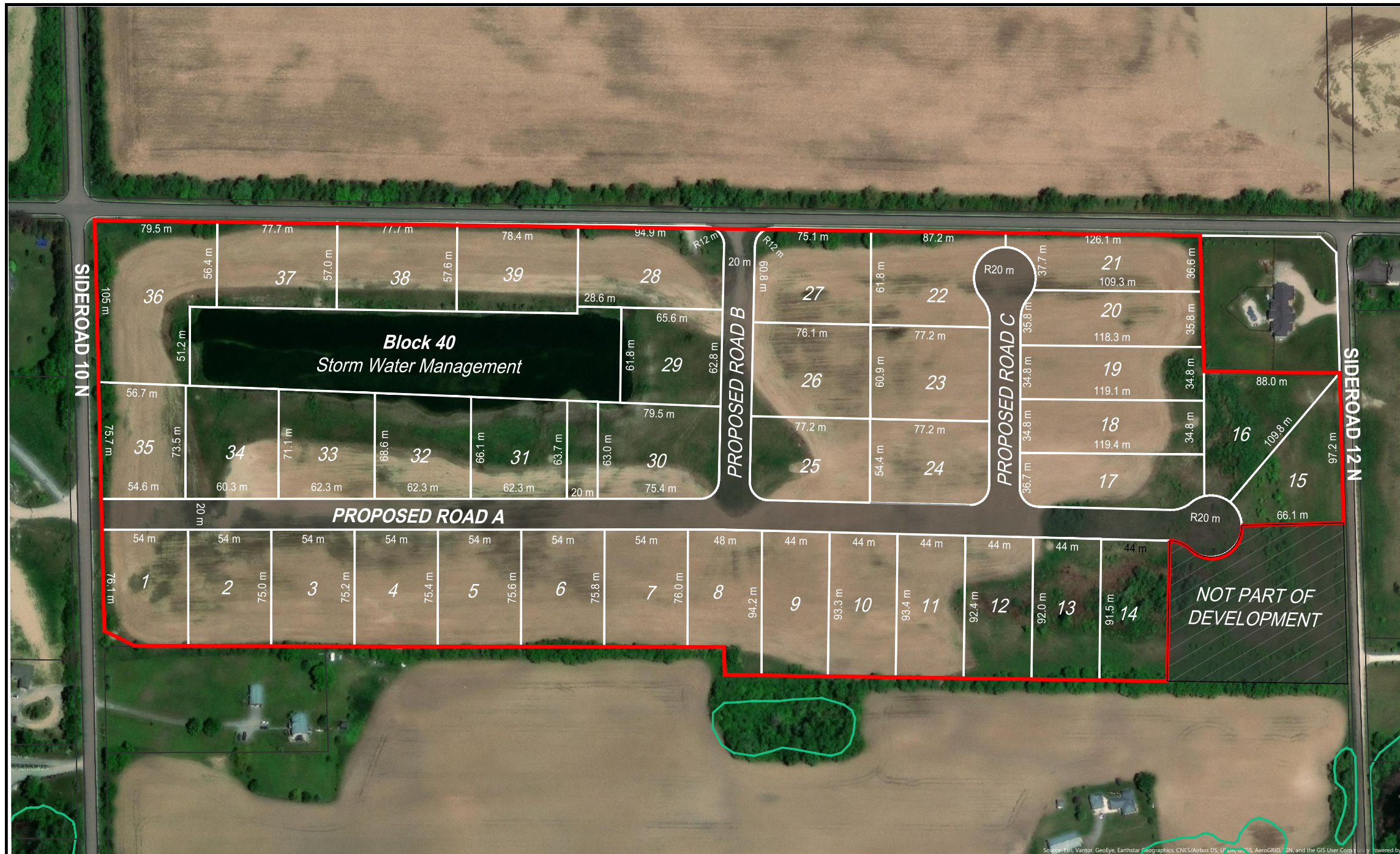


**NOTES**

1. THIS IS NOT A PLAN OF SURVEY.
2. ALL MEASUREMENTS SHOWN ARE IN METRES.
3. THE SITE IS CURRENTLY ZONED A (AGRICULTURE).
4. THE SITE IS DESIGNATED SECONDARY AGRICULTURAL.

