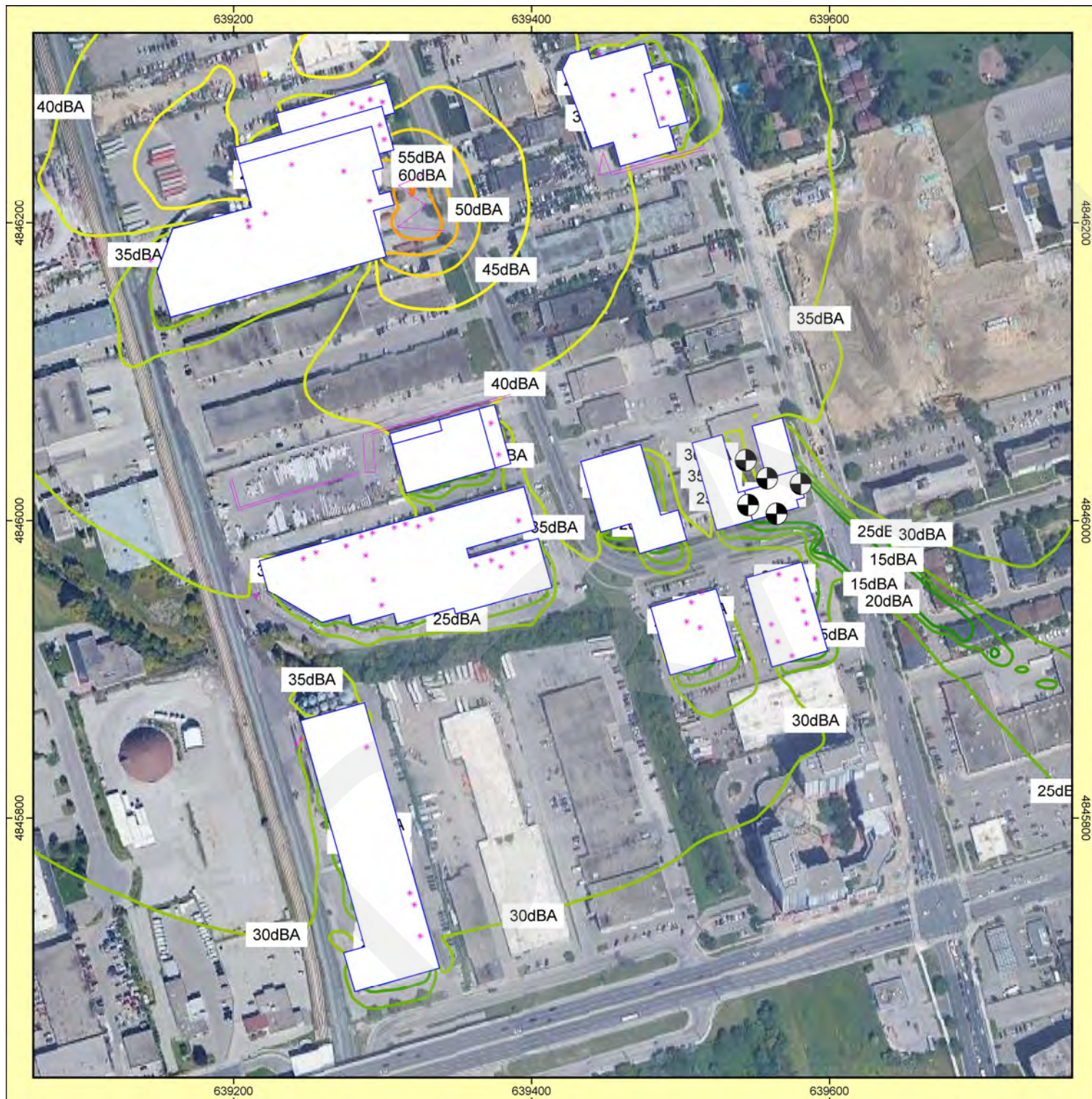




Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002



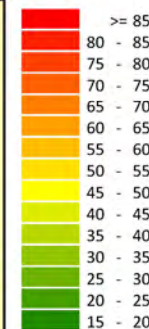
Map
1

Grid Map

Calculation in 1.5 m above ground



Levels Leq,d in dB(A)



- Main building
- Point receiver
- Noise calculation area
- Point source
- Line source
- Ground absorption

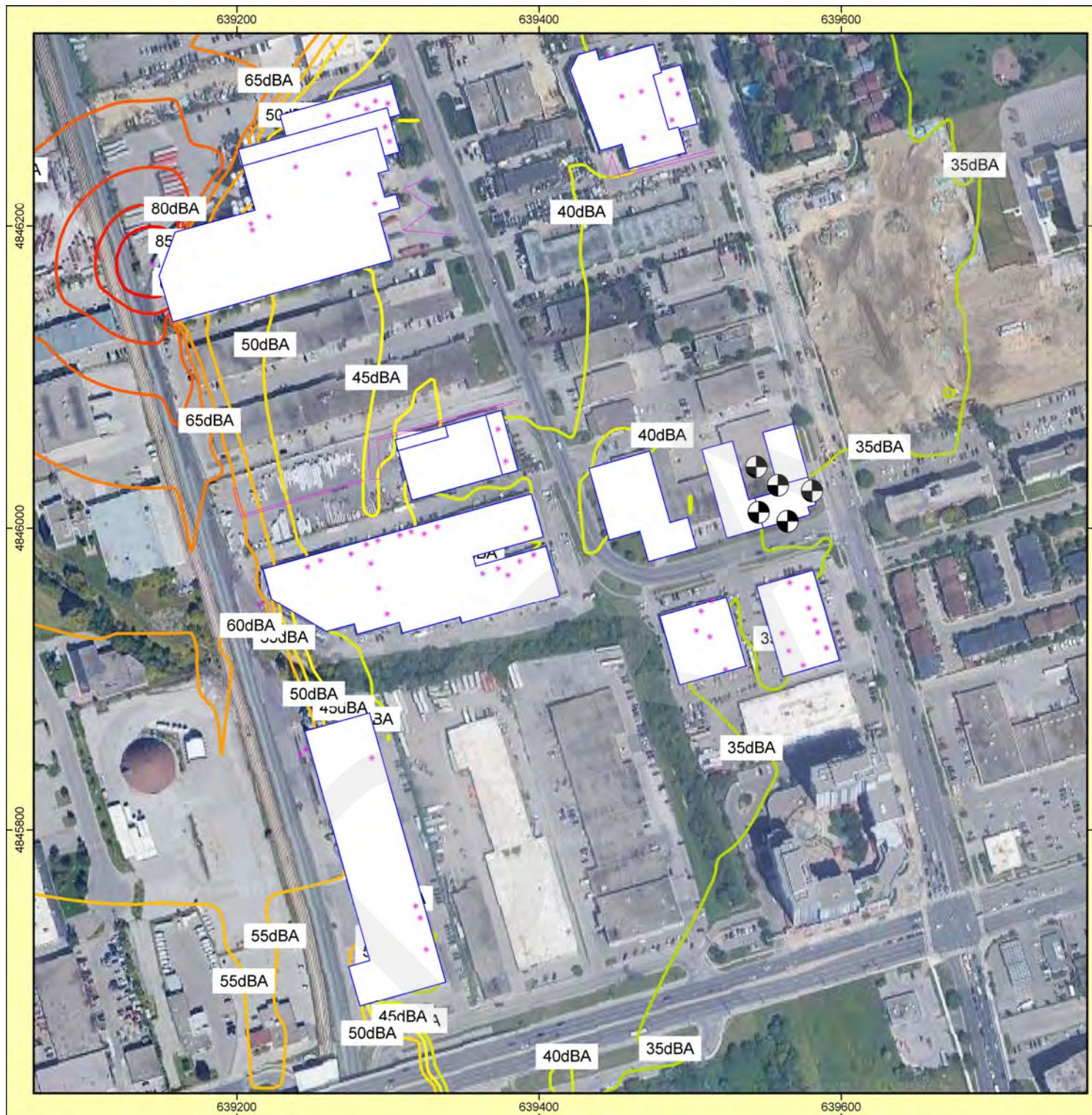
Length scale 1:3675



SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 1



Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002



Map

2

Grid Map

Calculation in 1.5 m above ground



Levels Leq,d in dB(A)

>= 85
80 - 85
75 - 80
70 - 75
65 - 70
60 - 65
55 - 60
50 - 55
45 - 50
40 - 45
35 - 40
30 - 35
25 - 30
20 - 25
15 - 20

