REPORT
Project: 134437-6.04.01

ENVIRONMENTAL NOISE IMPACT ASSESSMENT
4781 BANK STREET - LILYTHORNE ZENS 2
LEITRIM COMMUNITY - CITY OF OTTAWA

Prepared for Claridge Homes
by IBI GROUP

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1 Introduction

IBI was retained by Claridge Homes to conduct an Environmental Noise Impact Assessment in support of a Site Plan Control application for a residential development located at 4781 Bank Street in the Leitrim Community of Ottawa, Ontario.

The proposed development consists of 96 residential dwelling units arranged in eight, three-storey blocks and is generally bound by existing commercial uses to the north, the remainder of the Lilythorne community to the east (currently under construction), Findlay Creek Drive to the south and Bank Street to the west. The Lilythorne Retirement residence, which is planned for construction in 2022, is located further to the north at 4755 Bank Street.

This study evaluated the transportation-related noise levels within the subject development and recommended warning clauses or noise abatement measures for the Purchase and Sale of each dwelling unit, as required. The analysis for this study was conducted in accordance with the City of Ottawa 2016 Environmental Noise Control (ENC) Guidelines, as well as the Ministry of the Environment Publication NPC-300 (August 2013).

The site location and its surrounding context are shown in **Figure 1** below.

Figure 1 – Site Location

2 Background

2.1 Noise Sources

The proposed development will be primarily subjected to roadway noise from Bank Street and Findlay Creek Drive. All other roads within the vicinity of the subject development are identified as local roads and therefore were not analysed as part of this study.

The subject property is located beyond the limits of the Airport Vicinity Development Zone (AVDZ), as shown on Schedule C14 of the 2021 Official Plan. As such, aircraft noise from the Ottawa International Airport was not considered in this study.

There are no rail lines within 500 metres of the site, therefore no consideration has been given to the noise impacts from rail traffic, in accordance with the City of Ottawa ENC Guidelines.

2.2 Sound Level Limits for Road Traffic

Sound level criteria for road traffic are taken from the ENC Guidelines and the *Ministry of the Environment Publication NPC-300 (August 2013)*. Noise levels are expressed in the form Leq (T), which refers to a weighted level of a steady sound carrying the same total energy in the time period T (in hours) as the observed fluctuation sound.

2.2.1 Indoor Sound Level Criterion

The recommended indoor sound level criteria from Table 2.2b of the ENC Guidelines are as follows:

- Bedroom or Sleeping quarters – 23:00 to 07:00 – 40 dBA Leq (8 hours)
- Living/Dining/Den Areas – 07:00 to 23:00 – 45 dBA Leq (16 hours)

The sound levels are based on the windows and doors to an indoor space being closed.

As discussed previously, the proposed development consists of 3-storey residential blocks. For the purpose of assessing the indoor noise in this study, the daytime and nighttime outdoor noise levels are observed at 7.5 metres above ground level to determine noise levels for the most exposed third storey windows.

As per NPC-300 C7.1.3, if the daytime outdoor sound levels exceed 65 dBA at the living room window during the daytime or if the nighttime sound levels exceed 60 dBA at the bedroom window, then the building must be compliant with the Ontario Building Code. Should the outdoor sound levels exceed this criteria, then building component (walls, windows, etc.) must be designed to achieve the indoor sound level criteria.

As per NPC-300 C7.1.2.1 and C7.1.2.2, if the outdoor noise levels at the living room are greater than 55 dBA and less than or equal to 65 dBA and/or greater than 50 dBA and less than or equal to 60 dBA at the bedroom window, then a warning clause is required along with forced air heating with a provision for central air conditioning is required. Should the outdoor sound levels exceed the criteria, central air conditioning is mandatory and a warning clause is required.

2.2.2 Outdoor Sound Level Criterion

As per Table 2.2a of the ENC Guidelines, the outdoor living area (OLA) sound level criteria for the daytime period between 07:00 and 23:00 hours is 55 dBA Leq (16). Sound levels for the OLA are typically calculated 3 metres from the building face at the centre of the building or within the centre of the OLA at a height of 1.5 metres above the ground.

If the Leq sound level is less than or equal to the above criteria then no further action is required by the developer. If the sound level exceeds the criteria by less than 5 dBA then the developer may, with City approval, either provide a warning clause to prospective purchasers/ tenants or install physical attenuation. For sound levels greater than 5 dBA above the criteria, control measures are required to reduce the noise levels as close to 55 dBA as technically, economically and administratively possible. Should the sound levels with the barrier in place exceed 55 dBA a warning clause is also required.

2.2.3 Indoor Sound Level Criterion – Building Components

As per NPC-300 C7.1.3, when the outdoor sound levels are less than or equal to 65 dBA at the living room window and/or less than or equal to 60 dBA at the bedroom level, then the building must be compliant with the Ontario Building Code. Should the outdoor sound levels exceed this criteria then the building component (walls, windows etc.) must be designed to achieve indoor sound level criteria.

3 Roadway Noise

3.1 Traffic Volume Data

As discussed previously, the major sources of road noise impacting the site are expected to be limited to traffic flows on Bank Street and Findlay Creek Drive.

Bank Street

Bank Street is currently a two-lane, undivided rural roadway with a posted speed limit of 70 km/h along the frontage of the subject site. Ultimately, this section of Bank Street will be reconstructed as a four-lane urban arterial divided (4-UAD) roadway. The noise analysis conducted for this study has been conservatively based on Bank Street with its ultimate, four-lane cross-section and a posted speed limit of 70 km/h.

Findlay Creek Drive

Findlay Creek Drive is a two-lane, undivided collector road (2-UCU) with a posted speed limit of 50 km/h. The extension of this road east of Bank Street was recently constructed and serves as the primary connection to the Lilythorne community.

Table 3.1 below summarizes the traffic and road parameters used in this report. These parameters were extracted from Appendix B: Table B1 of the ENC Guidelines, and are conservatively based on roadway capacity.

TABLE 3.1: TRAFFIC AND ROAD DATA SUMMARY

	BANK STREET (4-UAD)	FINDLAY CREEK DRIVE (2-UCU)
Annual Average Daily Traffic (AADT)	35,000	8,000
Posted Speed Limit (km/h)	70	50
% Medium Trucks	7%	7%
% Heavy Trucks	5%	5%
% Daytime Traffic	92%	92%

3.2 Calculation Methods

Roadway noise is calculated using the STAMSON 5.04 computer program from the Ontario Ministry of the Environment (MOE).

Unattenuated daytime and nighttime noise levels at the building face were calculated to determine indoor sound levels, the results of which are presented in **Table 3.2** below. Parameters used for calculating the noise levels, including the perpendicular distance from source to receiver and the roadway segment angles are also indicated. Since Bank Street is modelled with its ultimate configuration as an arterial, four-lane divided road, the noise levels are calculated separately for the northbound and southbound lanes and then combined.

As indicated on **Noise Plan – Drawing No. 134437-N1**, there is a park located near the northern property boundary between Buildings ‘B’ and ‘C’ which will receive indirect exposure to Bank Street traffic noise. Noise levels for this outdoor living area were evaluated at the centre of the façade for Building ‘B’ and the results are presented in **Table 3.3** below.

TABLE 3.2: UNATTENUATED NOISE LEVELS AT BUILDING FACE

LOCATION		ROADWAY	SOURCE - RECEIVER DISTANCE (m)[1]	SEGMENT ANGLES		INDOOR NOISE LEVELS (dBA)	
LOT/BLOCK	DESCRIPTION			LEFT	RIGHT	DAYTIME	NIGHTTIME
Building A	Units 1 to 3, 7 to 9	Bank NB	21.0	-90	90	70.44	62.85
Building A	Units 1 to 3, 7 to 9	Bank SB	33.5	-90	90		
Building A	Units 4, 5, 6	Bank NB	33.5	0	90	64.78	57.18
Building A	Units 4, 5, 6	Bank SB	46.0	0	90		
Building A	Units 10 to 12	Bank NB	33.5	-70	0	64.24	56.64
Building A	Units 10 to 12	Bank SB	46.0	-70	0		
Building C	Units 1 to 3	Bank NB	102.0	-5	90	58.47	50.88
Building C	Units 1 to 3	Bank SB	114.5	-5	90		
Building C	Units 4 to 6	Bank NB	113.0	-5	90	57.84	50.25
Building C	Units 4 to 6	Bank SB	125.5	-5	90		
Building C	Units 7 to 9	Bank NB	104.5	-20	-5	56.91	49.32
Building C	Units 7 to 9	Bank SB	117.0	-20	-5		
Building C	Units 7 to 9	Bank NB	104.5	30	85		
Building C	Units 7 to 9	Bank SB	117.0	30	85		
Building C	Units 10 to 12	Bank NB	115.5	-20	-10	48.93	41.33
Building C	Units 10 to 12	Bank SB	128.0	-20	-10		
Building D	Units 1 to 3	Bank NB	134.5	-5	90	56.77	49.17
Building D	Units 1 to 3	Bank SB	147.0	-5	90		
Building D	Units 4 to 6	Bank NB	143.5	-5	90	56.37	48.78
Building D	Units 4 to 6	Bank SB	156.0	-5	90		
Building D	Units 7 to 9	Bank NB	138.0	-20	-10	47.83	40.24
Building D	Units 7 to 9	Bank SB	150.5	-20	-10		
Building E	Units 1 to 3, 7 to 9	Bank NB	140.0	-10	5	49.57	41.97
Building E	Units 1 to 3, 7 to 9	Bank SB	152.5	-10	5		
Building E	Units 10 to 12	Findlay Creek	55.0	-90	0	53.25	45.65
Building F	Units 1 to 3	Findlay Creek	31.5	-20	80	57.78	50.18
Building F	Units 4 to 6	Findlay Creek	34.5	-90	0	56.25	48.65
Building F	Units 7 to 9	Findlay Creek	20.0	-90	90	62.76	55.17
Building G	Units 1 to 3	Bank NB	87.5	0	30	59.14	51.54
Building G	Units 1 to 3	Bank SB	100.0	0	30		
Building G	Units 1 to 3	Findlay Creek	37.0	-15	50		
Building G	Units 4 to 6	Bank NB	87.5	-5	20	54.64	47.05
Building G	Units 4 to 6	Bank SB	100.0	-5	20		
Building G	Units 7 to 9	Bank NB	78.0	-90	0	64.65	57.05
Building G	Units 7 to 9	Bank SB	90.5	-90	0		
Building G	Units 7 to 9	Findlay Creek	19.5	-90	90		
Building G	Units 10 to 12	Bank NB	90.0	-90	-10	63.42	55.82
Building G	Units 10 to 12	Bank SB	102.5	-90	-10		
Building G	Units 10 to 12	Findlay Creek	22.5	-90	75		
Building H	Units 1 to 3	Bank NB	23.5	-90	90	69.98	62.38
Building H	Units 1 to 3	Bank SB	36.0	-90	90		
Building H	Units 1 to 3	Findlay Creek	33.0	10	90		
Building H	Units 4 to 6	Bank NB	36.0	0	65	63.60	56.00
Building H	Units 4 to 6	Bank SB	48.5	0	65		

LOCATION		ROADWAY	SOURCE - RECEIVER DISTANCE (m)[1]	SEGMENT ANGLES		INDOOR NOISE LEVELS (dBA)	
LOT/BLOCK	DESCRIPTION			LEFT	RIGHT	DAYTIME	NIGHTTIME
Building H	Units 7 to 9	Bank NB	24.0	-90	90	70.32	62.72
Building H	Units 7 to 9	Bank SB	36.5	-90	90		
Building H	Units 7 to 9	Findlay Creek	24.0	-90	90		
Building H	Units 10 to 12	Bank NB	36.0	-90	0	66.41	58.81
Building H	Units 10 to 12	Bank SB	48.5	-90	0		
Building H	Units 10 to 12	Findlay Creek	22.0	-90	90		

Notes: [1] For Bank Street, the centreline northbound and southbound vehicle lane distances are shown separately.