**LEGEND**

- LANDS SUBJECT TO OPA
- WETLAND



LAND USE TABLE		
Description	Lots / Blocks	Area
Low Density Residential	1 - 39	16.9
Storm Water Management	40	1.7
Road Network		2.3
<b>TOTAL</b>		<b>20.9</b>

LAND USE TABLE		
LOT No.	SIZE (ha)	FRONTAGE (m)
1-7	0.41	54.0
8	0.41	48.0
9-14	0.41	44.0
15	0.41	24.5
16	0.44	23.0
17	0.41	36.7
18 & 19	0.42	34.8
20	0.42	35.8
21	0.42	37.7
22	0.46	61.8
23	0.47	60.9
24	0.42	54.4
25	0.42	54.4
26	0.47	60.9
27	0.46	60.8
28	0.50	53.6
29	0.42	62.8

LAND USE TABLE		
LOT No.	SIZE (ha)	FRONTAGE (m)
30	0.48	63.0
31	0.41	62.3
32	0.42	62.3
33	0.44	62.3
34	0.44	60.3
35	0.41	54.6
36	0.74	79.5
37	0.44	77.7
38	0.44	77.7
39	0.45	78.4

**SAI**  
PLANNING. AGROLOGY.  
ENVIRONMENTAL.

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**DRAFT**

12/15/2025

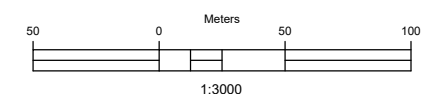


Figure 2: Concept Plan

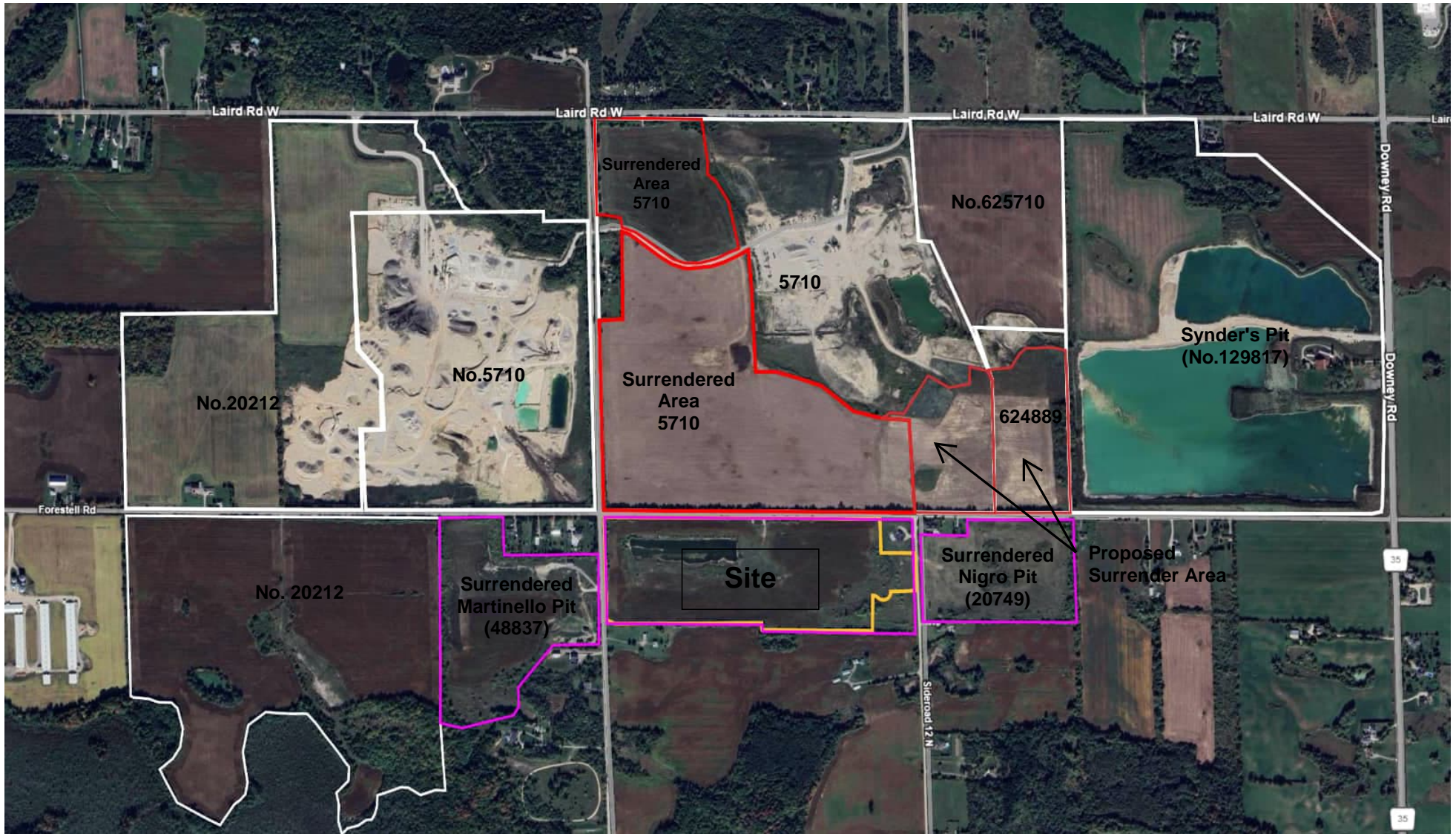


Figure 3: Aerial Plan Showing Site & Nearby Aggregate Extraction Facilities and License No.



NOISE



VIBRATION



ACOUSTICS



Figure 4: Predicted Daytime Sound Levels, Scenario 1, Leq [dBA]



Figure 5: Predicted Daytime Sound Levels, Scenario 2, Leq [dBA]

# Appendix A

## Assessment Modeling Methods



NOISE



VIBRATION



ACOUSTICS