□ Main building

● Point receiver

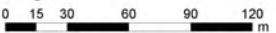
□ Noise calculation area

★ Point source

— Line source

□ Ground absorption

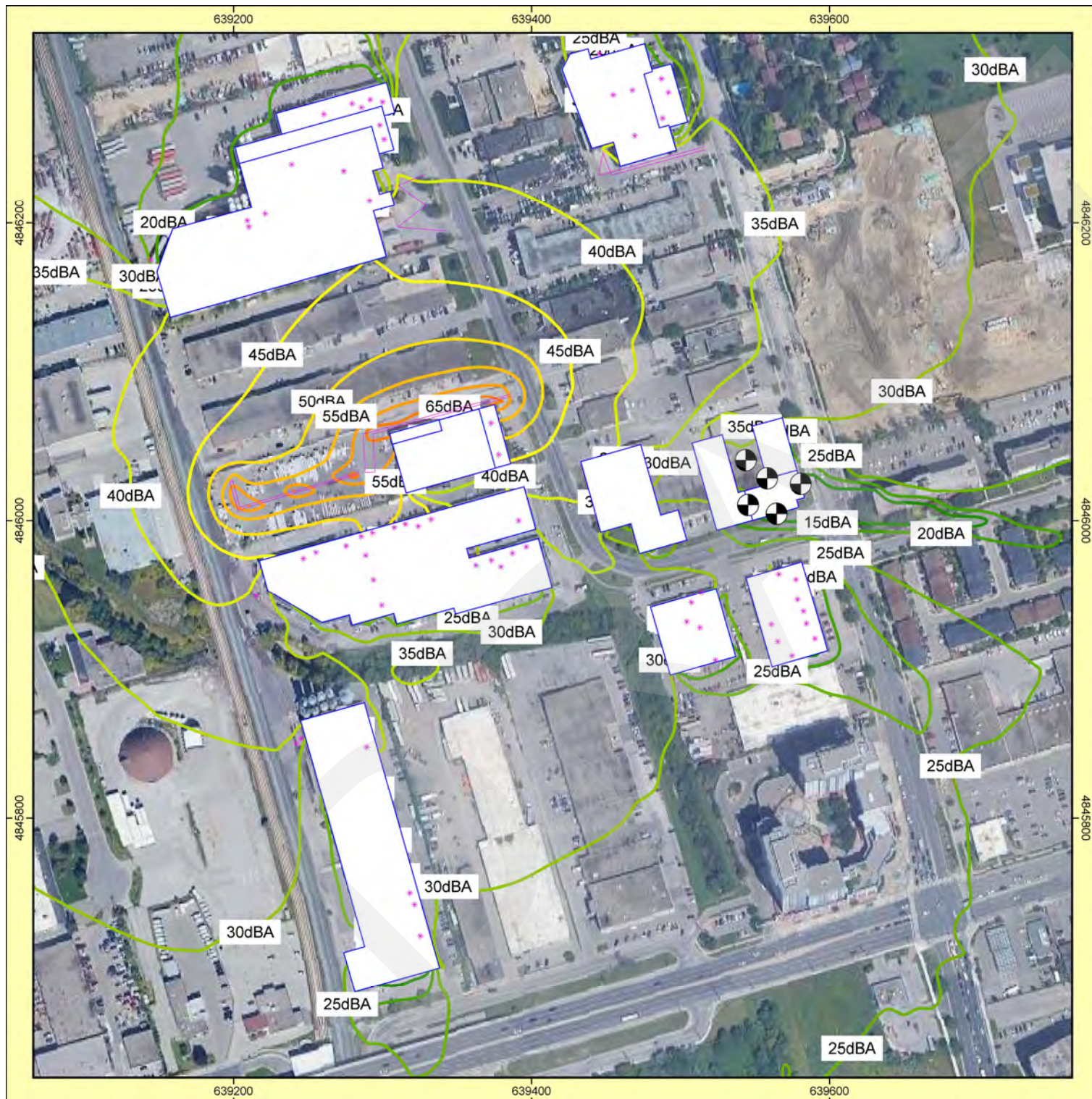
Length scale 1:3675



SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 1 - Impulse



Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002



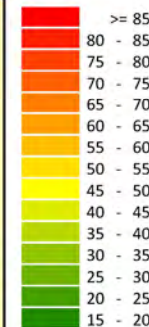
Map
3

Grid Map

Calculation in 1.5 m above ground



Levels Leq,d in dB(A)



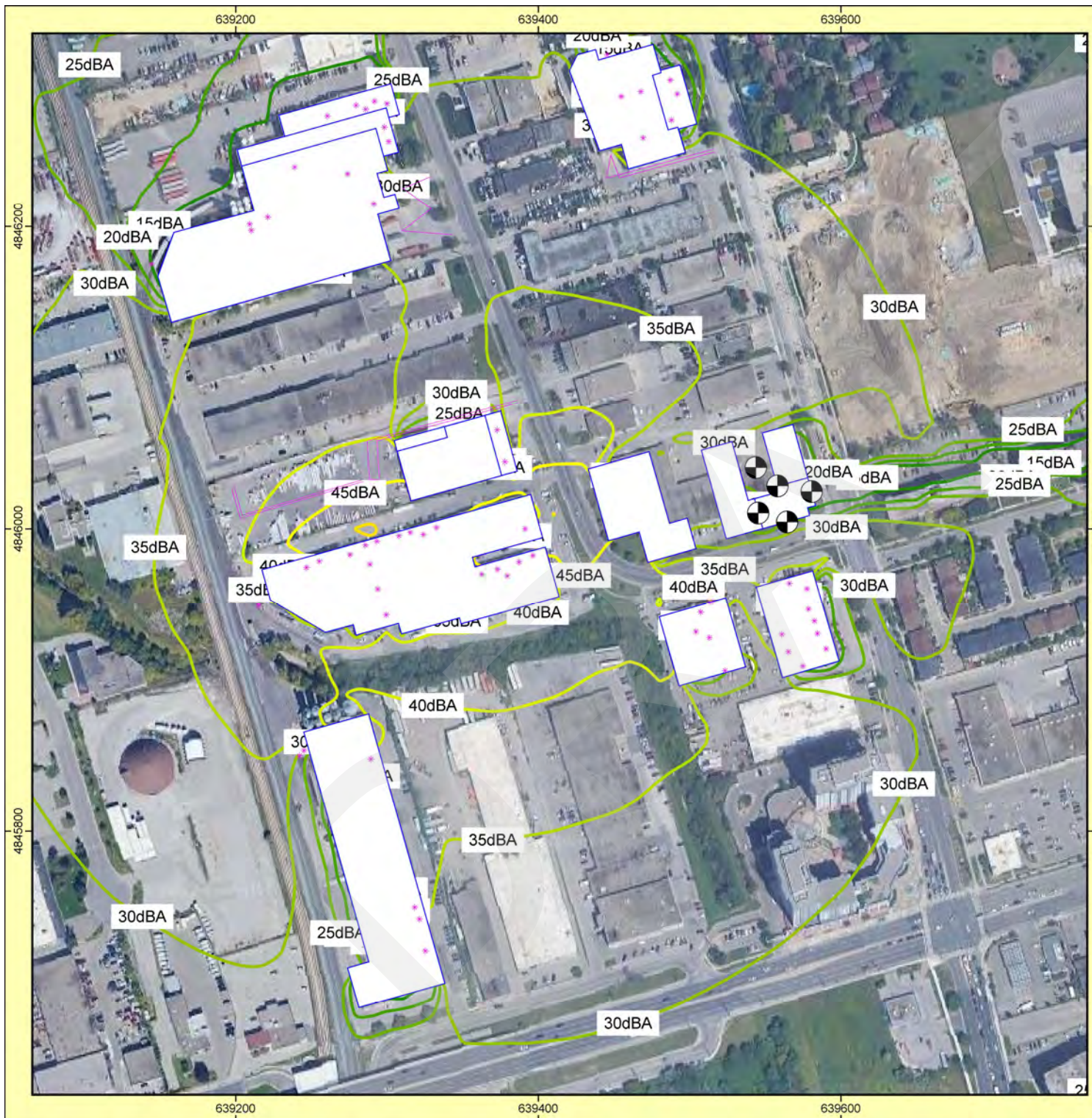
- Main building
- Point receiver
- Noise calculation area
- Point source
- Line source
- Ground absorption

Length scale 1:3675
 0 15 30 60 90 120 m

SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 2



Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002



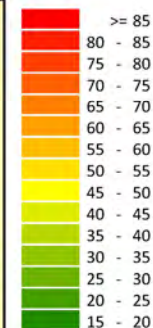
Map
4

Grid Map

Calculation in 1.5 m above ground

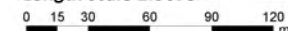


Levels Leq,d in dB(A)



- Main building
- Point receiver
- Noise calculation area
- Point source
- Line source
- Ground absorption

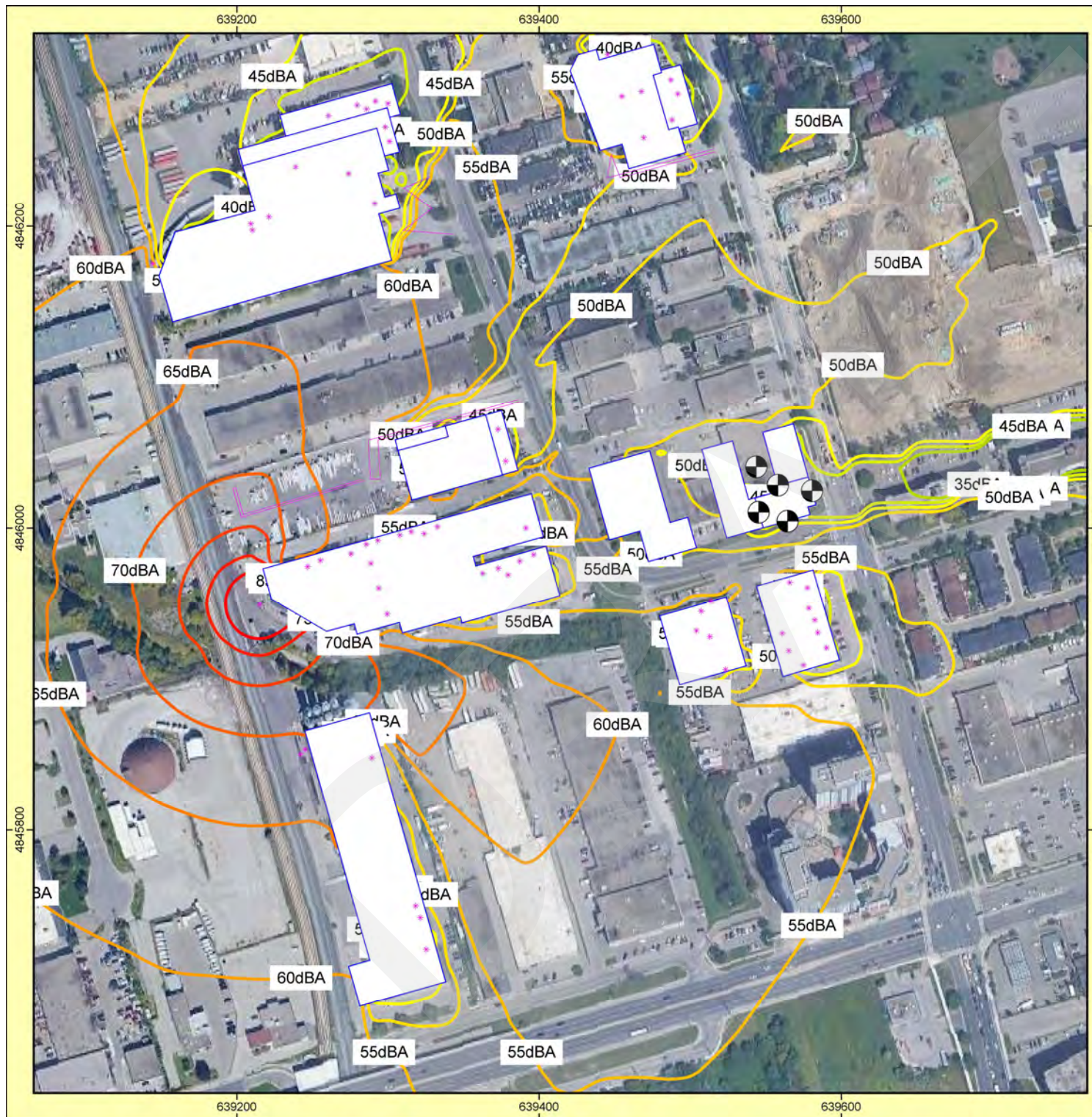
Length scale 1:3675



SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 3



Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002



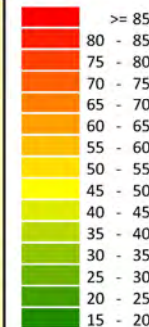
Map
5

Grid Map

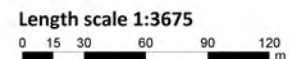
Calculation in 1.5 m above ground



Levels Leq,d in dB(A)



- Main building
- Point receiver
- Noise calculation area
- Point source
- Line source
- Ground absorption



SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 3 - Impulse



Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002

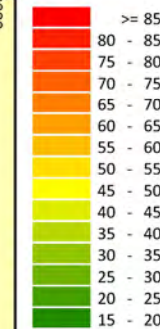


Grid Map

Calculation in 1.5 m above ground

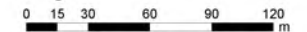


Levels Leq,d in dB(A)



- Main building
- Point receiver
- Noise calculation area
- ★ Point source
- Line source
- Ground absorption

