REPORT
Project: 135856-6.04.01

ENVIRONMENTAL NOISE IMPACT ASSESSMENT
4624 SPRATT ROAD - BLOCK 177
RIVERSIDE SOUTH COMMUNITY

Prepared for Claridge Homes
by IBI GROUP

June 27, 2022 Update

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1 Introduction

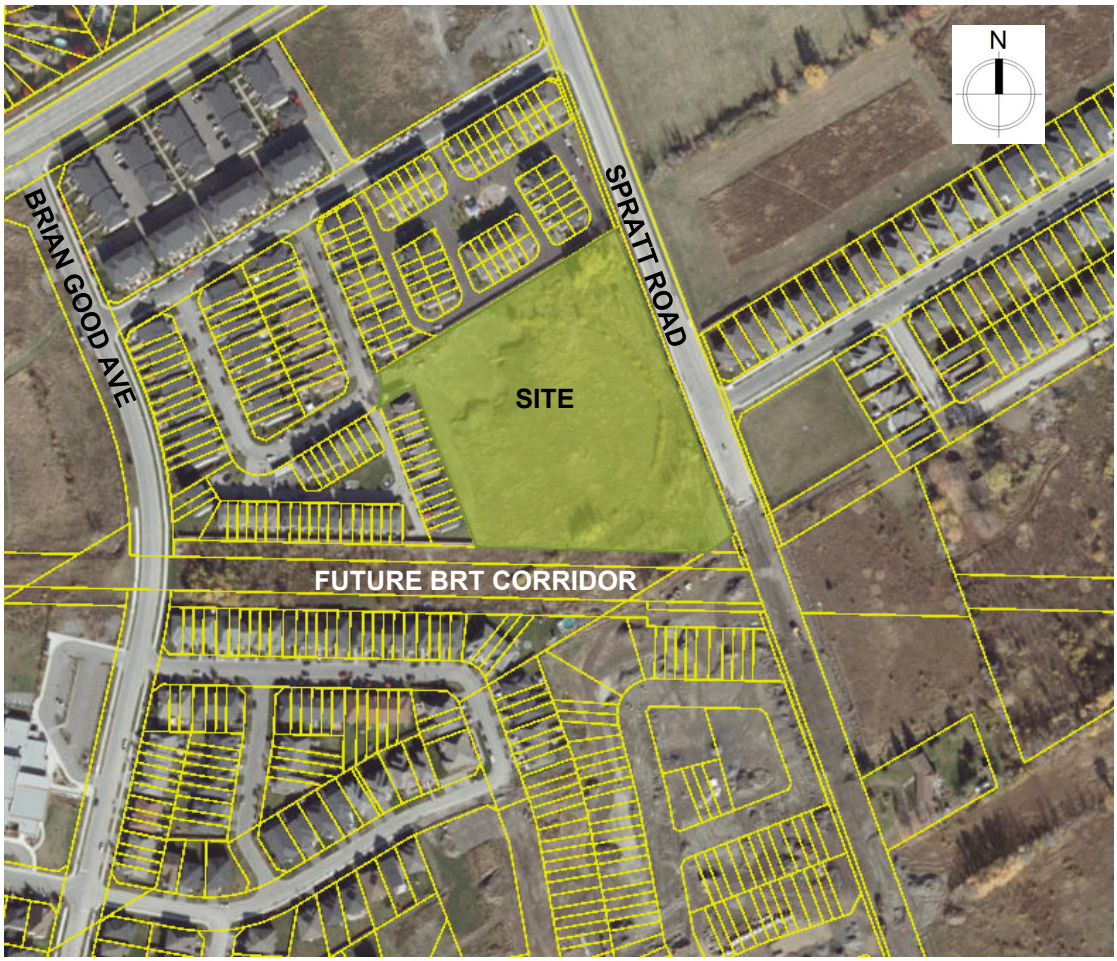
IBI was retained by Claridge Homes to conduct an Environmental Noise Impact Assessment in support of a Site Plan Control application for a mid-density residential development located at 4624 Spratt in the Riverside South Community of Ottawa, Ontario.

The proposed development consists of 120 residential dwelling units arranged in ten, three-storey blocks and is generally bound by Spratt Road to the east, the future Bus Rapid Transit (BRT) corridor to the south, as well as, low-rise residential to the north and west.

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 Spratt Road, as well as the future Bus Rapid Transit (BRT) corridor. All other roads within 100 metres of subject development are identified as local roads and therefore were not analysed as part of this study.

The subject property is located within the limits of the Airport Vicinity Development Zone (AVDZ) for the Ottawa International Airport, as shown on Schedule C14 of the 2021 Official Plan. As such, aircraft noise will be 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, as described in the following sub-sections, was extracted 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:

- 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, referred to herein as Buildings ‘A’ to ‘K’. For the purpose of assessing noise levels at the building face, receptor locations were reviewed at 7.5 metres above ground level under both daytime and nighttime conditions to determine sounds levels for the most exposed third-storey windows.