## Assessment Modelling Assumptions

The computational acoustical model used for this Assessment (*Cadna/A* version 2025, build 209.5501) is based on the methods from ISO Standard 9613-2.2 "Acoustics - Attenuation of Sound During Propagation Outdoors" [6], which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures (or by topography where applicable). This modelling technique is acceptable to the MECP. Existing topography for the site and surrounding area was obtained from the Operational Plans and the Government of Canada's High Resolution Digital Elevation Model.

Ground attenuation was assumed to be spectral for all sources, with the ground factor (G) assumed to be 0.5 in all extraction areas and in the processing area (chosen to yield the best agreement between predictions and on-site measurements based on HGC experience); the ground factor was assumed to be 1.0 for soft ground areas, 0.0 for ponds and 0.25 for the paved areas. The temperature and relative humidity were assumed to be 10° C and 70%, respectively.

The modelling considered one order of reflection, the sufficiency of which was confirmed using an iterative convergence analysis with increasing orders of reflection. All buildings included in the model have an absorption coefficient of 0.2.

All sources, with the exception of on-site truck movements, were modeled as point sources of sound, shown as crosses in the appropriate figures. On-site movement of trucks were modelled as line sources (shown as thin green lines), with time weighting factors based 15 km/hr for trucks travelling within the pit.