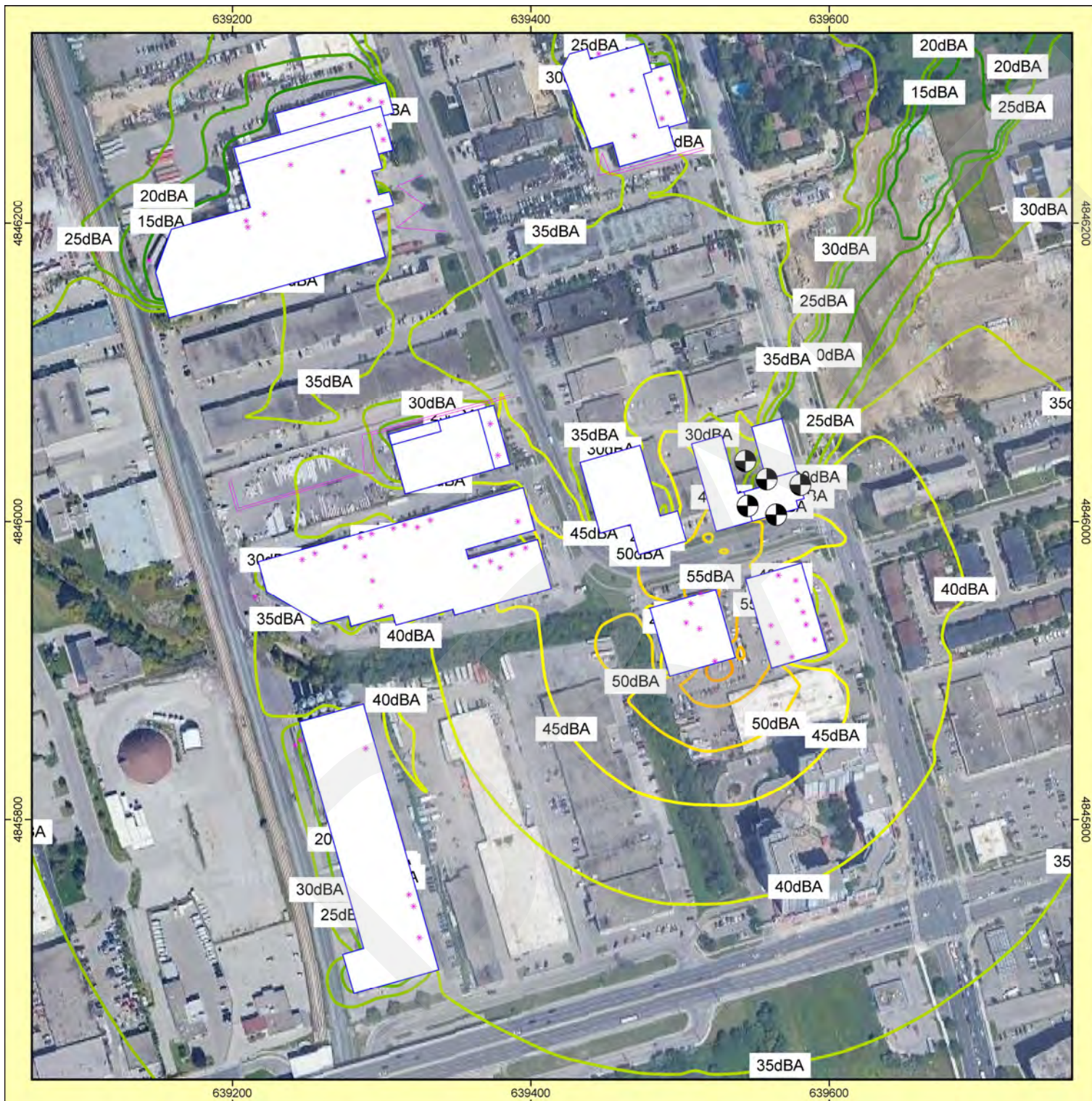
Length scale 1:3675



SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 4



Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002



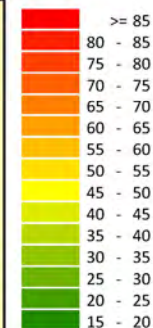
Map
8

Grid Map

Calculation in 1.5 m above ground

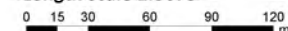


Levels Leq,d in dB(A)



- Main building
- Point receiver
- Noise calculation area
- Point source
- Line source
- Ground absorption

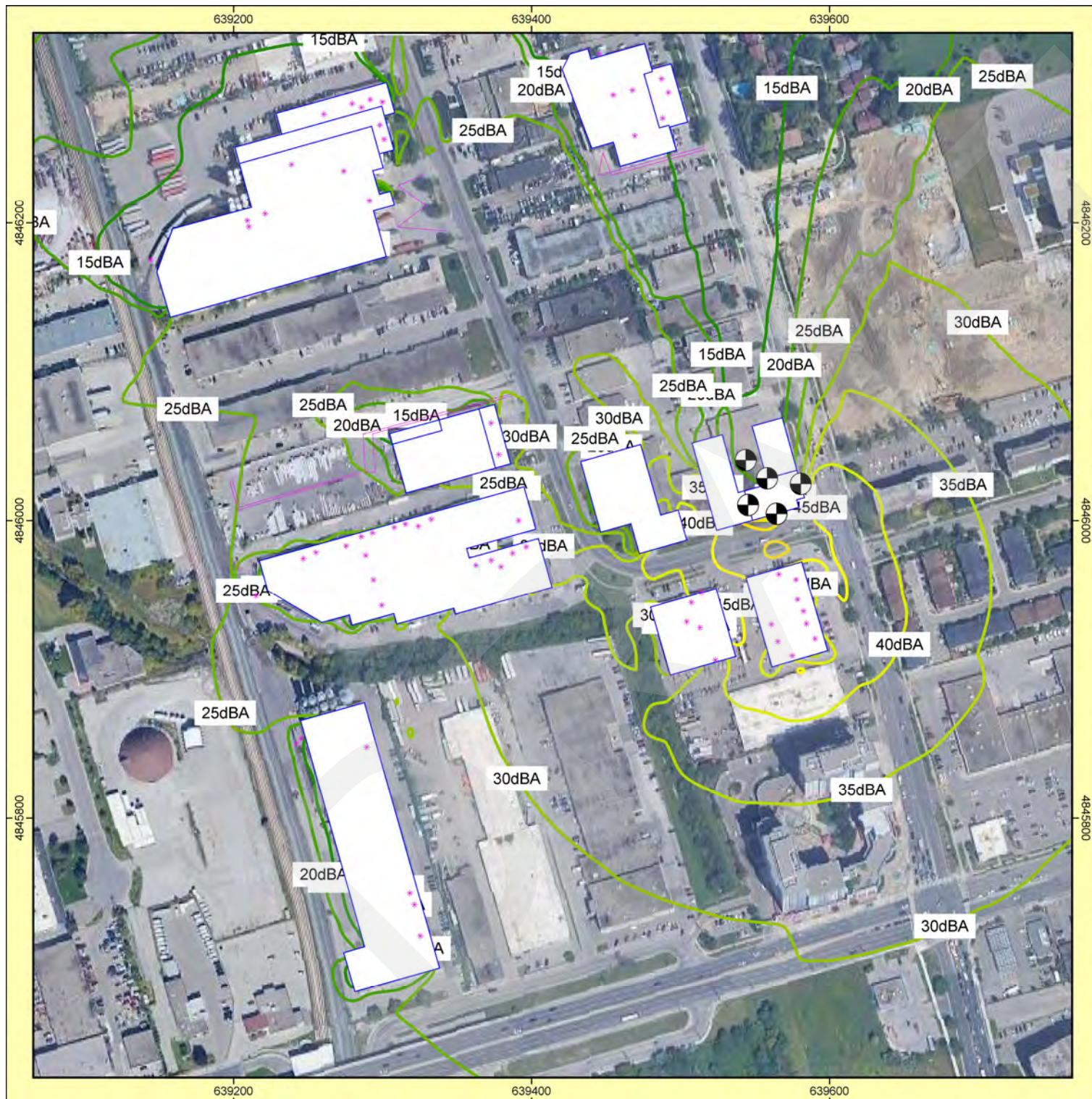
Length scale 1:3675



SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 5



Customer: 1530-1536 Midland Ave, Toronto
Stationary Source Assessment
Project: Noise Impact Study
Project-No. 1081.002

Map
9

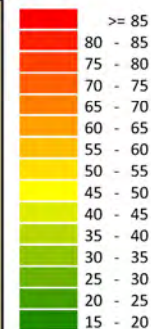


Grid Map

Calculation in 1.5 m above ground



Levels Leq,d in dB(A)



- Main building
- Point receiver
- Noise calculation area
- Point source
- Line source
- Ground absorption