As per NPC-300 C7.1.2.1 and C7.1.2.2, when the outdoor noise levels at the living room window 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 specifying the use of forced air heating and a provision for central air conditioning is required. Should the outdoor noise levels exceed 65 dBA at the living room and/or exceed 60 dBA at the bedroom, then central air conditioning is mandatory, building components (walls, windows etc.) must be designed in compliance with the Ontario Building Code to achieve the indoor sound level criteria 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 proponent 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, then a warning clause is also required.

3 Roadway Noise

3.1 Traffic Volume Data

Based on the configuration of the collector and higher-order transportation network with respect to the proposed development, it is assumed that the major sources of transportation noise impacting the site will originate externally from Spratt Road to the west and the future BRT corridor to the south.

Borbridge Avenue is well separated from the subject site by at least 150 metres and screened existing street townhome units, therefore no consideration of this collector road is required in the noise analysis for this study.

Spratt Road

The majority of Spratt Road within the site's frontage presently exists as a two-lane, undivided major collector (2-UMCU) with the exception of the southernmost section which has retained its rural cross-section and 80 km/h speed limit. It is expected that this rural segment will be urbanized in accordance with the Spratt Road Roadway Modification Application (RMA-2019-TPD-034) by mid-2022 and well in advance of full build-out/occupancy of the subject development. A 26-metre right-of-way is being protected for the urbanization of Spratt Road adjacent to the site.

Bus Rapid Transit (BRT) Corridor

Right-of-way is being protected for a future at-grade BRT corridor that will extend from Barrhaven Centre to the Riverside South Community Core. A portion of this protected corridor is abutting the subject development to the south and is approximately 40 metres in width.

Traffic volume parameters for Spratt Road were extracted from Appendix B: Table B1 of the ENC Guidelines and are conservatively based on the capacity of this roadway type, while assumptions for the BRT line were determined through correspondence with City of Ottawa technical staff (see **Appendix A**).

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

	SPRATT ROAD (2-UMCU)	BUS RAPID TRANSIT (BRT)
Annual Average Daily Traffic (AADT)	12,000	600 buses
Posted Speed Limit (km/h)	60	80
% Medium Trucks	7%	-
% Heavy Trucks	5%	-
% Daytime Traffic	92%	74%

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. The traffic noise for the BRT corridor was modelled using a custom noise source to remain consistent with other studies conducted within the Riverside South Community.

Locations of the indoor and outdoor receptors used for the noise calculations were selected to determine the limits of the noise criteria. For example, where dwelling units are flanking a major collector road, the limit of the Type 'C' warning clause for indoor noise is determined by calculating the closest dwelling unit that falls below 55 dBA threshold. If the arrangement of the block mirrors a scenario which has already been modelled, then it is not necessary to repeat the calculations to determine the limits of the noise levels as STAMSON will produce the same overall result.

As indicated on **Noise Plan – Drawing No. 135856-N1**, a park will abut the future Bus Rapid Transit (BRT) right-of-way protection between Buildings 'G' and 'K' and receive direct exposure to noise generated from this dedicated transit facility once it is constructed. It is understood that this park is defined as an outdoor living area in the ENC Guidelines, as it contributes to the required amenity space for this subject development and therefore was evaluated as part of this study. The results of the analysis for the outdoor amenity area are presented in **Table 3.3** below.

Parameters used for calculating the noise levels, including the perpendicular distance from source to receiver and the roadway segment angles are also indicated in Tables 3.2 and 3.3, while sample measurements are provided on **Drawing No. 135856 – N2**.