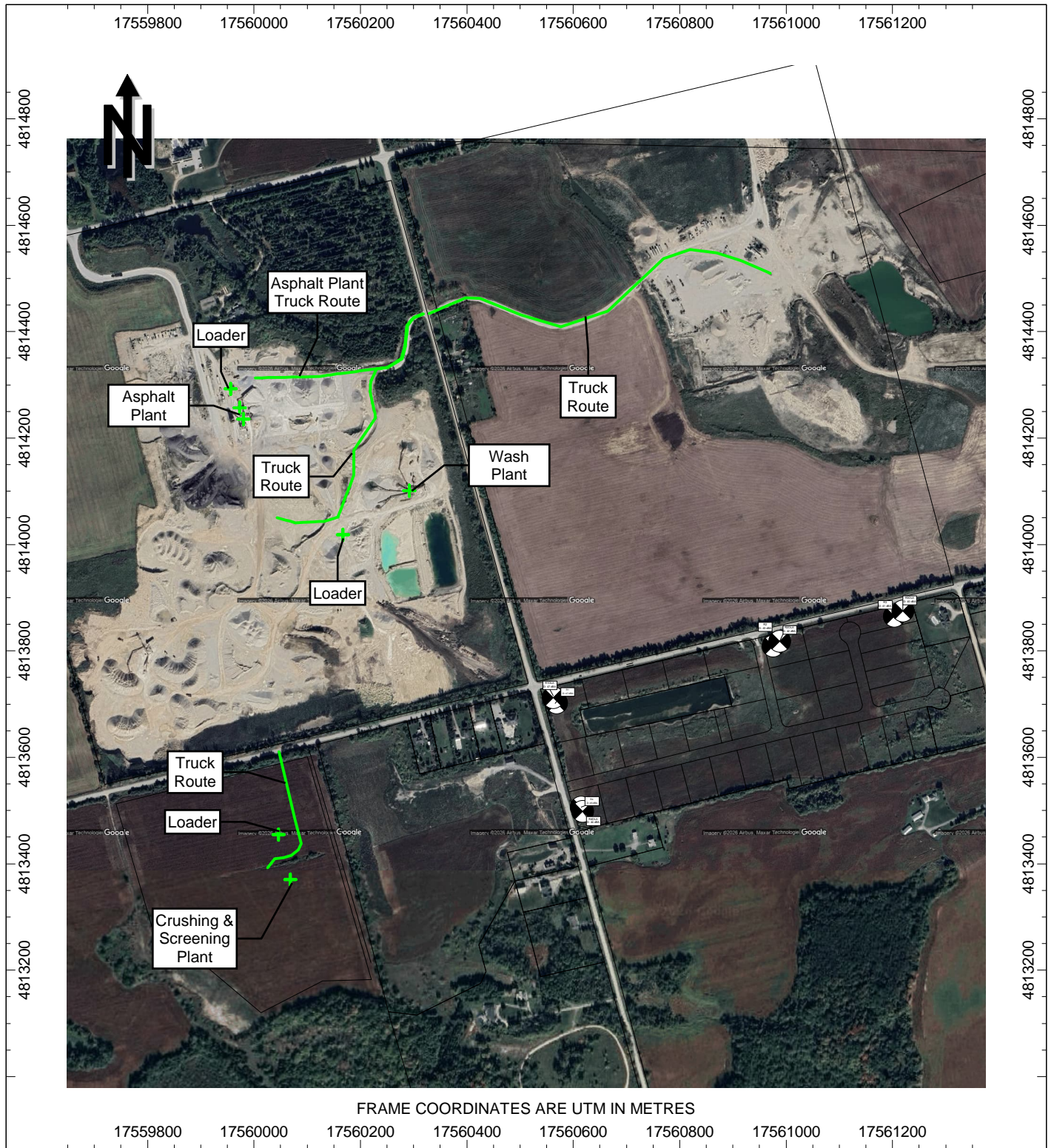


Figure A1: Noise Source Locations for Scenario 1,  
Extraction & Processing in Eastern Area of Pit License No. 20212