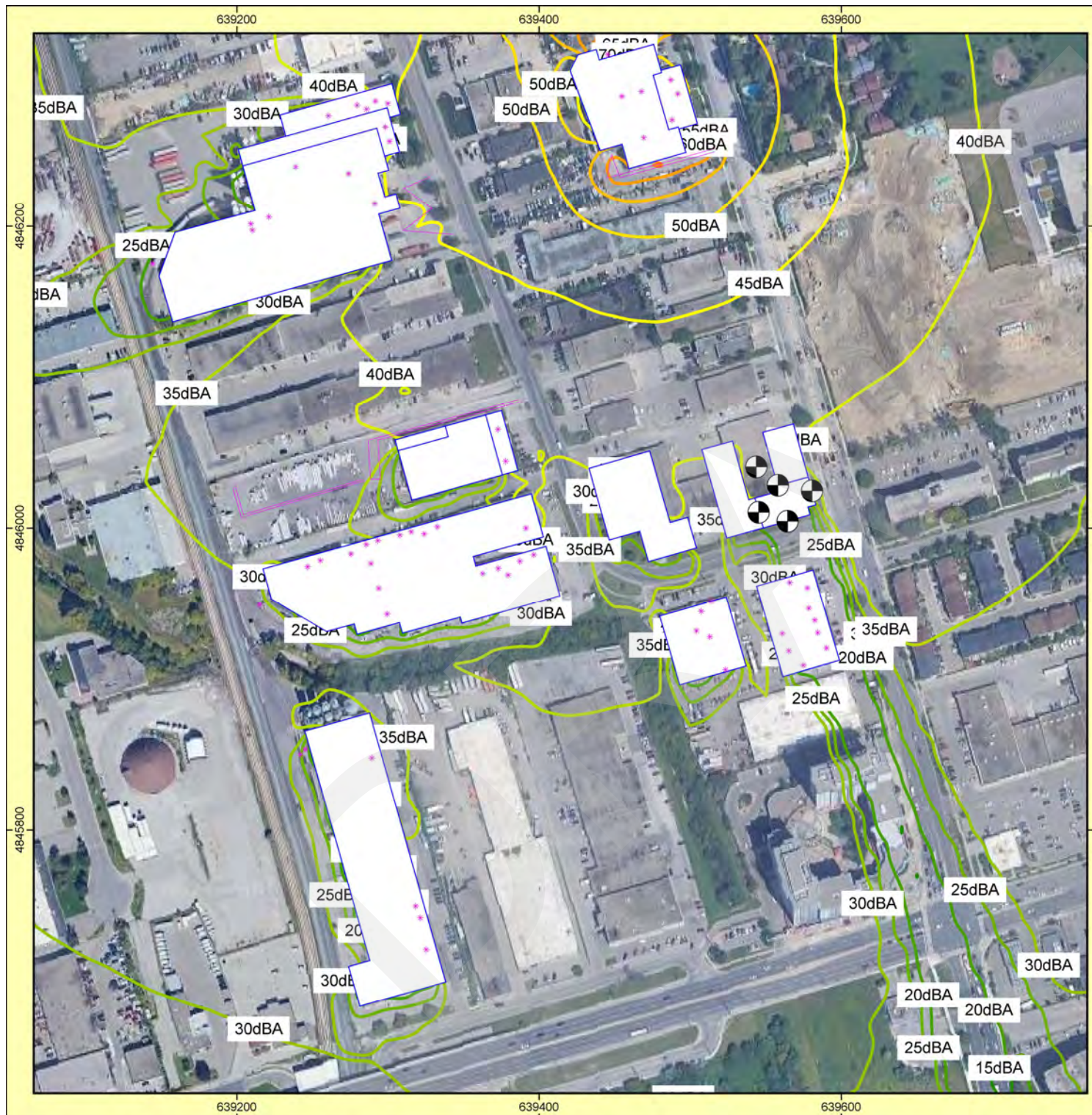
Length scale 1:3675



SONAIR Environmental Inc.
PO Box 56702 Pine Valley PO
Vaughan, ON L4L 8V3

Engineer: TL

Description:
Daytime Grid Noise Map
Predicted Noise Impact due to Commercial 6



Customer: 1530-1536 Midland Ave, Toronto
 Stationary Source Assessment
 Project: Noise Impact Study
 Project-No. 1081.002



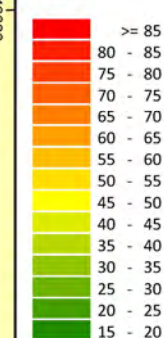
Map
10

Grid Map

Calculation in 1.5 m above ground

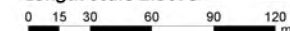


Levels Leq,d in dB(A)



- Main building
- Point receiver
- Noise calculation area
- Point source
- Line source
- Ground absorption

Length scale 1:3675



SONAIR Environmental Inc.
 PO Box 56702 Pine Valley PO
 Vaughan, ON L4L 8V3

Engineer: TL

Description:
 Daytime Grid Noise Map
 Predicted Noise Impact due to Commercial 7

APPENDIX B

STAMSON SAMPLE CALCULATION

Filename: 1p.te Time Period: Day/Night 16/8 hours
Description: Predicted Noise Impact at R1 at POW

Road data, segment # 1: Midland S (day/night)

Car traffic volume : 21168/2352 veh/TimePeriod *
Medium truck volume : 223/25 veh/TimePeriod *
Heavy truck volume : 891/99 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15109
Percentage of Annual Growth : 2.50
Number of Years of Growth : 20.00
Medium Truck % of Total Volume : 1.00
Heavy Truck % of Total Volume : 4.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Midland S (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 73.50 / 73.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00



Road data, segment # 2: Midland N (day/night)

Car traffic volume : 21350/2372 veh/TimePeriod *
Medium truck volume : 225/25 veh/TimePeriod *
Heavy truck volume : 899/100 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 15239
Percentage of Annual Growth : 2.50

Number of Years of Growth : 20.00
 Medium Truck % of Total Volume : 1.00
 Heavy Truck % of Total Volume : 4.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Midland N (day/night)

 Angle1 Angle2 : -90.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 15.20 / 15.20 m
 Receiver height : 73.50 / 73.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Road data, segment # 3: Law E_EM_EB (day/night)

 Car traffic volume : 27852/3095 veh/TimePeriod *
 Medium truck volume : 580/64 veh/TimePeriod *
 Heavy truck volume : 580/64 veh/TimePeriod *
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 19193
 Percentage of Annual Growth : 2.50
 Number of Years of Growth : 21.00
 Medium Truck % of Total Volume : 2.00
 Heavy Truck % of Total Volume : 2.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: Law E_EM_EB (day/night)

 Angle1 Angle2 : -90.00 deg 0.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 295.53 / 295.53 m
 Receiver height : 73.50 / 73.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00



Road data, segment # 4: Law E_EM_WB (day/night)

 Car traffic volume : 30056/3340 veh/TimePeriod *

Medium truck volume : 626/70 veh/TimePeriod *
 Heavy truck volume : 626/70 veh/TimePeriod *
 Posted speed limit : 50 km/h
 Road gradient : 0 %
 Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 20712
 Percentage of Annual Growth : 2.50
 Number of Years of Growth : 21.00
 Medium Truck % of Total Volume : 2.00
 Heavy Truck % of Total Volume : 2.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 4: Law E_EM_WB (day/night)

 Angle1 Angle2 : -90.00 deg 0.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 282.17 / 282.17 m
 Receiver height : 73.50 / 73.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

↑

Results segment # 1: Midland S (day)

Source height = 1.41 m

ROAD (0.00 + 69.10 + 0.00) = 69.10 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	69.10	0.00	0.00	0.00	0.00	0.00	0.00	69.10

Segment Leq : 69.10 dBA

↑

Results segment # 2: Midland N (day)

Source height = 1.41 m

ROAD (0.00 + 69.08 + 0.00) = 69.08 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	69.14	0.00	-0.06	0.00	0.00	0.00	0.00	69.08

Segment Leq : 69.08 dBA

↑
Results segment # 3: Law E_EM_EB (day)

Source height = 1.19 m

ROAD (0.00 + 52.72 + 0.00) = 52.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	68.67	0.00	-12.95	-3.01	0.00	0.00	0.00	52.72

Segment Leq : 52.72 dBA

↑
Results segment # 4: Law E_EM_WB (day)

Source height = 1.19 m

ROAD (0.00 + 53.25 + 0.00) = 53.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	69.00	0.00	-12.74	-3.01	0.00	0.00	0.00	53.25

Segment Leq : 53.25 dBA

Total Leq All Segments: 72.21 dBA

↑
Results segment # 1: Midland S (night)

Source height = 1.41 m

ROAD (0.00 + 62.57 + 0.00) = 62.57 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	62.57	0.00	0.00	0.00	0.00	0.00	0.00	62.57

Segment Leq : 62.57 dBA

↑
Results segment # 2: Midland N (night)

Source height = 1.41 m

ROAD (0.00 + 62.55 + 0.00) = 62.55 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	62.61	0.00	-0.06	0.00	0.00	0.00	0.00	62.55

Segment Leq : 62.55 dBA

↑
Results segment # 3: Law E_EM_EB (night)

Source height = 1.19 m

ROAD (0.00 + 46.17 + 0.00) = 46.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	62.12	0.00	-12.95	-3.01	0.00	0.00	0.00	46.17

Segment Leq : 46.17 dBA

↑
Results segment # 4: Law E_EM_WB (night)

Source height = 1.19 m

ROAD (0.00 + 46.74 + 0.00) = 46.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.00	62.49	0.00	-12.74	-3.01	0.00	0.00	0.00	46.74

Segment Leq : 46.74 dBA

Total Leq All Segments: 65.68 dBA

↑

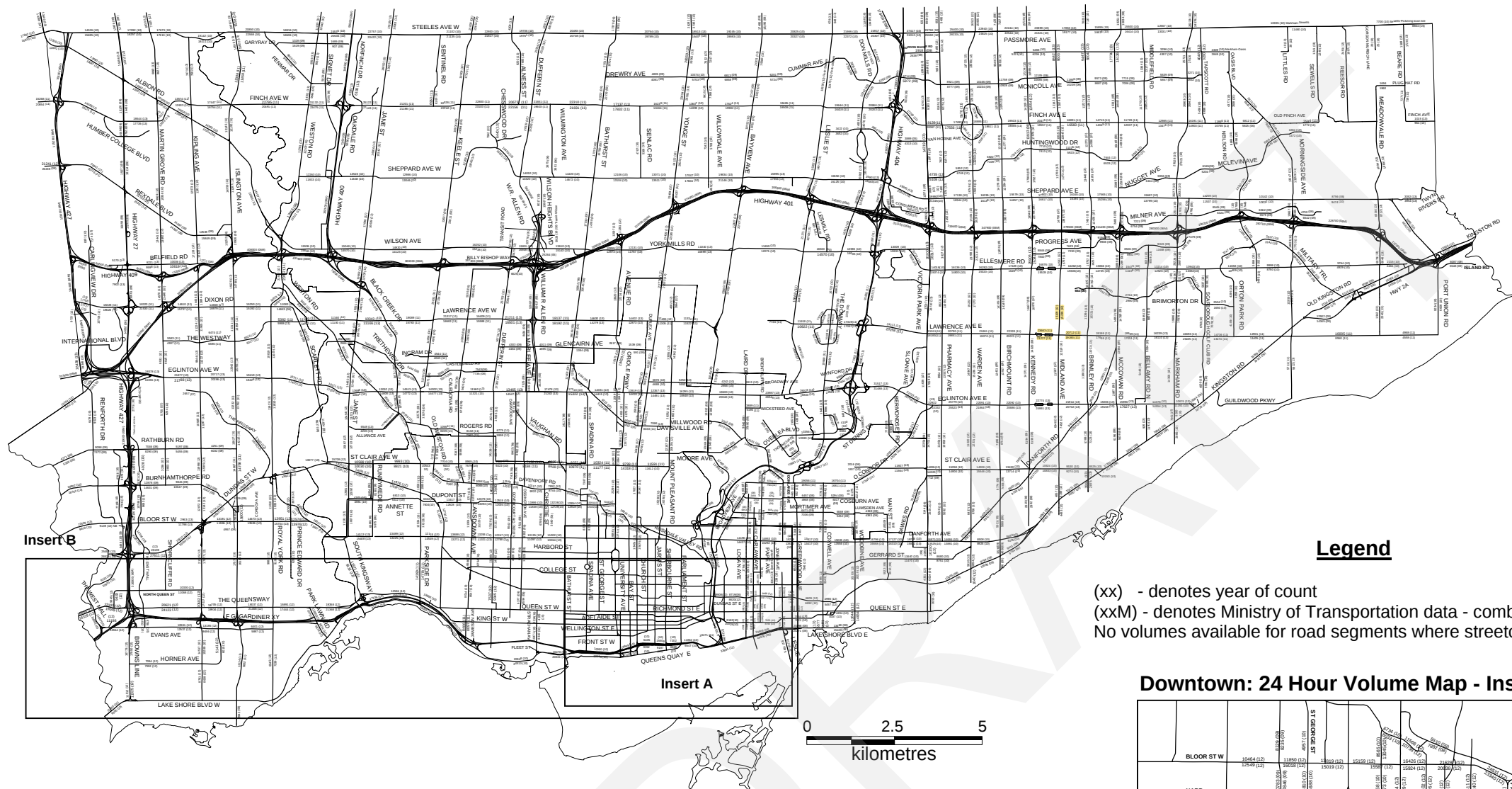
TOTAL Leq FROM ALL SOURCES (DAY): 72.21
(NIGHT): 65.68