As indicated in **Table 3.2** above, there are numerous locations which exceed the noise criteria at the building face.

TABLE 3.3: UNATTENUATED NOISE LEVELS AT OLA

LOCATION	ROADWAY	SOURCE - RECEIVER DISTANCE (m)	SEGMENT ANGLES		OUTDOOR NOISE LEVELS (dBA)
		NB/SB LANES	LEFT	RIGHT	
Shared Amenity Area – P1	Bank NB	90.0	25	90	54.97
	Bank SB	102.5	25	90	

As presented in **Table 3.3** above, an analysis of the shared amenity area at the P1 receptor location identified on **Noise Plan Drawing No. 134437-N1** indicates that this location will experience noise levels slightly below the 55 dBA threshold. As such, no further review consideration of this outdoor living area is required as part of this study. It should be noted as well that terracing and a retaining wall proposed along the northern property boundary the construction of the Lilythorne Retirement Home north of the site at 4755 Bank Street will further mitigate any noise impacts from Bank Street.

4 Abatement Measures

4.1 Indoor Sound Levels

As indicated previously in the indoor noise analysis summarized in Section 2.2.1, dwelling units along the western building facade or within closest proximity the Bank & Findlay Creek intersection have daytime noise levels which are shown to exceed 65 dBA. As such, central air conditioning, a review of the building components and a Type 'D' warning clause are required for these units.

Dwelling units which face north or south and do not have exterior windows facing west directly towards Bank Street or the Bank & Findlay Creek intersection will have partial screening of traffic noise. For all of these units, an alternative means of ventilation is required, as well as a Type 'C' warning clause in the tenancy agreement. Alternative means of ventilation usually consist of a forced air heating system with ducts sized for future installation of central air conditioning.

4.2 Building Components

Based on the results of the indoor noise assessment in **Table 3.2**, an analysis of the required building components for dwelling units expected to experience noise levels at the building face exceeding 65 dBA has been conducted following the Sound Transmission Class (STC) Method. This method was developed by the National Research Council (NRC), and involves a review of architectural plans to determine appropriate design assumptions (i.e. window/floor area ratios) in order to calculate the STC rating for windows and glazed doors. Architectural plans for Building 'A' and 'H' were obtained for the STC evaluation carried out as part of this study. The den/dining area was included in the 'living room' calculation during the daytime, as the architectural plans indicate that any interior partitioning between these living spaces may be optional. 'Bedroom #2' was used to calculate the STC rating during the nighttime, as this bedroom has the highest potential exposure from outdoor noise on Bank Street and the Bank with windows on two separate facades.

The STC calculations were carried out to determine the required STC rating for exterior windows and glazed doors for building facades with the highest exposure to traffic noise, including the western façade of Building 'A', as well as the west- and southern façades of Building 'H'. Exterior walls were assumed to have an STC rating of 40, which is a conservative value for a brick wall designed to accommodate Ottawa winters. With the exterior walls in place, the amount of sound energy absorbed by the windows is calculated and the STC rating required to meet the sound criteria was determined. All rooms were assumed to have an intermediate absorptive interior rather than a hard or very absorptive interior, as would be expected for a residential unit. The required STC ratings for the windows and glazed doors are summarized in **Table 4.1** below. The required STC rating for windows and glazed doors with the highest exposure to traffic noise was calculated to be 29 under both daytime and nighttime conditions.

STC calculations and sample architectural plans for Building 'A' and 'H' with the highest exposure to traffic noise from Bank Street, as well as the Bank & Findlay Creek intersection, are included in **Appendix B** and **Appendix C**, respectively.

TABLE 3.1: TRAFFIC AND ROAD DATA SUMMARY

DWELLING UNIT	LEVEL	ROOM TYPE	REQUIRED STC RATING
			WINDOWS & GLAZED DOORS
Buildings 'A & 'H' – West Façade Building 'H' – South Façade	3rd Floor	Living Room	29
		Bedroom	29

5 Summary of Attenuation Measures

5.1 Warning Clauses

A clause regarding noise must appear on the tenancy agreement for the impacted units, as indicated on **Noise Plan – Drawing No. 134437-N1** and listed below:

Type 'C' Building 'A' – Units 4 to 6, 10 to 12
Building 'B' – All Units
Building 'C' – Units 1 to 9
Building 'D' – Units 1 to 6
Building 'F' – All Units
Building 'G' – Units 1 to 3, 7 to 12

Type 'D' Building 'A' – Units 1 to 3, 7 to 9
Building 'B – Units 1 to 3, 7 to 12

The following warning clauses are taken from Section C8.1 of NPC 300:

Type 'C'	"This dwelling unit has been fitted with a forced air heating system and the ducting, etc. was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the City's and the Ministry of the Environment's noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MOE Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property."
Type 'D'	"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the City's and the Ministry of the Environment's noise criteria."

5.2 Ventilation Requirements and Building Components

All dwelling units requiring a Type 'C' warning clause listed in Section 5.1 shall have a forced air heating system sized to accommodate a central air conditioning system.

All dwelling units requiring a Type 'D' warning clause, as identified in Section 5.1, shall have mandatory central air conditioning and acoustical review of building components.

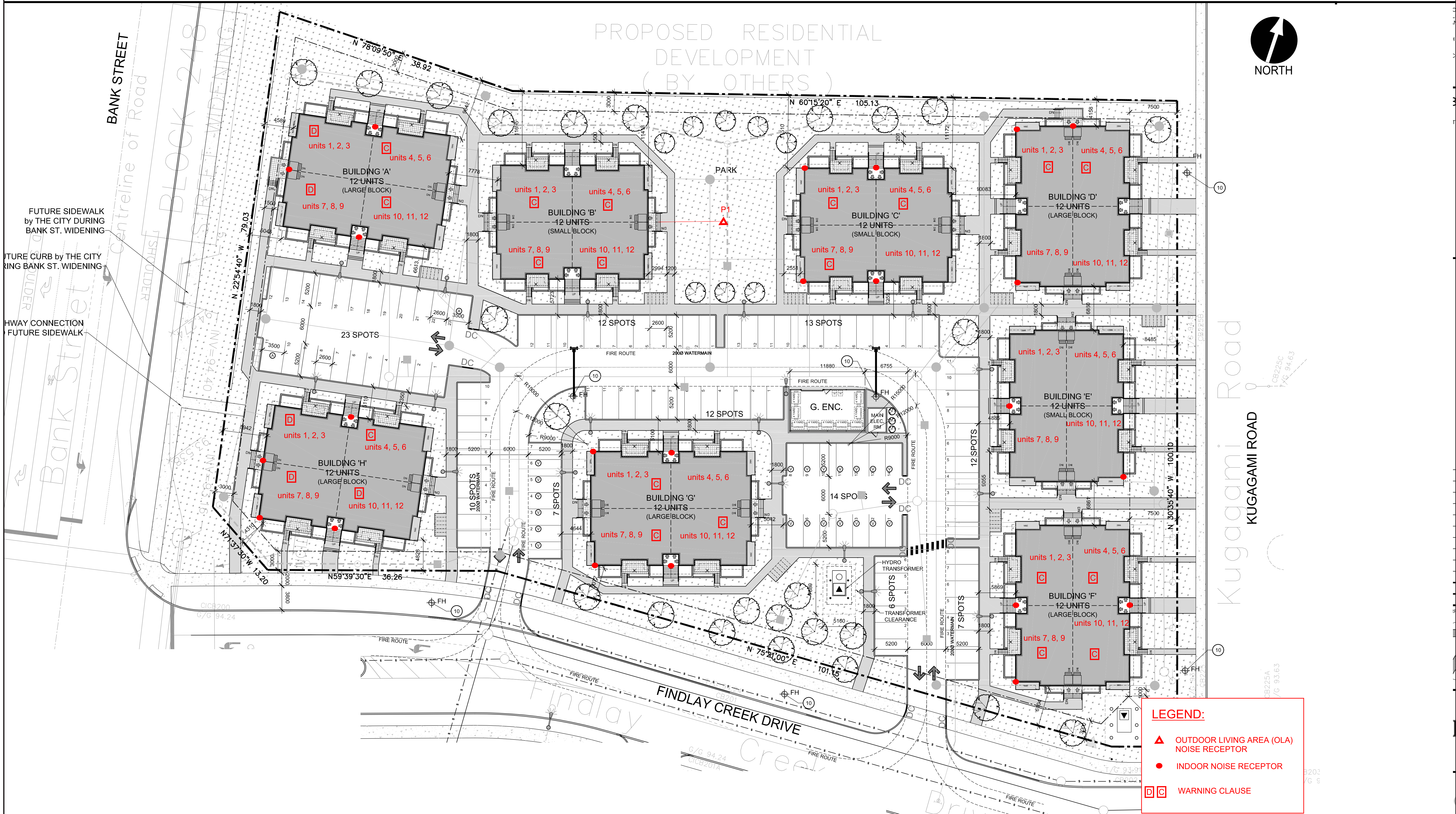
6 Conclusion

This Environmental Noise Impact Assessment evaluated the impact of roadway noise on the proposed Lilythorne Zens 2 development, located within the Leitrim Community at 4781 Bank Street, Ottawa. As indicated through the analysis conducted for this study, it is anticipated that noise levels will remain within the standards established by the City of Ottawa and Ministry of the Environment (MOE), with the exception of select units identified on **Noise Plan – Drawing No. 134437-N1**. For these dwelling units, appropriate warning clauses and associated noise abatement measures must be provided on the tenancy agreement for each unit.