# Appendix B

## Calculation Summary



NOISE



VIBRATION



ACOUSTICS

R1				17560570	4813702	329.7														
SrcID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahours	CmetD	CmetN	RefID	RefN	LrD	LrN	
AP_Loader	17559954	4814293	320.0	102	102	69.6	0	0.0	-0.4	3.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	28	28	
AsphaltPlant	17559976	4814234	321.7	114	--	69.0	0	0.0	-1.7	4.4	3.8	0.0	0.0	0.0	0.0	0.0	0.0	38	--	
Loader_Pit20212SE	17560046	4813456	320.0	107	107	66.2	0	0.0	1.1	5.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	32	32	
ProcessingPlant_20212SE	17560066	4813369	321.0	121	--	66.6	0	0.0	0.0	11.5	2.7	0.0	0.0	0.0	0.0	0.0	0.0	40	--	
Trucks_AsphaltPlant	17559978	4814342	320.0	94	--	68.7	0	0.0	-2.1	6.6	7.5	0.0	0.0	0.0	0.0	0.0	0.0	13	--	
Trucks_Pit20212SE	17560062	4813460	321.7	96	96	65.8	0	0.0	-0.5	9.2	4.8	0.0	0.0	0.0	0.0	0.0	0.0	16	16	
Trucks_Pit5710East	17560666	4814485	323.8	98	--	68.9	0	0.0	-0.2	2.1	7.8	0.0	0.0	0.0	0.0	0.0	0.0	19	--	
Trucks_Pit5710West	17559770	4814159	322.2	97	97	66.6	0	0.0	-2.1	5.5	7.4	0.0	0.0	0.0	0.0	0.0	0.0	20	20	
WashPlant	17560290	4814102	325.0	116	--	64.7	0	0.0	-1.7	4.5	3.4	0.0	0.0	0.0	0.0	0.0	0.0	45	--	
WP_Loader	17560168	4814018	324.0	107	107	65.2	0	0.0	-1.0	4.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	36	36	

R2				17560976	4813809	329.7														
SrcID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahours	CmetD	CmetN	RefID	RefN	LrD	LrN	
AP_Loader	17559954	4814293	320.0	102	102	72.1	0	0.0	1.0	2.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	25	25	
AsphaltPlant	17559976	4814234	321.7	114	--	71.7	0	0.0	-0.6	4.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	34	--	
Loader_Pit20212SE	17560046	4813456	320.0	107	107	71.0	0	0.0	1.3	3.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0	28	28	
ProcessingPlant_20212SE	17560066	4813369	321.0	121	--	71.1	0	0.0	0.1	8.3	4.5	0.0	0.0	0.0	0.0	0.0	0.0	37	--	
Trucks_AsphaltPlant	17559980	4814342	320.0	94	--	70.8	0	0.0	-1.0	6.6	8.3	0.0	0.0	0.0	0.0	0.0	0.0	9	--	
Trucks_Pit20212SE	17560062	4813459	321.7	96	96	70.7	0	0.0	-0.5	5.6	8.5	0.0	0.0	0.0	0.0	0.0	0.0	11	11	
Trucks_Pit5710East	17560666	4814486	323.8	98	--	68.5	0	0.0	-0.5	1.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	21	--	
Trucks_Pit5710West	17559770	4814159	322.2	97	97	69.9	0	0.0	-1.1	5.7	8.3	0.0	0.0	0.0	0.0	0.0	0.0	14	14	
WashPlant	17560290	4814102	325.0	116	--	68.4	0	0.0	-0.5	4.2	4.4	0.0	0.0	0.0	0.0	0.0	0.0	39	--	
WP_Loader	17560168	4814018	324.0	107	107	69.4	0	0.0	0.1	3.4	3.3	0.0	0.0	0.0	0.0	0.0	0.0	30	30	

R3				17561204	4813865	330.6														
SrcID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahours	CmetD	CmetN	RefID	RefN	LrD	LrN	
AP_Loader	17559954	4814293	320.0	102	102	73.4	0	0.0	1.1	2.3	1.1	0.0	0.0	0.0	0.0	0.0	0.0	24	24	
AsphaltPlant	17559976	4814234	321.7	114	--	73.1	0	0.0	-0.5	4.4	4.3	0.0	0.0	0.0	0.0	0.0	0.0	32	--	
Loader_Pit20212SE	17560046	4813456	320.0	107	107	72.8	0	0.0	1.3	3.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	26	26	
ProcessingPlant_20212SE	17560066	4813369	321.0	121	--	72.9	0	0.0	0.1	6.8	5.6	0.0	0.0	0.0	0.0	0.0	0.0	35	--	
Trucks_AsphaltPlant	17559980	4814342	320.0	94	--	72.1	0	0.0	-0.9	6.1	9.0	0.0	0.0	0.0	0.0	0.0	0.0	8	--	
Trucks_Pit20212SE	17560062	4813459	321.7	96	96	72.6	0	0.0	-0.4	5.1	9.4	0.0	0.0	0.0	0.0	0.0	0.0	9	9	
Trucks_Pit5710East	17560666	4814486	323.8	98	--	69.2	0	0.0	-0.8	0.8	8.0	0.0	0.0	0.0	0.0	0.0	0.0	21	--	
Trucks_Pit5710West	17559770	4814158	322.2	97	97	71.6	0	0.0	-1.0	5.5	9.0	0.0	0.0	0.0	0.0	0.0	0.0	12	12	
WashPlant	17560290	4814102	325.0	116	--	70.5	0	0.0	-0.4	4.5	4.8	0.0	0.0	0.0	0.0	0.0	0.0	36	--	
WP_Loader	17560168	4814018	324.0	107	107	71.4	0	0.0	0.2	3.3	3.7	0.0	0.0	0.0	0.0	0.0	0.0	28	28	