↑
↑

APPENDIX C

TRAFFIC VOLUME

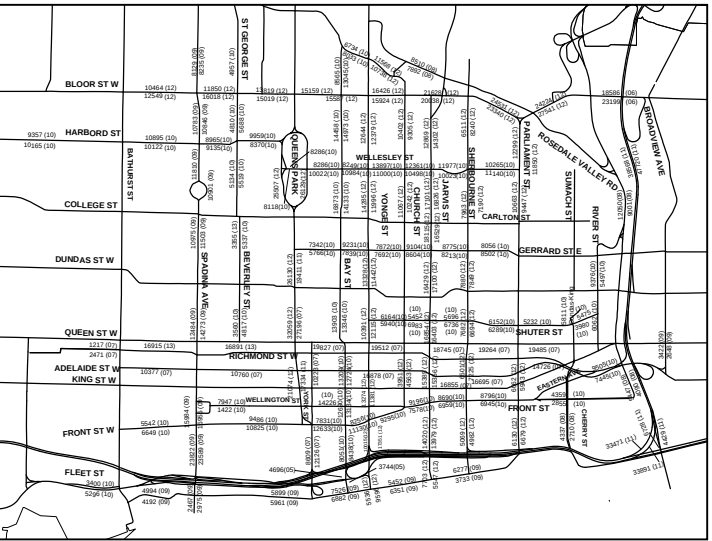
Average Weekday , 24 Hour Traffic Volume, (Most Recent Counts from 2005-2013)



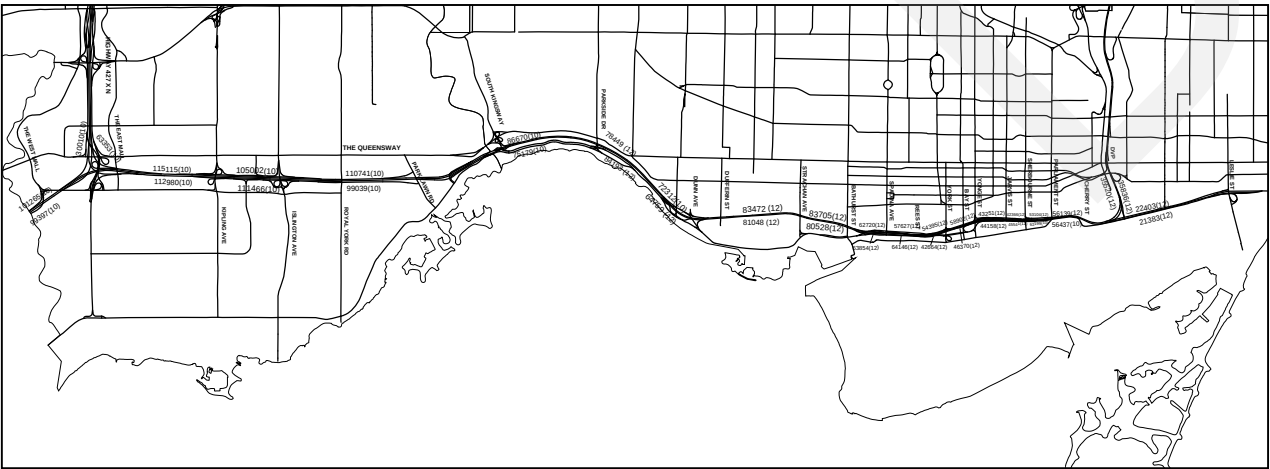
Legend

- (xx) - denotes year of count
- (xxM) - denotes Ministry of Transportation data - combined directional volume
- No volumes available for road segments where streetcars exist

Downtown: 24 Hour Volume Map - Insert A



F.G. Gardiner Expressway: 24 Hour Volume 2005- 2013 - Insert B



Transportation Services
Traffic Safety Unit
2013-9-30

Copyright 2013

_id	count_id	count_date	location_id	location	lng	lat	centreline	centreline_px	time_start	time_end	sb_cars_r
159976	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	56
159977	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	57
159978	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	70
159979	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	70
159980	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	76
159981	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	77
159982	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	58
159983	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	51
159984	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	33
159985	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	48
159986	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	31
159987	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	39
159988	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	41
159989	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	43
159990	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	50
159991	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	46
159992	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	57
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159994	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	41
159995	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	48
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160000	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	50
160001	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	53
160002	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	57
160003	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	51
160004	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	47
160005	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	60
160006	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	54
160007	35499	2017-01-09	5016	LAWRENCE	-79.2651	43.75152	2	13449830	413	2017-01-09 00:00:00	53

sb_cars_t	sb_cars_l	nb_cars_r	nb_cars_t	nb_cars_l	wb_cars_r	wb_cars_t	wb_cars_l	eb_cars_r	eb_cars_t	eb_cars_l	sb_truck_r	sb_truck_t
108	20	14	112	27	12	363	27	15	116	23	2	4
128	12	13	104	37	21	300	22	18	121	46	2	4
119	15	16	146	27	15	406	26	24	137	28	2	5
120	13	23	133	42	19	353	34	28	155	35	3	9
121	18	36	159	40	22	310	37	43	123	26	4	9
119	20	28	167	43	29	308	30	26	155	41	4	7
93	19	22	111	31	27	241	22	22	143	45	4	2
67	18	16	82	24	14	196	17	16	149	33	2	2
72	20	16	87	27	23	144	12	6	110	35	3	3
65	15	20	70	17	23	169	21	22	146	35	3	3
57	23	18	103	18	14	124	22	15	137	39	4	4
80	21	19	80	26	21	164	17	22	148	38	1	4
69	20	17	76	18	17	138	14	16	133	37	3	3
50	18	12	76	21	19	172	25	17	148	43	3	3
92	18	14	86	20	18	154	21	24	135	34	7	3
65	24	23	67	21	9	169	22	17	198	45	4	5
69	20	21	87	25	18	149	18	25	161	41	2	1
52	25	19	105	32	15	182	25	14	179	32	5	2
78	23	20	96	25	28	164	28	24	165	46	6	2
71	13	19	97	28	18	171	21	14	170	41	4	2
66	21	22	93	22	23	179	24	19	188	47	2	2
89	25	17	102	20	28	178	13	27	182	51	6	3
72	26	18	111	28	22	212	16	31	217	56	1	0
103	27	29	118	32	23	203	30	30	204	48	2	2
106	32	23	133	21	23	178	31	31	295	59	5	5
138	25	35	104	21	26	220	34	37	344	70	2	0
158	29	41	147	25	29	195	27	49	338	61	4	3
130	27	36	121	24	23	215	38	33	409	71	2	0
147	32	39	132	23	19	206	35	30	363	69	3	2
128	19	34	140	24	28	220	29	46	376	70	1	1
152	38	25	134	19	17	190	33	31	313	55	0	3
132	32	26	114	20	15	215	34	30	336	64	2	0

sb_truck_l	nb_truck_l	nb_truck_r	nb_truck_l	wb_truck_l	wb_truck_r	wb_truck_l	eb_truck_l	eb_truck_r	eb_truck_l	sb_bus_r	sb_bus_t	sb_bus_l
1	0	1	0	1	1	0	1	1	0	0	1	0
1	1	0	0	1	3	0	0	6	1	1	2	0
1	0	2	1	1	6	1	0	1	0	0	2	0
0	0	0	2	0	4	0	0	2	0	0	0	1
0	0	4	0	0	2	0	0	4	1	0	3	0
3	0	2	2	1	1	1	1	1	2	0	2	0
0	0	2	0	3	3	0	1	4	2	1	2	0
0	0	3	0	2	4	1	1	2	3	0	2	0
0	0	0	0	2	4	0	1	6	0	1	1	0
0	0	4	0	1	3	1	0	5	3	0	1	0
1	0	8	0	0	4	0	0	5	2	0	1	0
0	0	2	0	0	2	0	2	3	7	0	2	0
0	0	2	0	1	5	0	1	5	3	0	1	0
1	0	4	0	0	3	0	0	8	4	0	1	0
2	1	4	1	1	3	0	0	0	2	0	2	0
2	1	4	1	1	5	0	0	1	1	0	1	0
0	1	1	0	0	1	1	0	7	1	0	1	0
0	0	4	0	0	2	0	0	0	6	0	1	0
0	0	2	0	0	8	0	0	4	2	0	2	0
2	1	1	0	0	6	0	0	5	5	0	1	0
0	0	3	0	2	7	0	0	5	5	0	1	0
0	0	5	0	1	3	1	1	8	5	0	1	0
0	1	2	0	0	1	1	0	3	2	0	2	0
1	0	4	1	0	0	1	0	3	5	0	1	0
0	0	1	0	0	3	1	0	3	1	0	2	0
1	0	2	0	2	3	0	1	2	0	0	3	0
0	0	2	0	0	3	0	0	3	1	0	2	0
0	0	2	0	0	0	0	0	2	1	0	1	0
1	0	1	0	2	3	1	0	2	0	0	2	0
0	1	3	0	0	5	0	1	2	1	0	2	0
2	0	2	0	1	1	0	0	3	2	0	2	0
3	0	1	0	0	2	0	0	3	1	0	2	0

nb_bus_r	nb_bus_t	nb_bus_l	wb_bus_r	wb_bus_t	wb_bus_l	eb_bus_r	eb_bus_t	eb_bus_l	nx_peds	sx_peds	ex_peds	wx_peds
0	3	0	0	7	0	0	4	0	14	9	10	5
0	1	0	0	7	0	2	6	1	18	15	16	14
0	2	0	0	4	0	0	7	0	28	12	25	12
1	1	0	0	6	1	0	4	2	48	17	28	13
0	3	0	1	7	0	1	4	0	61	13	38	13
0	3	2	0	5	0	0	5	0	37	18	23	10
1	2	1	0	7	0	1	5	1	24	16	21	16
0	2	0	0	5	0	0	4	2	28	10	9	9
0	1	0	0	1	0	0	5	1	14	13	12	11
0	1	0	0	5	0	0	3	0	16	4	17	6
0	2	0	0	3	0	0	2	0	11	7	21	12
0	1	0	0	2	0	0	3	0	16	8	14	4
0	1	0	0	2	0	0	3	0	8	12	17	12
0	1	0	0	2	0	0	2	0	14	10	15	6
0	2	0	0	5	0	0	3	0	31	8	34	15
0	1	0	0	1	0	0	2	1	23	20	26	15
0	1	0	0	2	0	0	2	0	17	12	14	9
0	1	1	0	2	0	0	3	0	19	11	15	9
0	2	0	0	2	0	0	3	0	25	8	15	9
0	1	0	0	2	0	0	3	0	17	8	23	8
0	1	0	0	1	0	0	3	0	15	8	12	7
0	2	0	0	3	0	0	2	0	22	9	25	12
0	1	0	0	5	0	0	6	0	22	7	10	4
0	2	0	0	2	0	0	5	0	18	6	14	7
0	2	0	0	6	1	0	5	0	21	15	26	19
0	1	0	0	4	0	0	5	0	26	12	18	9
0	2	0	0	3	0	0	6	0	28	4	24	12
0	2	0	0	5	0	0	3	0	42	15	23	8
0	3	0	0	4	0	0	4	0	35	15	31	14
0	2	0	0	0	0	0	5	0	31	28	39	21
0	2	0	0	5	0	0	6	0	27	13	32	12
0	2	0	0	4	0	0	4	0	23	10	21	10

nx_bike	sx_bike	ex_bike	wx_bike	nx_other	sx_other	ex_other	wx_other
0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0
1	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0
0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0
0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0
0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0
1	0	0	0	0	0	0	0