7 Professional Authorization

Prepared by:

Ben Pascolo-Neveu, P.Eng.



IBI

4781 Bank Street - Lilythorne Zens 2
Environmental Noise Impact Assessment

Noise Plan - Drawing No. 134437-N1

PROJECT No. 134437

SCALE: 0m 5m 10m

Appendix A –
STAMSON Noise Calculations

Indoor Noise Calculations

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:39:21
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bau1t9.te Time Period: Day/Night 16/8 hours
Description: Building A Units 1 to 3, 7 to 9 Indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 21.00 / 21.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 33.50 / 33.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 68.68 + 0.00) = 68.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.98	0.00	-2.16	-1.14	0.00	0.00	0.00	68.68

Segment Leq : 68.68 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 65.68 + 0.00) = 65.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.98	0.00	-5.16	-1.14	0.00	0.00	0.00	65.68

Segment Leq : 65.68 dBA

Total Leq All Segments: 70.44 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 61.09 + 0.00) = 61.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.39	0.00	-2.16	-1.14	0.00	0.00	0.00	61.09

Segment Leq : 61.09 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 58.09 + 0.00) = 58.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.39	0.00	-5.16	-1.14	0.00	0.00	0.00	58.09

Segment Leq : 58.09 dBA

Total Leq All Segments: 62.85 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 70.44
(NIGHT): 62.85

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:41:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bau4t6.te Time Period: Day/Night 16/8 hours
Description: Building A Units 4 to 6 Indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 33.50 / 33.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : 0.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 46.00 / 46.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 62.67 + 0.00) = 62.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.48	71.98	0.00	-5.16	-4.15	0.00	0.00	0.00	62.67

Segment Leq : 62.67 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 60.63 + 0.00) = 60.63 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.48	71.98	0.00	-7.20	-4.15	0.00	0.00	0.00	60.63

Segment Leq : 60.63 dBA

Total Leq All Segments: 64.78 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 55.07 + 0.00) = 55.07 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.48	64.39	0.00	-5.16	-4.15	0.00	0.00	0.00	55.07

Segment Leq : 55.07 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 53.04 + 0.00) = 53.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.48	64.39	0.00	-7.20	-4.15	0.00	0.00	0.00	53.04

Segment Leq : 53.04 dBA

Total Leq All Segments: 57.18 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 64.78
(NIGHT): 57.18

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 16:11:02
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bau10t12.te Time Period: Day/Night 16/8 hours
Description: block a units 10 to 12 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -70.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 33.50 / 33.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -70.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 46.00 / 46.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 62.13 + 0.00) = 62.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	0	0.48	71.98	0.00	-5.16	-4.69	0.00	0.00	0.00	62.13

Segment Leq : 62.13 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 60.09 + 0.00) = 60.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	0	0.48	71.98	0.00	-7.20	-4.69	0.00	0.00	0.00	60.09

Segment Leq : 60.09 dBA

Total Leq All Segments: 64.24 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 54.53 + 0.00) = 54.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	0	0.48	64.39	0.00	-5.16	-4.69	0.00	0.00	0.00	54.53

Segment Leq : 54.53 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 52.49 + 0.00) = 52.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	0	0.48	64.39	0.00	-7.20	-4.69	0.00	0.00	0.00	52.49

Segment Leq : 52.49 dBA

Total Leq All Segments: 56.64 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 64.24
(NIGHT): 56.64

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:45:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bcu1t3.te Time Period: Day/Night 16/8 hours
Description: building c units 1 to 3 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 102.00 / 102.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 114.50 / 114.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 55.82 + 0.00) = 55.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-12.32	-3.85	0.00	0.00	0.00	55.82

Segment Leq : 55.82 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 55.07 + 0.00) = 55.07 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-13.07	-3.85	0.00	0.00	0.00	55.07

Segment Leq : 55.07 dBA

Total Leq All Segments: 58.47 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 48.22 + 0.00) = 48.22 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-12.32	-3.85	0.00	0.00	0.00	48.22

Segment Leq : 48.22 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 47.48 + 0.00) = 47.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-13.07	-3.85	0.00	0.00	0.00	47.48

Segment Leq : 47.48 dBA

Total Leq All Segments: 50.88 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 58.47
(NIGHT): 50.88

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:46:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bcu4t6.te Time Period: Day/Night 16/8 hours
Description: building c units 4 to 6 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 113.00 / 113.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 125.50 / 125.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 55.16 + 0.00) = 55.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-12.98	-3.85	0.00	0.00	0.00	55.16

Segment Leq : 55.16 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 54.48 + 0.00) = 54.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-13.66	-3.85	0.00	0.00	0.00	54.48

Segment Leq : 54.48 dBA

Total Leq All Segments: 57.84 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 47.56 + 0.00) = 47.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-12.98	-3.85	0.00	0.00	0.00	47.56

Segment Leq : 47.56 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 46.89 + 0.00) = 46.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-13.66	-3.85	0.00	0.00	0.00	46.89

Segment Leq : 46.89 dBA

Total Leq All Segments: 50.25 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 57.84
(NIGHT): 50.25

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:48:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bcu7t9.te Time Period: Day/Night 16/8 hours
Description: building c units 7 to 9 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -20.00 deg -5.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 104.50 / 104.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -20.00 deg -5.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 117.00 / 117.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 3: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Bank NB (day/night)

Angle1 Angle2 : 30.00 deg 85.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 104.50 / 104.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 4: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 4: Bank SB (day/night)

Angle1 Angle2 : 30.00 deg 85.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 117.00 / 117.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 48.66 + 0.00) = 48.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-5	0.48	71.98	0.00	-12.48	-10.85	0.00	0.00	0.00	48.66

Segment Leq : 48.66 dBA

FF

Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 47.93 + 0.00) = 47.93 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-5	0.48	71.98	0.00	-13.20	-10.85	0.00	0.00	0.00	47.93

Segment Leq : 47.93 dBA

FF

Results segment # 3: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 52.85 + 0.00) = 52.85 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
30	85	0.48	71.98	0.00	-12.48	-6.66	0.00	0.00	0.00	52.85

Segment Leq : 52.85 dBA

FF

Results segment # 4: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 52.12 + 0.00) = 52.12 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
30	85	0.48	71.98	0.00	-13.20	-6.66	0.00	0.00	0.00	52.12

Segment Leq : 52.12 dBA

Total Leq All Segments: 56.91 dBA

FF

Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 41.06 + 0.00) = 41.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-5	0.48	64.39	0.00	-12.48	-10.85	0.00	0.00	0.00	41.06

Segment Leq : 41.06 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 40.34 + 0.00) = 40.34 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-5	0.48	64.39	0.00	-13.20	-10.85	0.00	0.00	0.00	40.34

Segment Leq : 40.34 dBA

FF
Results segment # 3: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 45.25 + 0.00) = 45.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
30	85	0.48	64.39	0.00	-12.48	-6.66	0.00	0.00	0.00	45.25

Segment Leq : 45.25 dBA

FF
Results segment # 4: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 44.53 + 0.00) = 44.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
30	85	0.48	64.39	0.00	-13.20	-6.66	0.00	0.00	0.00	44.53

Segment Leq : 44.53 dBA

Total Leq All Segments: 49.32 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 56.91
(NIGHT): 49.32
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 16:11:33
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bcu10t12.te Time Period: Day/Night 16/8 hours
Description: block c units 10 to 12 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -20.00 deg -10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 115.50 / 115.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -20.00 deg -10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 128.00 / 128.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 46.24 + 0.00) = 46.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	71.98	0.00	-13.12	-12.63	0.00	0.00	0.00	46.24

Segment Leq : 46.24 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 45.58 + 0.00) = 45.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	71.98	0.00	-13.78	-12.63	0.00	0.00	0.00	45.58

Segment Leq : 45.58 dBA

Total Leq All Segments: 48.93 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 38.64 + 0.00) = 38.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	64.39	0.00	-13.12	-12.63	0.00	0.00	0.00	38.64

Segment Leq : 38.64 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 37.98 + 0.00) = 37.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	64.39	0.00	-13.78	-12.63	0.00	0.00	0.00	37.98

Segment Leq : 37.98 dBA

Total Leq All Segments: 41.33 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 48.93
(NIGHT): 41.33

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:48:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bdu1t3.te Time Period: Day/Night 16/8 hours
Description: building d units 1 to 3 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 134.50 / 134.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 147.00 / 147.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 54.04 + 0.00) = 54.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-14.10	-3.85	0.00	0.00	0.00	54.04

Segment Leq : 54.04 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 53.47 + 0.00) = 53.47 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-14.67	-3.85	0.00	0.00	0.00	53.47

Segment Leq : 53.47 dBA

Total Leq All Segments: 56.77 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 46.44 + 0.00) = 46.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-14.10	-3.85	0.00	0.00	0.00	46.44

Segment Leq : 46.44 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 45.87 + 0.00) = 45.87 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-14.67	-3.85	0.00	0.00	0.00	45.87

Segment Leq : 45.87 dBA

Total Leq All Segments: 49.17 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 56.77
(NIGHT): 49.17

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 16:12:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bdu4t6.te Time Period: Day/Night 16/8 hours
Description: block d uints 4 to 6 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 143.50 / 143.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -5.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 156.00 / 156.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 53.62 + 0.00) = 53.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-14.52	-3.85	0.00	0.00	0.00	53.62

Segment Leq : 53.62 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 53.09 + 0.00) = 53.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	71.98	0.00	-15.05	-3.85	0.00	0.00	0.00	53.09

Segment Leq : 53.09 dBA

Total Leq All Segments: 56.37 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 46.03 + 0.00) = 46.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-14.52	-3.85	0.00	0.00	0.00	46.03

Segment Leq : 46.03 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 45.49 + 0.00) = 45.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	90	0.48	64.39	0.00	-15.05	-3.85	0.00	0.00	0.00	45.49

Segment Leq : 45.49 dBA

Total Leq All Segments: 48.78 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 56.37
(NIGHT): 48.78

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:49:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bdu7t9.te Time Period: Day/Night 16/8 hours
Description: building d units 7 to 9 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -20.00 deg -10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 138.00 / 138.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -20.00 deg -10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 150.50 / 150.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 45.09 + 0.00) = 45.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	71.98	0.00	-14.27	-12.63	0.00	0.00	0.00	45.09

Segment Leq : 45.09 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 44.53 + 0.00) = 44.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	71.98	0.00	-14.82	-12.63	0.00	0.00	0.00	44.53

Segment Leq : 44.53 dBA

Total Leq All Segments: 47.83 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 37.50 + 0.00) = 37.50 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	64.39	0.00	-14.27	-12.63	0.00	0.00	0.00	37.50