R4				17560616	4813506	331.3														
SrcID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahours	CmetD	CmetN	RefID	RefN	LrD	LrN	
AP_Loader	17559954	4814293	320.0	102	102	71.2	0	0.0	1.3	2.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	26	26	
AsphaltPlant	17559976	4814234	321.7	114	--	70.7	0	0.0	-0.6	3.9	4.1	0.0	0.0	0.0	0.0	0.0	0.0	36	--	
Loader_Pit20212SE	17560046	4813456	320.0	107	107	66.1	0	0.0	1.1	5.1	1.6	0.0	0.0	0.0	0.0	0.0	0.0	33	33	
ProcessingPlant_20212SE	17560066	4813369	321.0	121	--	66.0	0	0.0	0.1	12.8	2.4	0.0	0.0	0.0	0.0	0.0	0.0	39	--	
Trucks_AsphaltPlant	17559976	4814342	320.0	94	--	70.6	0	0.0	-1.5	6.3	8.3	0.0	0.0	0.0	0.0	0.0	0.0	10	--	
Trucks_Pit20212SE	17560062	4813437	321.0	96	96	65.9	0	0.0	-0.5	9.1	4.8	0.0	0.0	0.0	0.0	0.0	0.0	16	16	
Trucks_Pit5710East	17560666	4814485	323.8	98	--	70.9	0	0.0	0.0	3.4	8.5	0.0	0.0	0.0	0.0	0.0	0.0	15	--	
Trucks_Pit5710West	17559770	4814160	322.2	97	97	68.9	0	0.0	-1.4	5.4	8.1	0.0	0.0	0.0	0.0	0.0	0.0	16	16	
WashPlant	17560290	4814102	325.0	116	--	67.6	0	0.0	-0.8	4.2	4.2	0.0	0.0	0.0	0.0	0.0	0.0	40	--	
WP_Loader	17560168	4814018	324.0	107	107	67.7	0	0.0	0.3	3.3	2.9	0.0	0.0	0.0	0.0	0.0	0.0	32	32	

R10LA				17560562	4813712	327.5														
SrcID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahours	CmetD	CmetN	RefID	RefN	LrD	LrN	
AP_Loader	17559954	4814293	320.0	102	102	69.5	0	0.0	1.6	1.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	28	28	
AsphaltPlant	17559976	4814234	321.7	114	--	68.9	0	0.0	0.4	3.9	2.7	0.0	0.0	0.0	0.0	0.0	0.0	38	--	
Loader_Pit20212SE	17560046	4813456	320.0	107	107	66.2	0	0.0	3.9	3.3	1.6	0.0	0.0	0.0	0.0	0.0	0.0	31	31	
ProcessingPlant_20212SE	17560066	4813369	321.0	121	--	66.6	0	0.0	3.1	9.1	2.7	0.0	0.0	0.0	0.0	0.0	0.0	39	--	
Trucks_AsphaltPlant	17559978	4814342	320.0	94	--	68.6	0	0.0	-1.2	6.7	7.1	0.0	0.0	0.0	0.0	0.0	0.0	13	--	
Trucks_Pit20212SE	17560062	4813460	321.7	96	96	65.8	0	0.0	1.5	7.8	5.0	0.0	0.0	0.0	0.0	0.0	0.0	15	15	
Trucks_Pit5710East	17560666	4814485	323.8	98	--	68.9	0	0.0	0.7	4.3	7.2	0.0	0.0	0.0	0.0	0.0	0.0	17	--	
Trucks_Pit5710West	17559770	4814159	322.2	97	97	66.4	0	0.0	-1.3	5.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	20	20	
WashPlant	17560290	4814102	325.0	116	--	64.5	0	0.0	-0.2	3.4	3.5	0.0	0.0	0.0	0.0	0.0	0.0	44	--	
WP_Loader	17560168	4814018	324.0	107	107	65.0	0	0.0	1.1	2.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	36	36	