APPENDIX D

STATIONARY SOURCE ASSESSMENT SUMMARY TABLE

Source Summary Table

Source ID	Source Description	Sound Power Level (dBA)	Height Above Roof (m)	Height Above Ground (m)	Source Co-ordinate (m)				Operating Time (min/hr)		
					X	Y	Z	rel. Z	Daytime (07:00 - 19:00)	Evening (19:00 - 23:00)	Nighttime (23:00 - 07:00)
Commercial 1											
C1_RTU1	Rooftop HVAC Unit (4-ton)	75.6	1.6	11.6	639291.25	4846214.92	172.0	11.6	60	30	30
C1_RTU2	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639301.04	4846256.18	167.6	6.6	60	30	30
C1_RTU3	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639298.21	4846265.69	167.6	6.6	60	30	30
C1_RTU4	Rooftop HVAC Unit (4-ton)	75.6	1.6	10.6	639260.53	4846273.07	172.1	10.6	60	30	30
C1_RTU5	Rooftop HVAC Unit (10-ton)	88.3	1.6	10.6	639279.47	4846280.17	171.9	10.6	60	30	30
C1_RTU6	Rooftop HVAC Unit (10-ton)	88.3	1.6	10.6	639285.82	4846277.55	171.8	10.6	60	30	30
C1_RTU7	Rooftop HVAC Unit (4-ton)	75.6	1.6	10.6	639291.70	4846282.83	171.8	10.6	60	30	30
C1_RTU8	Rooftop HVAC Unit (4-ton)	75.6	1.6	10.6	639299.83	4846281.31	171.7	10.6	60	30	30
C1_MUA1	Make-up Air Unit	85.7	2.0	12.0	639221.16	4846206.02	173.5	12.0	60	30	30
C1_MUA2	Make-up Air Unit	85.7	2.0	12.0	639238.92	4846239.35	173.5	12.0	60	30	30
C1_Con1	Rooftop Condenser Unit (10-fans)	89.1	2.0	12.0	639209.14	4846201.33	173.7	12.0	60	60	60
C1_Con2	Rooftop Condenser Unit (10-fans)	89.1	2.0	12.0	639210.30	4846197.33	173.7	12.0	60	60	60
C1_Con3	Rooftop Condenser Unit (6-fans)	86.9	2.0	12.0	639273.88	4846234.85	173.2	12.0	60	60	60
C1_TRK1	Truck Movements	106.1	-	2.4	639343.43	4846194.42	162.2	2.4	7 Events	7 Events	7 Events
C1_IMP1	Railcar Coupling/Decoupling Impulse	121.0	-	1.5	639144.32	4846175.15	164.5	1.5	60	60	60
Commercial 2											
C2_RTU1	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639377.94	4846044.18	166.6	6.6	60	30	30
C2_RTU2	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639372.77	4846065.43	166.5	6.6	60	30	30
C2_TRK1	Truck Movements	106.1	-	2.4	639386.03	4846085.04	161.8	2.4	6 Events	0	0
C2_FL1	Loader Movements	94.6	-	1.6	639284.19	4846031.32	161.9	1.6	25 Events	0	0
Commercial 3											
C3_RTU1	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639246.91	4845974.56	166.5	5.6	60	30	30
C3_RTU2	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639255.24	4845978.67	166.4	5.6	60	30	30
C3_RTU3	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639275.49	4845983.09	166.1	5.6	60	30	30
C3_RTU4	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639285.54	4845989.25	165.9	5.6	60	30	30
C3_RTU5	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639293.20	4845991.85	165.7	5.6	60	30	30
C3_RTU6	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639307.77	4845995.47	165.5	5.6	60	30	30
C3_RTU7	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639315.35	4845997.72	165.4	5.6	60	30	30
C3_RTU8	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639323.97	4845996.31	165.3	5.6	60	30	30
C3_RTU9	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639332.56	4846000.94	165.3	5.6	60	30	30
C3_RTU10	Rooftop HVAC Unit (10-ton)	88.3	1.6	5.6	639391.31	4846000.05	164.9	5.6	60	30	30
C3_RTU11	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639362.60	4845970.05	164.7	5.6	60	30	30
C3_RTU12	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639372.96	4845973.43	164.8	5.6	60	30	30

Source Summary Table

Source ID	Source Description	Sound Power Level (dBA)	Height Above Roof (m)	Height Above Ground (m)	Source Co-ordinate (m)				Operating Time (min/hr)		
					X	Y	Z	rel. Z	Daytime (07:00 - 19:00)	Evening (19:00 - 23:00)	Nighttime (23:00 - 07:00)
C3_RTU13	Rooftop HVAC Unit (10-ton)	88.3	1.6	5.6	639379.49	4845969.02	164.8	5.6	60	30	30
C3_RTU14	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639387.19	4845978.24	164.9	5.6	60	30	30
C3_RTU15	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639396.34	4845982.40	164.9	5.6	60	30	30
C3_Con1	Rooftop Condenser Unit	79.6	0.9	4.9	639288.57	4845976.71	165.0	4.9	60	60	60
C3_Con2	Rooftop Condenser Unit	79.6	0.9	4.9	639293.81	4845960.38	164.8	4.9	60	60	60
C3_Con3	Rooftop Condenser Unit	79.6	0.9	4.9	639299.48	4845943.13	164.3	4.9	60	60	60
C3_IMP1	Railcar Coupling/Decoupling Impulse	121.0	-	1.5	639215.05	4845949.40	162.0	1.5	60	60	60
Commercial 4											
C4_RTU1	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639289.35	4845847.86	166.8	6.6	60	30	30
C4_RTU2	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639318.22	4845749.79	167.2	6.6	60	30	30
C4_RTU3	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639321.41	4845742.00	167.3	6.6	60	30	30
C4_RTU4	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639325.33	4845720.93	167.5	6.6	60	30	30
C4_IMP1	Railcar Coupling/Decoupling Impulse	121.0	-	1.5	639245.05	4845853.53	162.5	1.5	60	60	60
C4_IMP2	Railcar Coupling/Decoupling Impulse	121.0	-	1.5	639242.23	4845850.18	162.6	1.5	60	60	60
Commercial 5											
C5_RTU1	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639507.24	4845944.99	166.1	6.6	60	30	30
C5_PB1	Paintbooth Exhaust	92.3	3.0	8.0	639504.16	4845932.08	167.8	8.0	60	0	0
C5_PB2	Paintbooth Exhaust	92.3	3.0	8.0	639513.00	4845927.92	168.0	8.0	60	0	0
C5_PB3	Paintbooth Exhaust	92.3	4.0	9.0	639523.34	4845906.26	168.6	9.0	60	0	0
C5_AB1	Autobody Baydoor	80.4	-	1.5	639513.85	4845951.69	161.0	1.5	60	0	0
Commercial 6											
C5_RTU1	Rooftop HVAC Unit (10-ton)	88.3	1.6	6.6	639565.86	4845964.15	166.1	6.6	60	30	30
C5_RTU2	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639577.34	4845960.47	166.2	6.6	60	30	30
C5_RTU3	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639578.48	4845947.03	166.7	6.6	60	30	30
C5_RTU4	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639582.34	4845939.10	167.0	6.6	60	30	30
C5_RTU5	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639584.36	4845930.75	167.1	6.6	60	30	30
C5_RTU6	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639590.21	4845920.72	167.2	6.6	60	30	30
C5_RTU7	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639560.86	4845930.20	167.1	6.6	60	30	30
C5_RTU8	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639565.27	4845918.68	167.1	6.6	60	30	30
C5_RTU9	Rooftop HVAC Unit (4-ton)	75.6	1.6	6.6	639574.73	4845909.20	167.3	6.6	60	30	30
Commercial 7											
C7_RTU1	Rooftop HVAC Unit (4-ton)	75.6	1.6	5.6	639487.17	4846296.72	166.0	5.6	60	30	30
C7_RTU2	Rooftop HVAC Unit (10-ton)	88.3	1.6	5.6	639491.83	4846287.68	166.0	5.6	60	30	30
C7_RTU3	Rooftop HVAC Unit (10-ton)	88.3	1.6	5.6	639487.85	4846270.40	165.8	5.6	60	30	30

Source Summary Table

Source ID	Source Description	Sound Power Level (dBA)	Height Above Roof (m)	Height Above Ground (m)	Source Co-ordinate (m)				Operating Time (min/hr)		
					X	Y	Z	rel. Z	Daytime (07:00 - 19:00)	Evening (19:00 - 23:00)	Nighttime (23:00 - 07:00)
C7_MUA1	Make-up Air Unit	85.7	2.0	6.9	639454.79	4846285.95	167.0	6.9	60	30	30
C7_PB1	Paintbooth Exhaust	92.3	1.8	6.7	639467.63	4846289.14	166.8	6.7	60	0	0
C7_PB2	Paintbooth Exhaust	92.3	1.8	6.7	639469.25	4846258.45	166.7	6.7	60	0	0
C7_DC1	Dust Collector	96.7	-	6.7	639445.46	4846313.61	167.0	6.7	60	0	0
C7_TRK1	Truck Movements	106.1	-	2.4	639515.61	4846251.20	163.1	2.4	3 Events	0	0

Noise Impact due to Commercial 1 against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	17.5	39.9	40	20.9	-
OLA (at grade)	-	-	-	-	34.4

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	16.6	39.1	39.3	19.9	-
OLA (at grade)	-	-	-	-	33.4

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	16.6	39.1	39.3	19.9	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 2 against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	18.5	39.5	39.1	18	-
OLA (at grade)	-	-	-	-	26.3

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	18.4	39.4	39	18	-
OLA (at grade)	-	-	-	-	26

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	18.4	39.4	39	18	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 3 against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	29.9	41.6	38.4	16.1	-
OLA (at grade)	-	-	-	-	27.3

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	27.3	38.9	35.7	13.4	-
OLA (at grade)	-	-	-	-	24.7

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	27.3	38.9	35.7	13.4	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 4 against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	23.8	24.2	10.9	1	-
OLA (at grade)	-	-	-	-	14.7

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	20.8	21.2	7.9		-
OLA (at grade)	-	-	-	-	11.7

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	20.8	21.2	7.9		-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 5 against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	49.9	50.1	27.5	26.2	-
OLA (at grade)	-	-	-	-	37.3