Segment Leq : 37.50 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 36.94 + 0.00) = 36.94 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	-10	0.48	64.39	0.00	-14.82	-12.63	0.00	0.00	0.00	36.94

Segment Leq : 36.94 dBA

Total Leq All Segments: 40.24 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 47.83
(NIGHT): 40.24

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:50:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: beu1t9.te Time Period: Day/Night 16/8 hours
Description: building e units 1 to 3, 7 to 9 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -10.00 deg 5.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 140.00 / 140.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -10.00 deg 5.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 152.50 / 152.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 46.83 + 0.00) = 46.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	5	0.48	71.98	0.00	-14.36	-10.80	0.00	0.00	0.00	46.83

Segment Leq : 46.83 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 46.28 + 0.00) = 46.28 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	5	0.48	71.98	0.00	-14.91	-10.80	0.00	0.00	0.00	46.28

Segment Leq : 46.28 dBA

Total Leq All Segments: 49.57 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 39.23 + 0.00) = 39.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	5	0.48	64.39	0.00	-14.36	-10.80	0.00	0.00	0.00	39.23

Segment Leq : 39.23 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 38.68 + 0.00) = 38.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	5	0.48	64.39	0.00	-14.91	-10.80	0.00	0.00	0.00	38.68

Segment Leq : 38.68 dBA

Total Leq All Segments: 41.97 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 49.57
(NIGHT): 41.97

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 16:09:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: beu10t12.te Time Period: Day/Night 16/8 hours
Description: block e units 10 and 12 indoor

Road data, segment # 1: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Findlay Creek (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 55.00 / 55.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Findlay Creek (day)

Source height = 1.50 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	0.48	65.75	0.00	-8.35	-4.15	0.00	0.00	0.00	53.25

Segment Leq : 53.25 dBA

Total Leq All Segments: 53.25 dBA

FF
Results segment # 1: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 45.65 + 0.00) = 45.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	58.15	0.00	-8.35	-4.15	0.00	0.00	0.00	45.65

Segment Leq : 45.65 dBA

Total Leq All Segments: 45.65 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 53.25
(NIGHT): 45.65
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:51:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bfu1t3.te Time Period: Day/Night 16/8 hours
Description: building f units 1 to 3 indoor

Road data, segment # 1: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Findlay Creek (day/night)

Angle1 Angle2 : -20.00 deg 80.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 31.50 / 31.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 57.78 + 0.00) = 57.78 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	80	0.48	65.75	0.00	-4.77	-3.20	0.00	0.00	0.00	57.78

Segment Leq : 57.78 dBA

Total Leq All Segments: 57.78 dBA

FF
Results segment # 1: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 50.18 + 0.00) = 50.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	80	0.48	58.15	0.00	-4.77	-3.20	0.00	0.00	0.00	50.18

Segment Leq : 50.18 dBA

Total Leq All Segments: 50.18 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 57.78
(NIGHT): 50.18

FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 16:17:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bfu4t6.te Time Period: Day/Night 16/8 hours
Description: block f units 4 to 6 indoor

Road data, segment # 1: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Findlay Creek (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 34.50 / 34.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 56.25 + 0.00) = 56.25 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	65.75	0.00	-5.35	-4.15	0.00	0.00	0.00	56.25

Segment Leq : 56.25 dBA

Total Leq All Segments: 56.25 dBA

FF
Results segment # 1: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 48.65 + 0.00) = 48.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	58.15	0.00	-5.35	-4.15	0.00	0.00	0.00	48.65

Segment Leq : 48.65 dBA

Total Leq All Segments: 48.65 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 56.25
(NIGHT): 48.65
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 13:52:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bfu7t9.te Time Period: Day/Night 16/8 hours
Description: building f units 7 to 9 indoor

Road data, segment # 1: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Findlay Creek (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 20.00 / 20.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 62.76 + 0.00) = 62.76 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	65.75	0.00	-1.85	-1.14	0.00	0.00	0.00	62.76

Segment Leq : 62.76 dBA

Total Leq All Segments: 62.76 dBA

FF
Results segment # 1: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 55.17 + 0.00) = 55.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	58.15	0.00	-1.85	-1.14	0.00	0.00	0.00	55.17

Segment Leq : 55.17 dBA

Total Leq All Segments: 55.17 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 62.76
(NIGHT): 55.17
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 14:22:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bgu1t3.te Time Period: Day/Night 16/8 hours
Description: building b units 1 to 3 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -5.00 deg 20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 87.50 / 87.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -5.00 deg 20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 3: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 3: Bank NB (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 78.00 / 78.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 52.04 + 0.00) = 52.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	20	0.48	71.98	0.00	-11.34	-8.61	0.00	0.00	0.00	52.04

Segment Leq : 52.04 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 51.18 + 0.00) = 51.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	20	0.48	71.98	0.00	-12.19	-8.61	0.00	0.00	0.00	51.18

Segment Leq : 51.18 dBA

FF
Results segment # 3: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 57.24 + 0.00) = 57.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq

```
-------------------------------------------------------------------------------
   -90      0   0.48  71.98   0.00 -10.60  -4.15   0.00   0.00   0.00  57.24
-------------------------------------------------------------------------------

Segment Leq : 57.24 dBA

Total Leq All Segments: 59.14 dBA

FF
Results segment # 1: Bank NB (night)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 44.44 + 0.00) = 44.44 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -5     20   0.48  64.39   0.00 -11.34  -8.61   0.00   0.00   0.00  44.44
-------------------------------------------------------------------------------

Segment Leq : 44.44 dBA

FF
Results segment # 2: Bank SB (night)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 43.59 + 0.00) = 43.59 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
    -5     20   0.48  64.39   0.00 -12.19  -8.61   0.00   0.00   0.00  43.59
-------------------------------------------------------------------------------

Segment Leq : 43.59 dBA

FF
Results segment # 3: Bank NB (night)
------------------------------------

Source height = 1.50 m

ROAD (0.00 + 49.64 + 0.00) = 49.64 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90      0   0.48  64.39   0.00 -10.60  -4.15   0.00   0.00   0.00  49.64
-------------------------------------------------------------------------------

Segment Leq : 49.64 dBA

Total Leq All Segments: 51.54 dBA

FF



TOTAL Leq FROM ALL SOURCES (DAY): 59.14
                           (NIGHT): 51.54
FF
FF
```

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 14:23:38
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bgu4t6.te Time Period: Day/Night 16/8 hours
Description: building g units 4 to 6 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -5.00 deg 20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 87.50 / 87.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -5.00 deg 20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 52.04 + 0.00) = 52.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	20	0.48	71.98	0.00	-11.34	-8.61	0.00	0.00	0.00	52.04

Segment Leq : 52.04 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 51.18 + 0.00) = 51.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	20	0.48	71.98	0.00	-12.19	-8.61	0.00	0.00	0.00	51.18

Segment Leq : 51.18 dBA

Total Leq All Segments: 54.64 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 44.44 + 0.00) = 44.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	20	0.48	64.39	0.00	-11.34	-8.61	0.00	0.00	0.00	44.44

Segment Leq : 44.44 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 43.59 + 0.00) = 43.59 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-5	20	0.48	64.39	0.00	-12.19	-8.61	0.00	0.00	0.00	43.59

Segment Leq : 43.59 dBA

Total Leq All Segments: 47.05 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 54.64
(NIGHT): 47.05

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 14:24:27
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bgu7t9.te Time Period: Day/Night 16/8 hours
Description: building g units 7 to 9 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 78.00 / 78.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 90.50 / 90.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 3: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Findlay Creek (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 19.50 / 19.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 57.24 + 0.00) = 57.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	71.98	0.00	-10.60	-4.15	0.00	0.00	0.00	57.24

Segment Leq : 57.24 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 56.28 + 0.00) = 56.28 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	71.98	0.00	-11.55	-4.15	0.00	0.00	0.00	56.28

Segment Leq : 56.28 dBA

FF
Results segment # 3: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 62.93 + 0.00) = 62.93 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	65.75	0.00	-1.69	-1.14	0.00	0.00	0.00	62.93

Segment Leq : 62.93 dBA

Total Leq All Segments: 64.65 dBA

FF

Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 49.64 + 0.00) = 49.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	64.39	0.00	-10.60	-4.15	0.00	0.00	0.00	49.64

Segment Leq : 49.64 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 48.69 + 0.00) = 48.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	64.39	0.00	-11.55	-4.15	0.00	0.00	0.00	48.69

Segment Leq : 48.69 dBA

FF
Results segment # 3: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 55.33 + 0.00) = 55.33 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	58.15	0.00	-1.69	-1.14	0.00	0.00	0.00	55.33

Segment Leq : 55.33 dBA

Total Leq All Segments: 57.05 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 64.65
(NIGHT): 57.05

FF
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 14:22:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bgu10t12.te Time Period: Day/Night 16/8 hours
Description: building g units 10 to 12 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -90.00 deg -10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 90.00 / 90.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -90.00 deg -10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 102.50 / 102.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 3: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Findlay Creek (day/night)

Angle1 Angle2 : -90.00 deg 75.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 22.50 / 22.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 55.64 + 0.00) = 55.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-10	0.48	71.98	0.00	-11.52	-4.82	0.00	0.00	0.00	55.64

Segment Leq : 55.64 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 54.81 + 0.00) = 54.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-10	0.48	71.98	0.00	-12.35	-4.82	0.00	0.00	0.00	54.81

Segment Leq : 54.81 dBA

FF
Results segment # 3: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 61.84 + 0.00) = 61.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	75	0.48	65.75	0.00	-2.61	-1.31	0.00	0.00	0.00	61.84

Segment Leq : 61.84 dBA

Total Leq All Segments: 63.42 dBA

FF

Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 48.05 + 0.00) = 48.05 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-10	0.48	64.39	0.00	-11.52	-4.82	0.00	0.00	0.00	48.05

Segment Leq : 48.05 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 47.21 + 0.00) = 47.21 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-10	0.48	64.39	0.00	-12.35	-4.82	0.00	0.00	0.00	47.21

Segment Leq : 47.21 dBA

FF
Results segment # 3: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 54.24 + 0.00) = 54.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	75	0.48	58.15	0.00	-2.61	-1.31	0.00	0.00	0.00	54.24

Segment Leq : 54.24 dBA

Total Leq All Segments: 55.82 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 63.42
(NIGHT): 55.82

FF
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 14:24:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bhu1t3.te Time Period: Day/Night 16/8 hours
Description: building h units 1 to 3 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 23.50 / 23.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 / 36.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 3: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Findlay Creek (day/night)