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahours + Cmet + Refl

R2OLA				17560988	4813818	327.2														
SrcID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	CmetN	RefID	RefN	LrD	LrN	
AP_Loader	17559954	4814293	320.0	102	102	72.1	0	0.0	2.2	1.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0	25	25	
AsphaltPlant	17559976	4814234	321.7	114	--	71.8	0	0.0	1.4	3.5	3.2	0.0	0.0	0.0	0.0	0.0	0.0	34	--	
Loader_Pit20212SE	17560046	4813456	320.0	107	107	71.1	0	0.0	2.0	3.5	3.3	0.0	0.0	0.0	0.0	0.0	0.0	27	27	
ProcessingPlant_20212SE	17560066	4813369	321.0	121	--	71.2	0	0.0	3.0	6.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	36	--	
Trucks_AsphaltPlant	17559980	4814342	320.0	94	--	70.8	0	0.0	-0.1	6.5	7.9	0.0	0.0	0.0	0.0	0.0	0.0	9	--	
Trucks_Pit20212SE	17560062	4813459	321.7	96	96	70.8	0	0.0	1.6	5.1	7.5	0.0	0.0	0.0	0.0	0.0	0.0	10	10	
Trucks_Pit5710East	17560666	4814486	323.8	98	--	68.5	0	0.0	0.3	4.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	18	--	
Trucks_Pit5710West	17559770	4814159	322.2	97	97	70.0	0	0.0	-0.2	5.5	7.9	0.0	0.0	0.0	0.0	0.0	0.0	14	14	
WashPlant	17560290	4814102	325.0	116	--	68.5	0	0.0	1.2	3.9	3.4	0.0	0.0	0.0	0.0	0.0	0.0	39	--	
WP_Loader	17560168	4814018	324.0	107	107	69.5	0	0.0	2.3	3.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	30	30	

R3OLA				17561220	4813875	328.1														
SrcID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	CmetN	RefID	RefN	LrD	LrN	
AP_Loader	17559954	4814293	320.0	102	102	73.5	0	0.0	2.3	1.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	24	24	
AsphaltPlant	17559976	4814234	321.7	114	--	73.2	0	0.0	1.7	3.3	3.6	0.0	0.0	0.0	0.0	0.0	0.0	32	--	
Loader_Pit20212SE	17560046	4813456	320.0	107	107	72.9	0	0.0	4.0	3.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	25	25	
ProcessingPlant_20212SE	17560066	4813369	321.0	121	--	73.0	0	0.0	2.9	5.4	5.0	0.0	0.0	0.0	0.0	0.0	0.0	34	--	
Trucks_AsphaltPlant	17559980	4814342	320.0	94	--	72.2	0	0.0	0.2	6.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	7	--	
Trucks_Pit20212SE	17560062	4813459	321.7	96	96	72.7	0	0.0	1.8	4.5	8.5	0.0	0.0	0.0	0.0	0.0	0.0	8	8	
Trucks_Pit5710East	17560666	4814486	323.8	98	--	69.1	0	0.0	-0.3	2.8	8.0	0.0	0.0	0.0	0.0	0.0	0.0	19	--	
Trucks_Pit5710West	17559770	4814158	322.2	97	97	71.7	0	0.0	0.2	5.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	12	12	
WashPlant	17560290	4814102	325.0	116	--	70.6	0	0.0	1.6	3.8	4.0	0.0	0.0	0.0	0.0	0.0	0.0	36	--	
WP_Loader	17560168	4814018	324.0	107	107	71.5	0	0.0	2.7	3.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	27	27	

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl



NOISE



VIBRATION



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