TABLE 3.2: UNATTENUATED NOISE LEVELS AT BUILDING FACE

LOCATION		ROADWAY	SOURCE - RECEIVER DISTANCE (m)	SEGMENT ANGLES		INDOOR NOISE LEVELS (dBA)	
LOT/BLOCK	DESCRIPTION			LEFT	RIGHT	DAYTIME	NIGHTTIME
Building B	units 10, 11 & 12	Spratt	65.5	-10	20	51.74	44.14
Building C	units 1, 2 & 3	Spratt	32.0	-80	-10	59.11	51.51
Building C	units 7, 8 & 9	Spratt	28.0	-10	80	61.29	53.69
Building C	units 10, 11 & 12	Spratt	19.0	-90	90	66.37	57.77
Building D	units 1, 2 & 3	Spratt	32.0	-60	0	58.97	51.37
Building D	units 4 to 6, 10 to 12	Spratt	23.0	-90	90	65.14	57.54
Building E	units 10, 11 & 12	Spratt	74.5	-10	5	54.34	49.80
Building E	units 10, 11 & 12	Spratt	74.5	35	85		
Building E	units 10, 11 & 12	BRT	108.0	-75	-30		
Building F	units 10, 11 & 12	BRT	83.0	-45	-20	50.97	49.44
Building G	units 1, 2 & 3	BRT	33.5	-20	90	61.08	59.54
Building G	units 4, 5 & 6	BRT	42.5	-70	-20	56.24	54.71
Building G	units 7, 8 & 9	BRT	25.0	-90	90	64.85	63.32
Building G	units 10, 11 & 12	BRT	30.0	-90	70	63.43	61.90
Building H	units 1, 2 & 3	BRT	77.0	-20	20	52.27	50.74
Building H	units 4, 5 & 6	Spratt	81.0	5	70	55.32	51.17
Building H	units 4, 5 & 6	BRT	84.0	-90	-35		
Building H	units 7, 8 & 9	BRT	66.0	-30	30	54.95	53.42
Building J	units 1, 2 & 3	Spratt	29.5	-65	0	59.76	52.16
Building J	units 7, 8 & 9	Spratt	29.5	0	90	60.53	52.93
Building K	units 1, 2 & 3	BRT	37.0	-20	85	60.39	58.86
Building K	units 4, 5 & 6	Spratt	67.5	-40	90	59.86	56.10
Building K	units 4, 5 & 6	BRT	46.0	-90	-20		
Building K	units 10, 11 & 12	BRT	33.5	-90	75	62.83	61.30

As indicated in **Table 3.2** above, there are numerous locations which exceed the 55 dBA daytime or 50 dBA nighttime noise criteria at the building face. Noise attenuation measures and warning clauses will therefore be considered in subsequent sections of the report.

TABLE 3.3: UNATTENUATED NOISE LEVELS AT OLA

LOCATION	ROADWAY	SOURCE - RECEIVER DISTANCE (m)	SEGMENT ANGLES		OUTDOOR NOISE LEVELS (dBA)
			LEFT	RIGHT	
Park (Shared Amenity Area) – P1	BRT	33.5	-75	80	61.85

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. 135856-N1** indicates that this location will experience noise levels slightly above the 55 dBA threshold. The need for noise attenuation measures will be therefore be considered in subsequent sections of this report.

4 Abatement Measures

4.1 Indoor Sound Levels

As indicated previously in noise analysis conducted at the building face and summarized in Section 3.2.1, dwelling units directly facing or flanking Spratt Road or the future BRT corridor will have daytime noise levels exceeding 65 dBA under daytime conditions or 60 dBA under nighttime conditions. As such, central air conditioning, a review of the building components and a Type 'D' warning clause are required for these units.

Select dwelling units Buildings 'C', 'D', 'G', 'H', 'J' and 'K' with partial screening of traffic noise from adjacent buildings will also require attenuation measures. For all of these units, an alternative means of ventilation is required, as well as a Type 'C' warning clause in the Agreement of Purchase and Sale. Alternative means of ventilation usually consist of a forced air heating system with ducts sized for future installation of central air conditioning.

The development of the southeastern portion of the subject site in the longer-term will provide additional screening of traffic noise for south-facing units in Building 'J', east-facing units in Building 'K', as well as additional units in Building 'H'. As a conservative measure, no screening from the potential build-out of this parcel was considered in the noise modelling conducted for this study.

4.2 Building Components

Based on the results of the indoor noise assessment presented previously in **Table 3.2**, an analysis of the required building components for dwelling units exceeding noise levels at the building face of 65 dBA during the daytime or 60 dBA at nighttime, 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 both 'Small Block' and 'Large Block' Spratt Zen buildings were obtained for the STC evaluation and reviewed 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. The dimension of 'Bedroom 2' were used to calculate the STC ratings for both the 'Small Block' and 'Large Block' configurations, since these bedrooms will receive the maximum exposure to transportation-related noise sources.

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 east façades of Building 'C', 'D' and 'J', as well as the southern façades of Buildings 'G' and 'K'. 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 was 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.

Sample architectural plans and STC calculations for dwelling units with direct exposure to either the future BRT corridor or Spratt Road are included in **Appendix C** and **Appendix D**, respectively.

TABLE 4.1: REQUIRED STC RATINGS

DWELLING UNIT	LEVEL	ROOM TYPE	REQUIRED STC RATING
			WINDOWS & GLAZED DOORS
Buildings 'C', 'D' & 'J' East Façade – 'Large Block' Units Facing Spratt Road	3rd Floor	Living Room	35
		Bedroom	35
Buildings 'G' & 'K' South Façade – 'Small Block' Units Facing Future BRT Corridor	3rd Floor	Living Room	29
		Bedroom	35

As indicated in **Table 4.1** above, the required STC rating for windows and glazed doors with the highest exposure to traffic noise was calculated to be 35 under both daytime and nighttime conditions.