Angle1 Angle2 : 10.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 33.00 / 33.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 67.96 + 0.00) = 67.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.98	0.00	-2.89	-1.14	0.00	0.00	0.00	67.96

Segment Leq : 67.96 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 65.22 + 0.00) = 65.22 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.98	0.00	-5.63	-1.14	0.00	0.00	0.00	65.22

Segment Leq : 65.22 dBA

FF
Results segment # 3: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 55.86 + 0.00) = 55.86 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
10	90	0.48	65.75	0.00	-5.07	-4.82	0.00	0.00	0.00	55.86

Segment Leq : 55.86 dBA

Total Leq All Segments: 69.98 dBA

FF

Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 60.36 + 0.00) = 60.36 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.39	0.00	-2.89	-1.14	0.00	0.00	0.00	60.36

Segment Leq : 60.36 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 57.62 + 0.00) = 57.62 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.39	0.00	-5.63	-1.14	0.00	0.00	0.00	57.62

Segment Leq : 57.62 dBA

FF
Results segment # 3: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 48.26 + 0.00) = 48.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
10	90	0.48	58.15	0.00	-5.07	-4.82	0.00	0.00	0.00	48.26

Segment Leq : 48.26 dBA

Total Leq All Segments: 62.38 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 69.98
(NIGHT): 62.38

FF
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 14:26:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bhu4t6.te Time Period: Day/Night 16/8 hours
Description: building h units 4 to 6 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : 0.00 deg 65.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 / 36.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : 0.00 deg 65.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 48.50 / 48.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 61.44 + 0.00) = 61.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	65	0.48	71.98	0.00	-5.63	-4.92	0.00	0.00	0.00	61.44

Segment Leq : 61.44 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 59.52 + 0.00) = 59.52 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	65	0.48	71.98	0.00	-7.54	-4.92	0.00	0.00	0.00	59.52

Segment Leq : 59.52 dBA

Total Leq All Segments: 63.60 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 53.84 + 0.00) = 53.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	65	0.48	64.39	0.00	-5.63	-4.92	0.00	0.00	0.00	53.84

Segment Leq : 53.84 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 51.92 + 0.00) = 51.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	65	0.48	64.39	0.00	-7.54	-4.92	0.00	0.00	0.00	51.92

Segment Leq : 51.92 dBA

Total Leq All Segments: 56.00 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 63.60
(NIGHT): 56.00

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 14:26:36
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bhu7t9.te Time Period: Day/Night 16/8 hours
Description: building h units 7 to 9 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 24.00 / 24.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.50 / 36.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 3: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Findlay Creek (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 24.00 / 24.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 67.83 + 0.00) = 67.83 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.98	0.00	-3.02	-1.14	0.00	0.00	0.00	67.83

Segment Leq : 67.83 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 65.13 + 0.00) = 65.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	71.98	0.00	-5.72	-1.14	0.00	0.00	0.00	65.13

Segment Leq : 65.13 dBA

FF
Results segment # 3: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 61.59 + 0.00) = 61.59 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	65.75	0.00	-3.02	-1.14	0.00	0.00	0.00	61.59

Segment Leq : 61.59 dBA

Total Leq All Segments: 70.32 dBA

FF

Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 60.23 + 0.00) = 60.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.39	0.00	-3.02	-1.14	0.00	0.00	0.00	60.23

Segment Leq : 60.23 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 57.53 + 0.00) = 57.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	64.39	0.00	-5.72	-1.14	0.00	0.00	0.00	57.53

Segment Leq : 57.53 dBA

FF
Results segment # 3: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 53.99 + 0.00) = 53.99 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	58.15	0.00	-3.02	-1.14	0.00	0.00	0.00	53.99

Segment Leq : 53.99 dBA

Total Leq All Segments: 62.72 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 70.32
(NIGHT): 62.72
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 15:18:11
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bhu10t12.te Time Period: Day/Night 16/8 hours
Description: building h units 10 to 12 indoor

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 / 36.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : -90.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 48.50 / 48.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 3: Findlay Creek (day/night)

Car traffic volume : 6477/563 veh/TimePeriod
Medium truck volume : 515/45 veh/TimePeriod
Heavy truck volume : 368/32 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 3: Findlay Creek (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 22.00 / 22.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 62.21 + 0.00) = 62.21 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	71.98	0.00	-5.63	-4.15	0.00	0.00	0.00	62.21

Segment Leq : 62.21 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 60.29 + 0.00) = 60.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	71.98	0.00	-7.54	-4.15	0.00	0.00	0.00	60.29

Segment Leq : 60.29 dBA

FF
Results segment # 3: Findlay Creek (day)

Source height = 1.50 m

ROAD (0.00 + 62.15 + 0.00) = 62.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	65.75	0.00	-2.46	-1.14	0.00	0.00	0.00	62.15

Segment Leq : 62.15 dBA

Total Leq All Segments: 66.41 dBA

FF

Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 54.61 + 0.00) = 54.61 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	64.39	0.00	-5.63	-4.15	0.00	0.00	0.00	54.61

Segment Leq : 54.61 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 52.70 + 0.00) = 52.70 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	0	0.48	64.39	0.00	-7.54	-4.15	0.00	0.00	0.00	52.70

Segment Leq : 52.70 dBA

FF
Results segment # 3: Findlay Creek (night)

Source height = 1.50 m

ROAD (0.00 + 54.55 + 0.00) = 54.55 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	58.15	0.00	-2.46	-1.14	0.00	0.00	0.00	54.55

Segment Leq : 54.55 dBA

Total Leq All Segments: 58.81 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 66.41
(NIGHT): 58.81
FF
FF

OLA Noise Calculations

STAMSON 5.0 NORMAL REPORT Date: 02-12-2021 24:28:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: opa-p1.te Time Period: Day/Night 16/8 hours
Description: Shared Amenity Area - P1 OLA

Road data, segment # 1: Bank NB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Bank NB (day/night)

Angle1 Angle2 : 25.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 91.50 / 91.50 m
Receiver height : 1.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Road data, segment # 2: Bank SB (day/night)

Car traffic volume : 14168/1232 veh/TimePeriod *
Medium truck volume : 1127/98 veh/TimePeriod *
Heavy truck volume : 805/70 veh/TimePeriod *
Posted speed limit : 70 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT): 17500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Bank SB (day/night)

Angle1 Angle2 : 25.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 104.00 / 104.00 m
Receiver height : 1.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: Bank NB (day)

Source height = 1.50 m

ROAD (0.00 + 52.40 + 0.00) = 52.40 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
25	90	0.66	71.98	0.00	-13.04	-6.55	0.00	0.00	0.00	52.40

Segment Leq : 52.40 dBA

FF
Results segment # 2: Bank SB (day)

Source height = 1.50 m

ROAD (0.00 + 51.48 + 0.00) = 51.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
25	90	0.66	71.98	0.00	-13.96	-6.55	0.00	0.00	0.00	51.48

Segment Leq : 51.48 dBA

Total Leq All Segments: 54.97 dBA

FF
Results segment # 1: Bank NB (night)

Source height = 1.50 m

ROAD (0.00 + 46.71 + 0.00) = 46.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
25	90	0.48	64.39	0.00	-11.62	-6.06	0.00	0.00	0.00	46.71

Segment Leq : 46.71 dBA

FF
Results segment # 2: Bank SB (night)

Source height = 1.50 m

ROAD (0.00 + 45.88 + 0.00) = 45.88 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
25	90	0.48	64.39	0.00	-12.45	-6.06	0.00	0.00	0.00	45.88

Segment Leq : 45.88 dBA

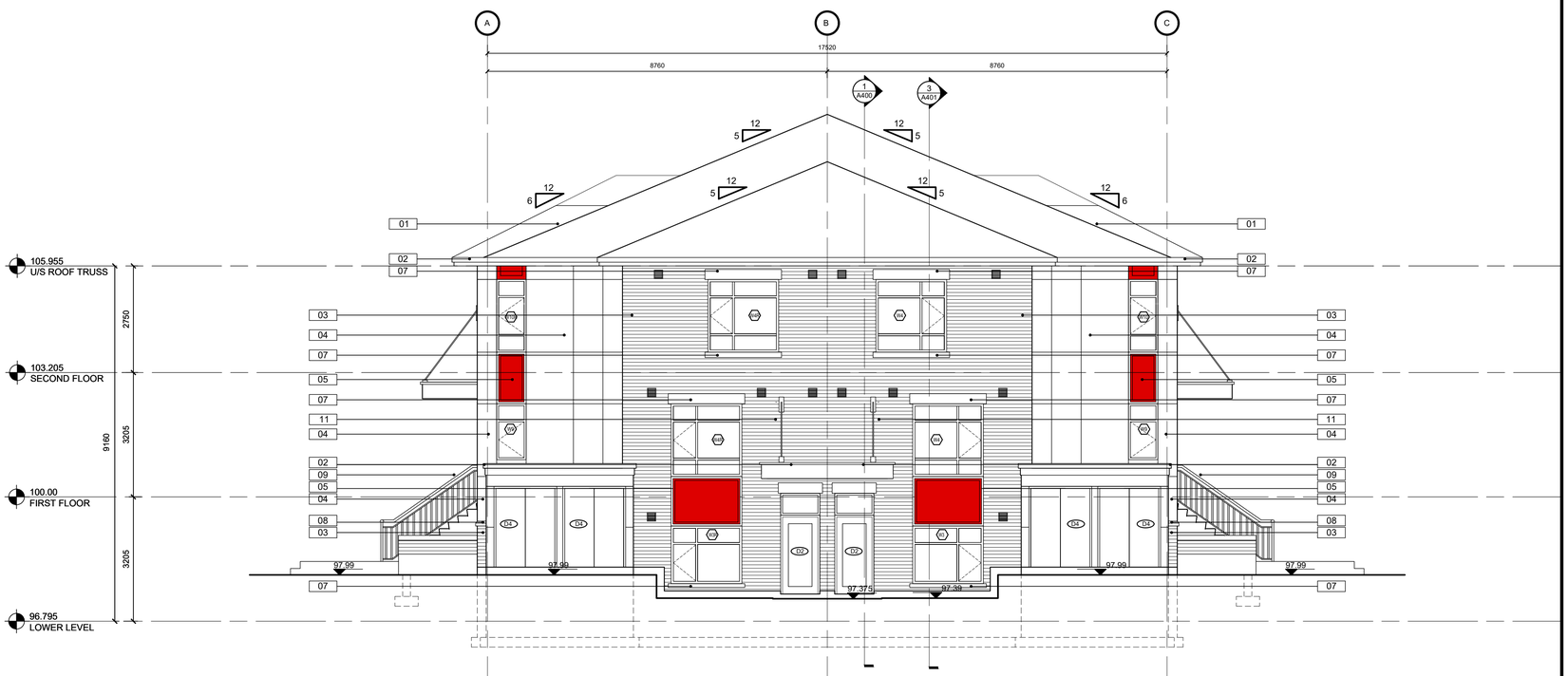
Total Leq All Segments: 49.33 dBA

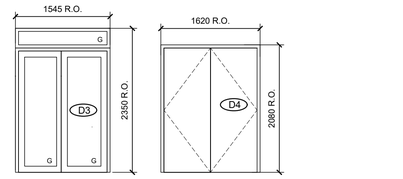
FF

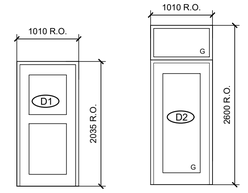
TOTAL Leq FROM ALL SOURCES (DAY): 54.97
(NIGHT): 49.33