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	26	26.4	5	0.5	-
OLA (at grade)	-	-	-	-	8.9

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	26	26.4	5	0.5	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 6 against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	45.3	36.4	18.3	28.3	-
OLA (at grade)	-	-	-	-	18.2

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	42.3	33.4	15.3	25.3	-
OLA (at grade)	-	-	-	-	15.2

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	42.3	33.4	15.3	25.3	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 7 against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	20.5	41.9	45.4	35.3	-
OLA (at grade)	-	-	-	-	41.4

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	9.3	28.1	34.7	26.3	-
OLA (at grade)	-	-	-	-	30.6

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	9.3	28.1	34.7	26.3	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 1 - Impulse against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	34.5	45.7	45.9	34.2	-
OLA (at grade)	-	-	-	-	37.6

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	34.5	45.7	45.9	34.2	-
OLA (at grade)	-	-	-	-	37.6

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	34.5	45.7	45.9	34.2	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 3 - Impulse against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	52.8	60.8	57.2	40.3	-
OLA (at grade)	-	-	-	-	46.9

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	52.8	60.8	57.2	40.3	-
OLA (at grade)	-	-	-	-	46.9

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	52.8	60.8	57.2	40.3	-
OLA (at grade)	-	-	-	-	-

Noise Impact due to Commercial 4 - Impulse against Class 1 Limits

<u>Daytime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	53.2	53.8	42.5	37.2	-
OLA (at grade)	-	-	-	-	42.2

<u>Evening</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	53.2	53.8	42.5	37.2	-
OLA (at grade)	-	-	-	-	42.2

<u>Nighttime</u>	Receptors				
Floor	R1	R2	R3	R4	R5
POW (25th Floor)	53.2	53.8	42.5	37.2	-
OLA (at grade)	-	-	-	-	-

APPENDIX E

SOUNDPLAN SAMPLE CALCULATION

Noise Impact Study

Mean propagation Leq - Single Points

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Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	Kl	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	Lr
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB(A)	dB(A)	dB	dB	dB	dB(A)
Receiver R1 FI F25 dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 62.8 dB(A) Leq,d 57.3 dB(A) Leq,e 56.2 dB(A) Leq,n 56.2 dB(A)																							
C1_Con1	Point	Leq,d			89.1	89.1		0.0	0.0	3	410.53	-63.3	-1.1	-18.3	-0.8		0.0	0.0	8.7	0.0	0.0	0.0	8.7
C1_Con1	Point	Leq,e			89.1	89.1		0.0	0.0	3	410.53	-63.3	-1.1	-18.3	-0.8		0.0	0.0	8.7	0.0	0.0	0.0	8.7
C1_Con1	Point	Leq,n			89.1	89.1		0.0	0.0	3	410.53	-63.3	-1.1	-18.3	-0.8		0.0	0.0	8.7	0.0	0.0	0.0	8.7
C1_Con2	Point	Leq,d			89.1	89.1		0.0	0.0	3	407.61	-63.2	-1.0	-18.3	-0.8		0.0	0.0	8.8	0.0	0.0	0.0	8.8
C1_Con2	Point	Leq,e			89.1	89.1		0.0	0.0	3	407.61	-63.2	-1.0	-18.3	-0.8		0.0	0.0	8.8	0.0	0.0	0.0	8.8
C1_Con2	Point	Leq,n			89.1	89.1		0.0	0.0	3	407.61	-63.2	-1.0	-18.3	-0.8		0.0	0.0	8.8	0.0	0.0	0.0	8.8
C1_Con3	Point	Leq,d			86.9	86.9		0.0	0.0	3	375.63	-62.5	-0.7	-19.4	-0.7		0.0	0.0	6.6	0.0	0.0	0.0	6.6
C1_Con3	Point	Leq,e			86.9	86.9		0.0	0.0	3	375.63	-62.5	-0.7	-19.4	-0.7		0.0	0.0	6.6	0.0	0.0	0.0	6.6
C1_Con3	Point	Leq,n			86.9	86.9		0.0	0.0	3	375.63	-62.5	-0.7	-19.4	-0.7		0.0	0.0	6.6	0.0	0.0	0.0	6.6
C1_IMP1	Point	Leq,d			121.0	121.0		0.0	0.0	3	458.66	-64.2	-1.8	-22.6	-0.9		0.0	0.0	34.5	0.0	0.0	0.0	34.5
C1_IMP1	Point	Leq,e			121.0	121.0		0.0	0.0	3	458.66	-64.2	-1.8	-22.6	-0.9		0.0	0.0	34.5	0.0	0.0	0.0	34.5
C1_IMP1	Point	Leq,n			121.0	121.0		0.0	0.0	3	458.66	-64.2	-1.8	-22.6	-0.9		0.0	0.0	34.5	0.0	0.0	0.0	34.5
C1_MUA1	Point	Leq,d			85.7	85.7		0.0	0.0	3	402.52	-63.1	-1.0	-18.5	-0.8		0.0	0.0	5.3	0.0	0.0	0.0	5.3
C1_MUA1	Point	Leq,e			85.7	85.7		0.0	0.0	3	402.52	-63.1	-1.0	-18.5	-0.8		0.0	0.0	5.3	-3.0	0.0	0.0	2.3
C1_MUA1	Point	Leq,n			85.7	85.7		0.0	0.0	3	402.52	-63.1	-1.0	-18.5	-0.8		0.0	0.0	5.3	-3.0	0.0	0.0	2.3
C1_MUA2	Point	Leq,d			85.7	85.7		0.0	0.0	3	405.81	-63.2	-1.0	-18.9	-0.8		0.0	0.0	4.8	0.0	0.0	0.0	4.8
C1_MUA2	Point	Leq,e			85.7	85.7		0.0	0.0	3	405.81	-63.2	-1.0	-18.9	-0.8		0.0	0.0	4.8	-3.0	0.0	0.0	1.8
C1_MUA2	Point	Leq,n			85.7	85.7		0.0	0.0	3	405.81	-63.2	-1.0	-18.9	-0.8		0.0	0.0	4.8	-3.0	0.0	0.0	1.8
C1_RTU1	Point	Leq,d			75.6	75.6		0.0	0.0	3	350.23	-61.9	-0.4	-19.6	-0.7		0.0	0.0	-4.0	0.0	0.0	0.0	-4.0
C1_RTU1	Point	Leq,e			75.6	75.6		0.0	0.0	3	350.23	-61.9	-0.4	-19.6	-0.7		0.0	0.0	-4.0	-3.0	0.0	0.0	-7.0
C1_RTU1	Point	Leq,n			75.6	75.6		0.0	0.0	3	350.23	-61.9	-0.4	-19.6	-0.7		0.0	0.0	-4.0	-3.0	0.0	0.0	-7.0
C1_RTU2	Point	Leq,d			75.6	75.6		0.0	0.0	3	370.18	-62.4	-0.9	-19.6	-0.7		0.0	1.7	-3.4	0.0	0.0	0.0	-3.4
C1_RTU2	Point	Leq,e			75.6	75.6		0.0	0.0	3	370.18	-62.4	-0.9	-19.6	-0.7		0.0	1.7	-3.4	-3.0	0.0	0.0	-6.4
C1_RTU2	Point	Leq,n			75.6	75.6		0.0	0.0	3	370.18	-62.4	-0.9	-19.6	-0.7		0.0	1.7	-3.4	-3.0	0.0	0.0	-6.4
C1_RTU3	Point	Leq,d			75.6	75.6		0.0	0.0	3	378.70	-62.6	-1.0	-19.6	-0.7		0.0	1.7	-3.6	0.0	0.0	0.0	-3.6
C1_RTU3	Point	Leq,e			75.6	75.6		0.0	0.0	3	378.70	-62.6	-1.0	-19.6	-0.7		0.0	1.7	-3.6	-3.0	0.0	0.0	-6.6
C1_RTU3	Point	Leq,n			75.6	75.6		0.0	0.0	3	378.70	-62.6	-1.0	-19.6	-0.7		0.0	1.7	-3.6	-3.0	0.0	0.0	-6.6
C1_RTU4	Point	Leq,d			75.6	75.6		0.0	0.0	3	410.16	-63.3	-1.1	-19.2	-0.8		0.0	0.0	-5.7	0.0	0.0	0.0	-5.7
C1_RTU4	Point	Leq,e			75.6	75.6		0.0	0.0	3	410.16	-63.3	-1.1	-19.2	-0.8		0.0	0.0	-5.7	-3.0	0.0	0.0	-8.8
C1_RTU4	Point	Leq,n			75.6	75.6		0.0	0.0	3	410.16	-63.3	-1.1	-19.2	-0.8		0.0	0.0	-5.7	-3.0	0.0	0.0	-8.8
C1_RTU5	Point	Leq,d			88.3	88.3		0.0	0.0	3	401.20	-63.1	-1.0	-19.4	-0.8		0.0	0.0	7.1	0.0	0.0	0.0	7.1
C1_RTU5	Point	Leq,e			88.3	88.3		0.0	0.0	3	401.20	-63.1	-1.0	-19.4	-0.8		0.0	0.0	7.1	-3.0	0.0	0.0	4.0