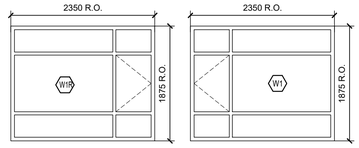
Appendix B –
Sample Architectural Drawings

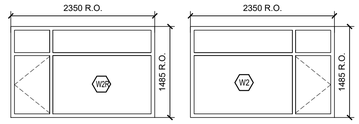
LILYTHORNE ZEN BLOCK A
ARCH ELEV. 100.00 = 100.00 GEO

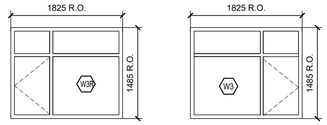


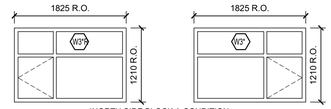




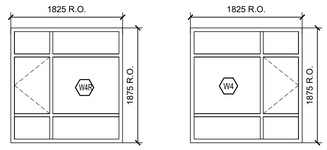


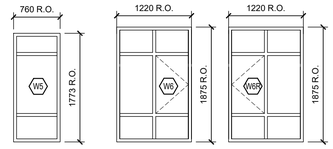


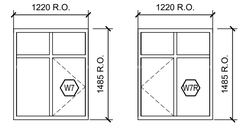


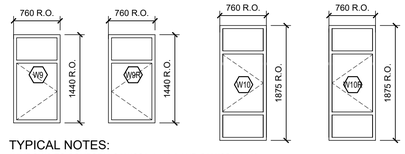


*NORTH SIDE BLOCK A CONDITION









TYPICAL NOTES:
WINDOWS TO CONFORM CAN/CSA-A440.1 AND CAN/CSA-A440
WINDOWS AND PATIO DOORS TO HAVE A MAX. U VALUE OF 1.6
EXTERIOR SWING DOORS TO COMPLY WITH ASTM E283
GLASS IN DOORS AND SIDE LIGHTS TO BE TEMPERED GLASS CONFORMING TO CAN/CGSB-12.1-M
BUILDING A & F REQUIRE WINDOWS WITH STC RATING NOT LESS THAN 31 IN ACCORDANCE WITH ASTM E90.

3 A200-20 WINDOWS & EXTERIOR DOOR SCHEDULE
SCALE = NTS

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND TO REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

DO NOT SCALE DRAWINGS.

NOTATION SYMBOLS:

- (00) INDICATES DRAWING NOTES, LISTED ON EACH SHEET.
- ◇00 INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDUAL.
- ⬡W INDICATES WINDOW TYPE; REFER TO WINDOW ELEVATIONS AND DETAILS ON A900 SERIES.
- (000) INDICATES DOOR TYPE; REFER TO DOOR SCHEDULE AND DETAILS ON A900 SERIES.
- 00 / A000 — 00 DETAIL NUMBER; A000 DETAIL REFERENCE PAGE; TITLE; SCALE

DRAWING NOTES:

01 ASPHALT SHINGLES: WEATHERED WOOD
02 PREFINISHED ALUMINUM FASCIA & VENTED SOFFIT (CHARCOAL).
03 BEIGE BRICK: FORTERRA, MAX SIZE, RUTHERFORD
04 HARDIE BOARD ACCENT PANEL C/W ALUMINUM TRIM PIECES (COBBLESTONE)
05 HARDIE BOARD ACCENT PANEL C/W ALUMINUM TRIM PIECES (MIDNIGHT BLACK)
06 VINYL SIDING; STORM
07 PRECAST LINTELS & SILLS
08 125mm PRECAST CONCRETE ACCENT BAND
09 ALUMINUM BALCONY RAILING c/w PICKETS @ 100mm o.c. MAX (BLACK) PROVIDE P.ENG SIGNED DETAILS TO SITE INSPECTOR PRIOR TO INSTALLATION
10 PRE-FINISHED ALUMINUM FLASHING (CHARCOAL)
11 ORNAMENTAL METAL RODS (CHARCOAL)
12 CONCRETE STEPS
13 STACKED PRECAST CONCRETE UNIT PLANTER WALL
14 CONCRETE PARGING

No.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	2021-XX-XX

REVISIONS:

ARCHITECT SEAL: ONTARIO ASSOCIATION OF ARCHITECTS — RODERICK LAHEY — LICENCE 4375 — SEAL DATE: STAMP DATE

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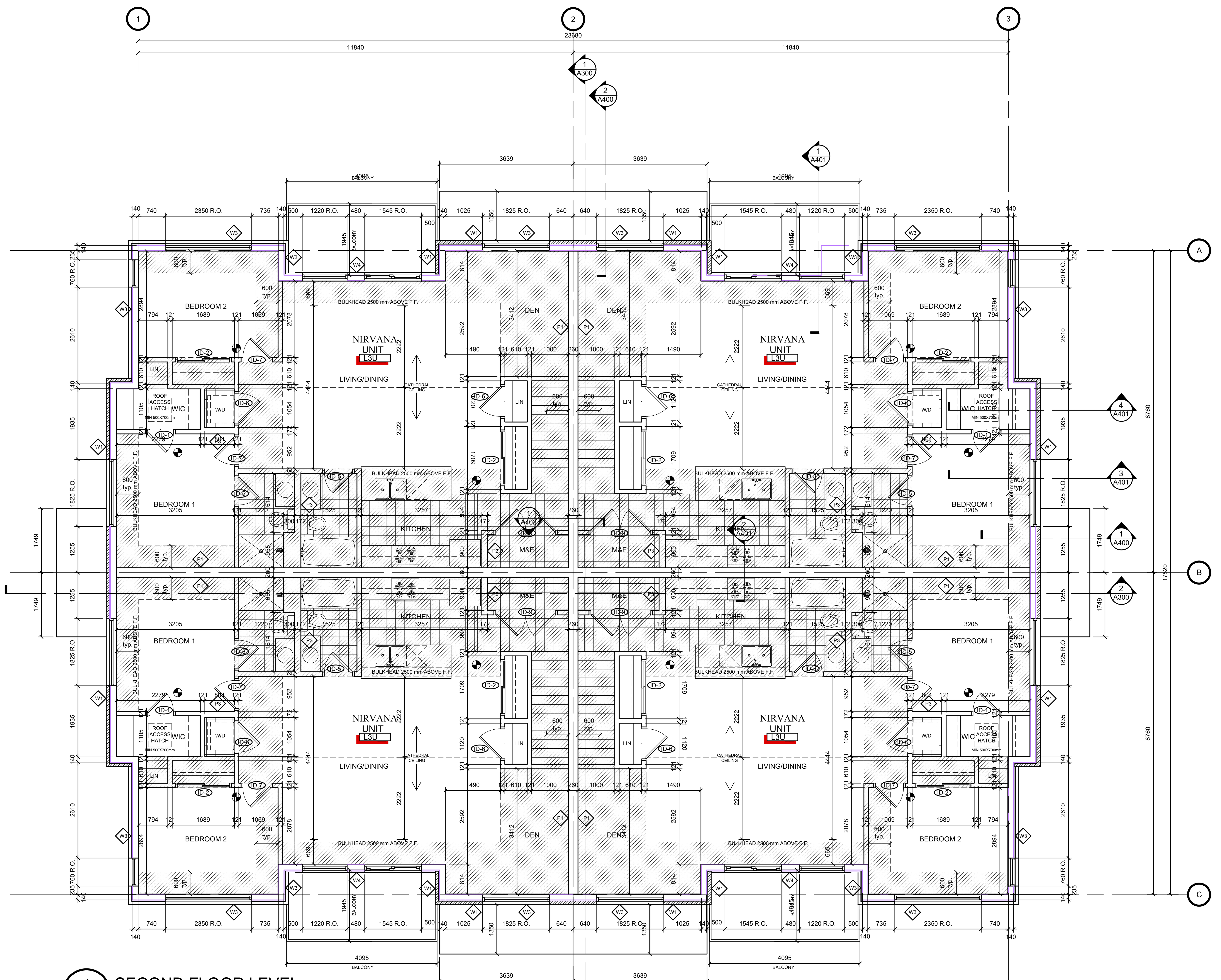
PROJECT TITLE: (LARGE)
LILYTHORNE ZEN
BLOCK A
OTTAWA ONTARIO

SHEET TITLE:
EAST & SOUTH SIDE ELEVATIONS
WINDOW & DOOR SCHEDULE

DRAWN:	CHECKED:
CM	RLA
SCALE: 1:75	SHEET No. A200
PROJECT No. 2105	

LILYTHORNE ZEN BLOCK A
ARCH ELEV. 100.00 = 100.00 GEO



1 A103 SECOND FLOOR LEVEL
SCALE = 1 : 75

GENERAL NOTES:

1. ALL ENTRY CLOSETS TO RECIEVE 1 ROD AND SHELF. ALL BEDROOM CLOSETS TO RECIEVE 2 RODS AND 1 SHELF. ALL LINENS TO RECIEVE 5 SHELVES.
2. STRUCTURE LOCATED IN FLOOR ASSEMBLY MAY VARY DUE TO FINAL TRUSS LAYOUT. FINAL LOCATION TO BE CONFIRMED ON FLOOR LAYOUT SHOP DWG'S.TRUSS MANUFACTURERS TO INCLUDE REQUIRED TRUSS DETAILS IN SHOP DWG'S
3. ALL WINDOWS AND DOORS TO BE FOAMED IN PLACE WITH LOW-EXPANDING POLY URATHANE FOAM INSULATION.
4. STAIR STRINGER NOT TO BE FASTENED TO WALL ADJACENT TO UNIT, 15mm AIR SPACE REQUIRED, ADD ACOUSTICAL SEALANT TOP & BOTTOM OF SUPPORT MEMBER
5. BRICK TO OVER HANG FOUNDATION WALL 15mm.
6. THROUGH WALL FLASHINGS TO RUN UNDER "TYVEK", JOINT TO BE TAPED.
7. ALL EXPOSED STEEL TO BE TREATED WITH CORROSION RESISTANT PAINT COMPATIBLE PRIMER AND FINISH COAT
8. SUPPLY AND INSTALL COMBINED CO2/ STROBE TYPE SMOKE DETECTORS AS PER O.B.C 9.10.19. REQUIREMENTS; SEE PLAN FOR GENERAL LOCATIONS; EXACT LOCATIONS TO BE CONFIRMED ON SITE. COMBINED CO2/ SMOKE STROBE TYPE DETECTOR SYMBOL
9. ALL INTERIOR PARTION WALLS TO BE WALL TYPE P4 UNLESS OTHERWISE NOTED
10. ALL INTERIOR DIMENSIONS TAKEN FROM FACE OF FINISH GYPSUM BOARD
11. ALL EXTERIOR DIMENSIONS TAKEN FROM FACE OF STUDS OR CONCRETE
12. ALL GUARDS AND HANDRAILS TO BE INSTALLED IN ACCORDANCE WITH O.B.C. 9.8.7 AND 9.8.8.MANUFACTURER TO PROVIDE SHOP DWG'S C/W CONNECTION DETAILS TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION.
13. FINISH FLOORING TO BE CARPET OR LAMINATE FLOORING IN ALL DRY LIVING SPACES, CERAMIC TILE IN ALL WET AREAS AND SHEET VINYL IN M&E CLOSETS.
14. ALL CLOTHES WASHING MACHINES TO BE C/W GALVANIZED METAL PAN AND DRAIN. WASHERS LOCATED AT BASEMENT LEVEL TO BE LOCATED ABOVE A FLOOR DRAIN.
15. ALL AIR BARRIERS TO BE CONTINUOUS AND RUN INTO DOOR & WINDOW OPENINGS
16. PROVIDE DRAINAGE TILE AT PERIMETER OF FOUNDATION WALL AND UNDERSLAB DRAINAGE AS PER MECHANICAL DWGS.

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND TO REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT.

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- 000 — INDICATES DOOR TYPE; REFER TO DOOR SCHEDULE AND DETAILS ON A900 SERIES.
- 00 / A000 — DETAIL NUMBER; TITLE; SCALE; DETAIL REFERENCE PAGE

No.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	2021-XX-XX

REVISIONS:

ARCHITECT SEAL: ONTARIO ASSOCIATION OF ARCHITECTS — RODERICK I. LAHEY LICENCE 4375
SEAL DATE: STAMP DATE

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56 beech street, ottawa, ontario K1S 3J6
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PROJECT TITLE: (LARGE) LILYTHORNE ZEN BLOCK A
OTTAWA ONTARIO

SHEET TITLE: SECOND FLOOR PLAN & CONSTRUCTION ASSEMBLIES

DRAWN: CM
CHECKED: RLA
SCALE: 1:75
PROJECT No. 2105
SHEET No. A103

CONSTRUCTION ASSEMBLIES

CONSTRUCT ALL ASSEMBLIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE LABELING AGENCY, i.e. WH, UL, ULC etc.

EXTERIOR WALLS

WALL TYPE - W1
EXTERIOR BRICK WALL.
1 HOUR F.R.R. AS PER OBC SB-3 EW1a
R=22

BEIGE BRICK: FORTERRA, MAX SIZE, RUTHERFORD; REFER TO ELEVATIONS (H-79mm x D-90mm x L-257mm)
c/w ADJUSTABLE UNIT TIES @ 400mm O.C. HOR. & 600mm O.C. VERT.
& WEEPHOLES @ 600mm O.C @ BOTTOM.
BLUESKIN THROUGH WALL FLASHING MIN.150mm HIGH
25mm AIR SPACE.
TYVEK AIR/WEATHER BARRIER - ALL JOINTS SEALED.
10mm OSB SHEATHING
140mm WOOD STUDS @400mm O.C.
140 mm R22 BATT INSULATION.
6 mil POLY VAPOUR BARRIER.
16mm TYPE 'X' GYPSUM BOARD, PRIME & PAINT FINISH.

TYPICAL 15mm OVERHANG FROM EXTERIOR FACE OF CONCRETE FOUNDATION WALLS.

(15; 25; 90; 10; 140; 16; 281)

WALL TYPE - W1*
MECHANICAL CLOSET WALL (INSIDE)

19mm PLYWOOD
BLUESKIN THROUGH WALL FLASHING MIN.150mm HIGH
38mm BLOCKING
TYVEK AIR/WEATHER BARRIER - ALL JOINTS SEALED.
10mm OSB SHEATHING
140mm WOOD STUDS @400mm O.C.
140 mm R22 BATT INSULATION.
6 mil POLY VAPOUR BARRIER.
16mm TYPE 'X' GYPSUM BOARD, PRIME & PAINT FINISH.

(19; 38; 10; 140; 16; 223)

WALL TYPE - W2
TYPICAL FOUNDATION WALL (BACKFILLED) EFFECTIVE RSI 3.96

PARGING ABOVE GRADE EXTEND 150mm BELOW GRADE ONLY.
DIMPLE DRAINAGE BOARD CCMC APPROVED.
DAMPROOFING (TYPE II) EXTENDING DOWN AND OVER FOOTINGS.
CONCRETE FOUNDATION WALL.
TAR PAPER.
25mm R5 CONTINUOUS RIGID INSULATION .
140 mm WOOD STUDS @ 610mm O.C. c/w R20 BATT INSULATION.
6 mil POLY VAPOUR BARRIER.
13mm GYPSUM BOARD, PRIME & PAINT FINISH.

(VARIES; 25; 140; 13; 179)

WALL TYPE - W3
HARDIE BOARD PANEL SIDING
1 HOUR F.R.R. AS PER OBC SB-3 EW1a R=22

HARDIE BOARD PANEL SIDING (REFER TO ELEVATIONS FOR COLOUR / PATTERN)
19mm WOOD STRAPPING
TYVEK AIR/WEATHER BARRIER - SHINGLED AND ALL JOINTS SEALED.
BLUESKIN THROUGH WALL FLASHING MIN.150mm HIGH AT BASE OF ASSEMBLY
10mm OSB SHEATHING
140mm WOOD STUDS @400mm O.C.
140 mm R22 BATT INSULATION.
6 mil POLY VAPOUR BARRIER.
16mm TYPE 'X' GYPSUM BOARD, PRIME & PAINT FINISH.

ALL CUT JH EDGES TO BE PAINTED PRIOR TO USE.
FOLLOW MANUFACTURER INSTALLATION DETAILS.

(29; 10; 140; 16; 195)

WALL TYPE - W4
VINYL SIDING
1 HOUR F.R.R. AS PER OBC SB-3 EW1a R=22

VINYL SIDING; COLOUR STORM (REFER TO ELEVATIONS FOR COLOR / PATTERN)
19mm WOOD STRAPPING
TYVEK AIR/WEATHER BARRIER - SHINGLED AND ALL JOINTS SEALED.
BLUESKIN THROUGH WALL FLASHING MIN.150mm HIGH AT BASE OF ASSEMBLY
10mm OSB SHEATHING
140mm WOOD STUDS @400mm O.C.
140 mm R22 BATT INSULATION.
6 mil POLY VAPOUR BARRIER.
16mm TYPE 'X' GYPSUM BOARD, PRIME & PAINT FINISH.

(29; 10; 140; 16; 195)

WALL TYPE - W5
TYPICAL FOUNDATION WALL (BACKFILLED)

DAMPROOFING (TYPE II) EXTENDING DOWN AND OVER FOOTINGS
CONCRETE FOUNDATION WALL
DAMPROOFING (TYPE II) EXTENDING DOWN AND OVER FOOTINGS

PARTITION TYPES

PARTITION TYPE - P1
DOUBLE STUD PARTY WALL: LOADBEARING
1 HR F.R.R.; STC 65 AS PER SB-3: W15a

2-16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.
89mm* WOOD STUDS @ 400 o/c MAX (SEE STRUCT), 89* PLATE
89mm SOUND BATT INSULATION
25mm SPACE
89mm* WOOD STUDS @ 400 o/c MAX (SEE STRUCT), 89* PLATE
89mm SOUND BATT INSULATION.
2-16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.

*140 WOOD STUDS FROM LOWER LEVEL SLAB TO 1ST LEVEL ON GRIDLINE B

USE WATER RESISTANT GYPSUM BOARD IN WET AREAS.

(89; 89; 203; 267)

PARTITION TYPE - P2
PARTY WALL / STAIR WALL
1.5 HOUR F.R.R.; STC 58 AS PER SB-3 W6b

2-16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.
12mm RESILIENT CHANNELS @ 600 o/c.
140mm WOOD STUDS @ 400 o/c
140mm BATT INSULATION.
2-16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.

NOTES:
WHERE ELECTRICAL OUTLETS ARE REQUIRED ON THE UNIT SIDE ADD 38mm STUDS @ 400mmO/C 13mm GYPSUM BOARD

WHERE 13mm PLYWOOD IS REQUIRED FOR SHEAR BOTH LAYERS OF 16mm TYPE 'X' DRYWALL ARE STILL REQUIRED. PLYWOOD TO BE INSTALLED IN LIEU OF RESILIENT ;SEE STRUCTURAL PLANS FOR REQUIRED LOCATIONS.

(STAIR SIDE; 16; 16; 140; 13; 16; 216)

PARTITION TYPE - P3
TYPICAL INTERIOR PLUMBING WALL

16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.
140 WOOD STUDS @ 400 mm O.C.
16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.

USE WATER RESISTANT GYPSUM BOARD IN WET AREAS.

(16; 140; 16; 172)

PARTITION TYPE - P4
TYPICAL INTERIOR PARTITION

16mm GYPSUM BOARD TYPE 'X' c/w PRIME & PAINT FINISH.
89 WOOD STUDS @ 400 mm O.C.
16mm GYPSUM BOARD TYPE 'X' c/w PRIME & PAINT FINISH.

USE WATER RESISTANT GYPSUM BOARD IN WET AREAS.