SONAIR Environmental Inc. PO Box 56702 Pine Valley Vaughan ON L4L 8V3 Canada

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Noise Impact Study

Mean propagation Leq - Single Points

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Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB(A)	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
C1_RTU5	Point	Leq,n			88.3	88.3		0.0	0.0	3	401.20	-63.1	-1.0	-19.4	-0.8		0.0	0.0	7.1	-3.0	0.0	0.0	4.0
C1_RTU6	Point	Leq,d			88.3	88.3		0.0	0.0	3	394.92	-62.9	-1.0	-19.4	-0.8		0.0	0.0	7.2	0.0	0.0	0.0	7.2
C1_RTU6	Point	Leq,e			88.3	88.3		0.0	0.0	3	394.92	-62.9	-1.0	-19.4	-0.8		0.0	0.0	7.2	-3.0	0.0	0.0	4.2
C1_RTU6	Point	Leq,n			88.3	88.3		0.0	0.0	3	394.92	-62.9	-1.0	-19.4	-0.8		0.0	0.0	7.2	-3.0	0.0	0.0	4.2
C1_RTU7	Point	Leq,d			75.6	75.6		0.0	0.0	3	394.51	-62.9	-1.0	-19.5	-0.8		0.0	0.0	-5.6	0.0	0.0	0.0	-5.6
C1_RTU7	Point	Leq,e			75.6	75.6		0.0	0.0	3	394.51	-62.9	-1.0	-19.5	-0.8		0.0	0.0	-5.6	-3.0	0.0	0.0	-8.6
C1_RTU7	Point	Leq,n			75.6	75.6		0.0	0.0	3	394.51	-62.9	-1.0	-19.5	-0.8		0.0	0.0	-5.6	-3.0	0.0	0.0	-8.6
C1_RTU8	Point	Leq,d			75.6	75.6		0.0	0.0	3	387.86	-62.8	-0.9	-19.6	-0.7		0.0	0.0	-5.4	0.0	0.0	0.0	-5.4
C1_RTU8	Point	Leq,e			75.6	75.6		0.0	0.0	3	387.86	-62.8	-0.9	-19.6	-0.7		0.0	0.0	-5.4	-3.0	0.0	0.0	-8.4
C1_RTU8	Point	Leq,n			75.6	75.6		0.0	0.0	3	387.86	-62.8	-0.9	-19.6	-0.7		0.0	0.0	-5.4	-3.0	0.0	0.0	-8.4
C1_TRK1	Line	Leq,d			63.1	83.0	98.9	0.0	0.0	3	324.76	-61.2	-0.6	-20.0	-0.6		0.0	0.3	3.9	8.5	0.0	0.0	12.4
C1_TRK1	Line	Leq,e			63.1	83.0	98.9	0.0	0.0	3	324.76	-61.2	-0.6	-20.0	-0.6		0.0	0.3	3.9	8.5	0.0	0.0	12.4
C1_TRK1	Line	Leq,n			63.1	83.0	98.9	0.0	0.0	3	324.76	-61.2	-0.6	-20.0	-0.6		0.0	0.3	3.9	8.5	0.0	0.0	12.4
C2_FL1	Line	Leq,d			51.6	74.8	208.0	0.0	0.0	3	333.78	-61.5	-0.6	-17.9	-0.7		0.0	0.0	-2.9	14.0	0.0	0.0	11.1
C2_FL1	Line	Leq,e			51.6	74.8	208.0	0.0	0.0	3	333.78	-61.5	-0.6	-17.9	-0.7		0.0	0.0	-2.9	14.0	0.0	0.0	11.1
C2_FL1	Line	Leq,n			51.6	74.8	208.0	0.0	0.0	3	333.78	-61.5	-0.6	-17.9	-0.7		0.0	0.0	-2.9	14.0	0.0	0.0	11.1
C2_RTU1	Point	Leq,d			75.6	75.6		0.0	0.0	3	202.09	-57.1	0.0	-16.8	-0.4		0.0	0.0	4.2	0.0	0.0	0.0	4.2
C2_RTU1	Point	Leq,e			75.6	75.6		0.0	0.0	3	202.09	-57.1	0.0	-16.8	-0.4		0.0	0.0	4.2	-3.0	0.0	0.0	1.2
C2_RTU1	Point	Leq,n			75.6	75.6		0.0	0.0	3	202.09	-57.1	0.0	-16.8	-0.4		0.0	0.0	4.2	-3.0	0.0	0.0	1.2
C2_RTU2	Point	Leq,d			75.6	75.6		0.0	0.0	3	212.00	-57.5	0.0	-18.0	-0.4		0.0	0.0	2.6	0.0	0.0	0.0	2.6
C2_RTU2	Point	Leq,e			75.6	75.6		0.0	0.0	3	212.00	-57.5	0.0	-18.0	-0.4		0.0	0.0	2.6	-3.0	0.0	0.0	-0.4
C2_RTU2	Point	Leq,n			75.6	75.6		0.0	0.0	3	212.00	-57.5	0.0	-18.0	-0.4		0.0	0.0	2.6	-3.0	0.0	0.0	-0.4
C2_TRK1	Line	Leq,d			63.1	87.2	257.6	0.0	0.0	3	251.24	-59.0	0.0	-21.2	-0.5		0.0	0.1	9.6	7.8	0.0	0.0	17.3
C2_TRK1	Line	Leq,e			63.1	87.2	257.6	0.0	0.0	3	251.24	-59.0	0.0	-21.2	-0.5		0.0	0.1	9.6	7.8	0.0	0.0	17.3
C2_TRK1	Line	Leq,n			63.1	87.2	257.6	0.0	0.0	3	251.24	-59.0	0.0	-21.2	-0.5		0.0	0.1	9.6	7.8	0.0	0.0	17.3
C3_Con2	Point	Leq,d			79.6	79.6		0.0	0.0	3	282.71	-60.0	0.0	-7.3	-0.5		0.0	0.0	14.7	0.0	0.0	0.0	14.7
C3_Con2	Point	Leq,e			79.6	79.6		0.0	0.0	3	282.71	-60.0	0.0	-7.3	-0.5		0.0	0.0	14.7	0.0	0.0	0.0	14.7
C3_Con2	Point	Leq,n			79.6	79.6		0.0	0.0	3	282.71	-60.0	0.0	-7.3	-0.5		0.0	0.0	14.7	0.0	0.0	0.0	14.7
C3_Con3	Point	Leq,d			79.6	79.6		0.0	0.0	3	280.67	-60.0	0.0	-5.0	-0.5		0.0	0.0	17.0	0.0	0.0	0.0	17.0
C3_Con3	Point	Leq,e			79.6	79.6		0.0	0.0	3	280.67	-60.0	0.0	-5.0	-0.5		0.0	0.0	17.0	0.0	0.0	0.0	17.0
C3_Con3	Point	Leq,n			79.6	79.6		0.0	0.0	3	280.67	-60.0	0.0	-5.0	-0.5		0.0	0.0	17.0	0.0	0.0	0.0	17.0
C3_Con1	Point	Leq,d			79.6	79.6		0.0	0.0	3	285.62	-60.1	0.0	-9.6	-0.6		0.0	0.0	12.4	0.0	0.0	0.0	12.4
C3_Con1	Point	Leq,e			79.6	79.6		0.0	0.0	3	285.62	-60.1	0.0	-9.6	-0.6		0.0	0.0	12.4	0.0	0.0	0.0	12.4

Noise Impact Study

Assessed level of source groups

Single Points

1
2

Source group	Leq,d dB(A)	Leq,e dB(A)	Leq,n dB(A)	
Receiver R1 F1 F25 dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 62.8 dB(A) Leq,d 57.3 dB(A) Leq,e				
Commercial 1	17.5	16.6	16.6	
Commercial 1 - Impulse	34.5	34.5	34.5	
Commercial 2	18.5	18.4	18.4	
Commercial 3	29.9	27.3	27.3	
Commercial 3 - Impulse	52.8	52.8	52.8	
Commercial 4 - Impulse	53.2	53.2	53.2	
Commercial 4	23.8	20.8	20.8	
Commercial 5	49.9	26.0	26.0	
Commercial 6	45.3	42.3	42.3	
Commercial 7	20.5	9.3	9.3	
Receiver R2 F1 F25 dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 68.2 dB(A) Leq,d 62.1 dB(A) Leq,e				
Commercial 1	39.9	39.1	39.1	
Commercial 1 - Impulse	45.7	45.7	45.7	
Commercial 2	39.5	39.4	39.4	
Commercial 3	41.6	38.9	38.9	
Commercial 3 - Impulse	60.8	60.8	60.8	
Commercial 4 - Impulse	53.8	53.8	53.8	
Commercial 4	24.2	21.2	21.2	
Commercial 5	50.1	26.4	26.4	
Commercial 6	36.4	33.4	33.4	
Commercial 7	41.9	28.1	28.1	
Receiver R3 F1 F25 dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 64.3 dB(A) Leq,d 58.1 dB(A) Leq,e				
Commercial 1	40.0	39.3	39.3	
Commercial 1 - Impulse	45.9	45.9	45.9	
Commercial 2	39.1	39.0	39.0	
Commercial 3	38.4	35.7	35.7	
Commercial 3 - Impulse	57.2	57.2	57.2	
Commercial 4 - Impulse	42.5	42.5	42.5	
Commercial 4	10.9	7.9	7.9	
Commercial 5	27.5	5.0	5.0	
Commercial 6	18.3	15.3	15.3	
Commercial 7	45.4	34.7	34.7	
Receiver R4 F1 F25 dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 49.4 dB(A) Leq,d 43.7 dB(A) Leq,e				
Commercial 1	20.9	19.9	19.9	
Commercial 1 - Impulse	34.2	34.2	34.2	
Commercial 2	18.0	18.0	18.0	
Commercial 3	16.1	13.4	13.4	
Commercial 3 - Impulse	40.3	40.3	40.3	
Commercial 4 - Impulse	37.2	37.2	37.2	
Commercial 4	1.0	-2.1	-2.1	
Commercial 5	26.2	0.5	0.5	
Commercial 6	28.3	25.3	25.3	

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Canada

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Noise Impact Study

Assessed level of source groups

Single Points

1
2

Source group	Leq,d dB(A)	Leq,e dB(A)	Leq,n dB(A)	
Commercial 7	35.3	26.3	26.3	
Receiver R5	FIG	dB(A)	Lr,lim	dB(A)
Commercial 1	34.4	33.4	33.4	
Commercial 1 - Impulse	37.6	37.6	37.6	
Commercial 2	26.3	26.0	26.0	
Commercial 3	27.3	24.7	24.7	
Commercial 3 - Impulse	46.9	46.9	46.9	
Commercial 4 - Impulse	42.2	42.2	42.2	
Commercial 4	14.7	11.7	11.7	
Commercial 5	37.3	8.9	8.9	
Commercial 6	18.2	15.2	15.2	
Commercial 7	41.4	30.6	30.6	

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APPENDIX F

STC GLAZING REQUIREMENT CALCULATION

Required Glazing STC Calculation

Receptor	Time Period	Location	Sound Levels		Room / Façade Parameters			Source Parameters		Component 1 - Non-Glazing			Component 2 - Glazing		
			Façade Sound Level	Indoor Limit (dBA)	Non-Glazing % of Floor Area	Glazing % of Floor Area	Room Absorption	Incident Sound Angle (deg)	Spectrum Type	Assumed STC	Component Category	% Total Transmitted Energy	Component Category	% Total Transmitted Energy	Required Glazing STC
East Façade	D	Non-sleeping Quarters	72.2	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	4	C - Sealed thin window, or openable thick window	96	38
East Façade	N	Non-sleeping Quarters	65.6	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	1	C - Sealed thin window, or openable thick window	99	31
East Façade	D	Sleeping Quarters	72.2	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	4	C - Sealed thin window, or openable thick window	96	38
East Façade	N	Sleeping Quarters	65.6	40	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	3	C - Sealed thin window, or openable thick window	97	36
South Façade	D	Non-sleeping Quarters	68.5	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	2	C - Sealed thin window, or openable thick window	98	34
South Façade	N	Non-sleeping Quarters	62	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	0	C - Sealed thin window, or openable thick window	100	27
South Façade	D	Sleeping Quarters	68.5	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	2	C - Sealed thin window, or openable thick window	98	34
South Façade	N	Sleeping Quarters	62	40	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	1	C - Sealed thin window, or openable thick window	99	32
North Façade	D	Non-sleeping Quarters	68.8	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	2	C - Sealed thin window, or openable thick window	98	34
North Façade	N	Non-sleeping Quarters	62.2	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	0	C - Sealed thin window, or openable thick window	100	28
North Façade	D	Sleeping Quarters	68.8	45	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	2	C - Sealed thin window, or openable thick window	98	34
North Façade	N	Sleeping Quarters	62.2	40	20%	80%	Intermediate	60 to 90	D - Mixed road traffic, distant aircraft	45	D - Sealed thick window, or exterior wall, or roof/ceiling	1	C - Sealed thin window, or openable thick window	99	33