(16; 89; 16; 121)

PARTITION TYPE - P5
ATTIC PARTITION IN PARALLEL W/ TRUSSES
1HR FRR AS PER SB-2

16 mm TYPE X GYPSUM BOARD TAPE& MUD ALL JOINTS
WOOD TRUSS - GABLE (TYP)
16 mm TYPE X GYPSUM BOARD TAPE&MUD ALL JOINTS
WOOD TRUSS - GABLE (TYP)
16 mm TYPE X GYPSUM BOARD TAPE& MUD ALL JOINTS

(16; 16; 16)

PARTITION TYPE - P5a
ATTIC PARTITION BETWEEN TRUSSES
1HR FRR AS PER SB-2

16 mm TYPE X GYPSUM BOARD TAPE& MUD ALL JOINTS
38 X 89 mm @ 600 mm O.C. KNEE WALL
16 mm TYPE X GYPSUM BOARD TAPE&MUD ALL JOINTS
38 X 89 mm @ 600 mm O.C. KNEE WALL
16 mm TYPE X GYPSUM BOARD TAPE& MUD ALL JOINTS

(16; 89; 16; 89; 16)

FLOOR TYPES

FLOOR TYPE - F1
TYPICAL FLOOR CONSTRUCTION
1 HR. F.R.R.; STC 54; AS PER SB-3 F9d

FLOOR FINISH AS NOTED ON FLOOR PLANS
VARIES (MAX 25mm) CEMENTITIOUS FLOOR UNDERLAYMENT (LEVELROCK)
6mm FOAM IMPACT ISOLATION BARRIER
16mm OSB SHEATHING (GLUED AND SCREWED)
406mm PRE ENGINEERED FLOOR JOISTS @ 400 O.C.
200mm BATT INSULATION WITHIN JOIST SPACES
13mm RESILIENT CHANNEL @ 600 O.C.
2 - 16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH

(16; 406; 486; 13; 32)

FLOOR TYPE - F2
WARM FLOOR ABOVE FRONT ENTRY
1 HR F.R.R. AS PER SB3; M2

FLOOR FINISH AS NOTED ON PLAN
VARIES (MAX 25mm) CEMENTITIOUS FLOOR UNDERLAYMENT (LEVELROCK)
6mm FOAM IMPACT ISOLATION BARRIER
16mm OSB SHEATHING (GLUED AND SCREWED)
406mm PRE ENGINEERED FLOOR JOISTS @ 400 O.C.
DROPPED 38x89mm FRAMING @ 610mm O.C. MAX;
200mm BATT INSULATION
6 mil POLY VAPOUR BARRIER
2-16mm 'X' TYPE DENSGLASS GOLD EXT. SHEATHING (C/W NO OPENINGS EXCEEDING 130cm² IN AREA)
TYVEK
19mm PT STRAPPING
PREFINISHED ALUMINUM NON VENTED SOFFIT

FLOOR TYPE - F3
UNDERSIDE OF STAIR CONSTRUCTION
1 HOUR F.R.R.

WOOD STRINGER
38X89mm STUDS FILL ENTIRE CAVITY WITH BATT INSULATION.
13mm RESILIENT CHANNEL @ 600 O.C.
2-16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.

UNDERSIDE OF STAIR CONSTRUCTION BTW UNITS
1 HOUR F.R.R. STC 50+

FLOOR TYPE - F4
CONCRETE SLAB
1 HOUR F.R.R. 2006 OBC SB-2 CALCULATIONS; STC 63

CARPETING
6mm FOAM IMPACT ISOLATION BARRIER
100mm CONCRETE SLAB ON GRADE
152mmX152mm MW 18.7mm x18.7mm AT MID WIDTH OF SLAB
6 mil POLY VAPOUR BARRIER
64mm R10 RIGID INSULATION AROUND EDGE WHERE FINISHED GRADE IS LESS THAN 610mm
150mm COMPACTED GRANULAR 'A' TO 95%

FLOOR TYPE - F5
EXTERIOR STRUCTURAL ENTRY SLAB

RESOFLEX TRAWELED ON WATERPROOFING COATING (CARRY UP CONCRETE UPSTANDS)
PRIMER (DUOCEL 4 OR DUOCHEM 6030)
150 mm CONCRETE SLAB C/W BROOMED FINISH AND SLOPED AWAY FROM BUILDING
150mm COMPACTED GRANULAR 'A' TO 95%

FLOOR TYPE - F6
BALCONY DECK

GORILLA DECKING
FURRING STRIPS (COUNTERSLOPED)
2-PLY MODIFIED BITUMEN ROOFING SYSTEM.
5/8" PT PLYWOOD
FURRING STRIPS TO PROVIDE MIN. 2% SLOPE AWAY FROM BUILDING AND PIERS
2x9½ P.T. JOISTS @ 400mm O/C
PRE-FINISHED ALUMINUM SOFFIT (CHARCOAL)

FLOOR TYPE - F7
1 HOUR F.R.R. (ULC W452) SYSTEM B
USED IN HORIZONTAL APPLICATION UNDER: OBMEC AUTHORTIY #89-1-118

25mm TYPE 'X' GYPSUM SHAFTLINER PANEL.
64mm C-H STEEL STUDS.
2-16mm TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.

USE 75mm MINERAL FIBER INSULATION WHEN ASSEMBLY SEPARATES STAIR WELL AND UNITS.

(131)

ROOFING TYPES

ROOF TYPE - R1
SHINGLED ROOF. R=60

IKO 25 YEAR ASPHALT ROOFING SHINGLES, COLOUR DRIFTWOOD
CONT'S ICE & WATER SHIELD EAVE PROTECTION IN 6' FROM LINE OF EXTERIOR WALL AND AT ALL VALLEYS
#15 CONT'S BUILDING PAPER
11mm OSB C/W CH CLIPS BETWEEN JOINTS
PRE ENGINEERED ROOF TRUSS
(OUTSIDE)
PT BLOCKING
PREFINISHED ALUMINUM VENTED SOFFIT
OR
(INTERIOR HEATED SPACES)
R60 BATT FIBERGLASS INSULATION
6 mil POLY VAPOUR BARRIER.
13mm RESILIENT CHANNEL @ 600 O.C.
16mm GYPSUM BOARD c/w PRIME & PAINT FINISH.

ROOF TYPE - R2
FLAT ROOF.

2-PLY MODIFIED BITUMEN ROOFING SYSTEM.
11mm OSB C/W CH CLIPS BETWEEN JOINTS
38x89 P.T. SLEEPERS @ 16" O.C. SLOPED TO SCUPPER (MIN 2%)
38mmX385mm WOOD FRAMING
TYVEK
PT WOOD STRAPPING @ 600 O.C.
PREFINISHED ALUMINUM VENTED SOFFIT

ROOF TYPE - R3
FLAT ROOF w/
1 HOUR F.R.R. (ULC W452) SYSTEM B
USED IN HORIZONTAL APPLICATION UNDER: OBMEC AUTHORTIY #89-1-118

SAME AS ROOF TYPE - R2 BUT BETWEEN WOOD FRAMING AND TYVEK:

25mm TYPE 'X' GYPSUM SHAFTLINER PANEL.
64mm C-H STEEL STUDS 600 O.C. FILL ENTIRE CAVITY WITH MINERAL FIBRE BATT INSULATION
2-16mm TYPE 'X' GYPSUM BOARD

Appendix C –
Sound Transmission Class (STC) Ratings

Bedroom 2 - 3rd Floor Unit in Building 'A' or 'H'

Reverse Evaluation of Sound Transmission Class (STC) for Building Components

1.0	Free field sound level		62.85	dBA	Noise source
	Correction for reflections		3	dBA	Road
	Outdoor sound level		65.85	dBA	Indoor Quarters
	Indoor sound level	(Night time)	40	dBA	Sleeping
	Required Noise Reduction (NR)		25.85	dB	Subtract indoor from outdoor sound level
2.0	Sound angle of insidence	0 to 90 degrees			C_1 Correction from Table 7.7 0 dB
					Sum 25.85 dB

	Component:	Wall		STC 40 dB
3.0	Noise spectrum type	D - Mixed Road Traffic, Distant Aircraft		C_4 from Table 7.10 7 dB
	Component category	d. Sealed thick window, or exterior wall, or roof/ceiling		Correction -7 dB
4.0	Room floor area	11.02 m^2	73.049 % of floor area	
	Component Area	8.05 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -4 dB
				Correction 4 dB
5.0	Noise reduction if only this component transmits sound			37 dB
6.0	Required noise reduction (from Step 1)			26 dB
7.0	Term C_2: Subtract the Required NR from the Noise Reduction for this component			11 dB
8.0	Determine from Table 7.8 the corresponding value of total transmitted sound energy			8 %

	Component:	Window		After step 2 25.85 dB
9.0	Transmits	92 % of total sound energy		C_2 from Table 7.8 0 dB
10.0	Room floor area	11.02 m^2	35.02722 % of floor area	
	Component Area	3.86 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -4 dB
11.0	Noise spectrum type	D - Mixed Road Traffic, Distant Aircraft		
	Component category	d. Sealed thick window, or exterior wall, or roof/ceili		C_4 from Table 7.10 7 dB
		$STC=NR+C_1+C_2+C_3+C_4$		Required STC 29

Tables from Environmental Noise Assessment in Land Use Planning, dated 1999, published by the MOE

Living/Dining Room - Typical 3rd Floor Unit in Buildings 'A' or 'H'

Reverse Evaluation of Sound Transmission Class (STC) for Building Components

1.0	Free field sound level		70.44	dBA	Noise source
	Correction for reflections		3	dBA	Road
	Outdoor sound level		73.44	dBA	Indoor Quarters
	Indoor sound level	(Daytime)	45	dBA	Living
	Required Noise Reduction (NR)		28.44	dB	Subtract indoor from outdoor sound level
2.0	Sound angle of insidence	0 to 90 degrees			C_1 Correction from Table 7.7 0 dB
					Sum 28.44 dB

	Component:	Wall		STC 40 dB
3.0	Noise spectrum type	D - Mixed Road Traffic, Distant Aircraft		C_4 from Table 7.10 7 dB
	Component category	d. Sealed thick window, or exterior wall, or roof/ceiling		Correction -7 dB
4.0	Room floor area	40.92 m^2	29.71652 % of floor area	
	Component Area	12.16 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -6 dB
				Correction 6 dB
5.0	Noise reduction if only this component transmits sound			39 dB
6.0	Required noise reduction (from Step 1)			28 dB
7.0	Term C_2: Subtract the Required NR from the Noise Reduction for this component			11 dB
8.0	Determine from Table 7.8 the corresponding value of total transmitted sound energy			8 %

	Component:	Window		After step 2 28.44 dB
9.0	Transmits	92 % of total sound energy		C_2 from Table 7.8 0 dB
10.0	Room floor area	40.92 m^2	21.92082 % of floor area	
	Component Area	8.97 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -6 dB
11.0	Noise spectrum type	D - Mixed Road Traffic, Distant Aircraft		
	Component category	d. Sealed thick window, or exterior wall, or roof/ceili		C_4 from Table 7.10 7 dB
		$STC=NR+C_1+C_2+C_3+C_4$		Required STC 29

Tables from Environmental Noise Assessment in Land Use Planning, dated 1999, published by the MOE