4.3 Outdoor Living Area (OLA)

With a 2.2-metre high noise barrier in place, as shown in **Noise Plan – Drawing No. 135856 – N1**, noise levels at Location 'P1' are reduced below 60 dBA but remain above 55 dBA.

The results of this analysis are summarized in **Table 4.2** below.

TABLE 4.2: ATTENUATED NOISE LEVELS AT OLA

LOCATION	ROADWAY	BARRIER - RECEIVER DISTANCE (m)	BARRIER ANGLES		OUTDOOR NOISE LEVELS (dBA)
			LEFT	RIGHT	
Park (Shared Amenity Area) – P1	BRT	13.5	-45	30	59.49

The use of noise barriers in excess of 4 metres in height would have been required to reduce outdoor noise receptors within closest proximity to the BRT corridor, Spratt Road or Borbridge Avenue to below 55 dBA, which is not recommended in the ENC Guidelines. Due to the shared nature of the amenity space, a warning clause Type 'B' is required on all dwelling units within the site.

4.4 Aircraft Sound Levels

As stated in Section 2.1, the subject lands are entirely located within the Airport Vicinity Development Zone (AVDZ). The site is, however, outside of the 25 NEF/NEP contour line so the building components and ventilation requirements of Part 6: Prescribed Measures for Aircraft Noise of the ENC Guidelines do not apply. A warning clause is required for the residential units inside the AVDZ, which in this case applies to all dwelling units proposed within the 4624 Spratt Road development.

Warning clause for aircraft noise is as follows:

"Purchasers/tenants are advised that due to the proximity of the Ottawa Macdonald-Cartier International Airport, noise from the airport and individual aircraft may at times interfere with outdoor or indoor activities".

5 Summary of Attenuation Measures

5.1 Warning Clauses

A clause regarding noise must appear on the Agreement of Purchase and Sale for the impacted units, as indicated on **Noise Plan – Drawing No. 135856-N1** and listed below:

Type 'B' Park (Shared Amenity Space) – All Units

Type 'C' Building 'C' – Units 1 to 3, 7 to 9
Building 'D' – Units 1 to 3, 7 to 9
Building 'G' – Units 1 to 6
Building 'H' – All Units
Building 'J' – Units 1 to 3, 7 to 9
Building 'K' – Units 1 to 6

Type 'D' Building 'C' – Units 4 to 6, 10 to 12
Building 'D' – Units 4 to 6, 10 to 12
Building 'G' – Units 7 to 12
Building 'J' – Units 4 to 6, 10 to 12
Building 'K' – Units 7 to 12

Aircraft Warning Applicable to all dwelling units within the 4624 Spratt Road development

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

Type 'B'	"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing Spratt Road, and future BRT traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."
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."

The aircraft warning clause was provided previously in Section 4.3.

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.

5.3 Noise Barrier

A noise barrier constructed to current City of Ottawa and Ministry of Environment (MOE) standards is required at the location shown on the **Noise Plan Drawing No. 135856-N1**. This barrier shall be located at least 0.3 metres inside the property boundary for the proposed development, as specified in the ENC Guidelines.

6 Conclusion

This Environmental Noise Impact Assessment evaluated the impact of roadway noise on the proposed mid-density residential development, located within the Riverside South Community at 4624 Spratt, 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. 135856-N1**. For these dwelling units, appropriate warning clauses and associated noise abatement measures must be provided on the Agreement of Purchase and Sale for each unit. A 2.2-metre high noise barrier is required to between the proposed park and the future BRT corridor which abuts this shared outdoor amenity area to the south. Since the subject site is located entirely within the Airport Vicinity Development Zone (AVDZ), a warning clause will be required in the Agreement of Purchase and Sale for each dwelling unit as well.

7 Professional Authorization

Prepared by:

Ben Pascolo-Neveu, P.Eng.

Appendix A
BRT Study Parameters

CLIENT

CLARIDGE HOMES

210 Gladstone Ave. Ottawa, On K0P 0Y6

ISSUES

No.	DESCRIPTION	DATE
1	XX	2021-12-xx

NOT FOR CONSTRUCTION

SEE 010, FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

CONSULTANTS

1:500 0 5 15 25m

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PROJECT

ZENS - 4624 SPRATT

PROJECT NO:
135856

DRAWN BY:	CHECKED BY:
D.D./S.G.	B. P-N.
PROJECT MGR:	APPROVED BY:
R.M.	----

SHEET TITLE

NOISE PLAN

SHEET NUMBER	ISSUE
N-1	1

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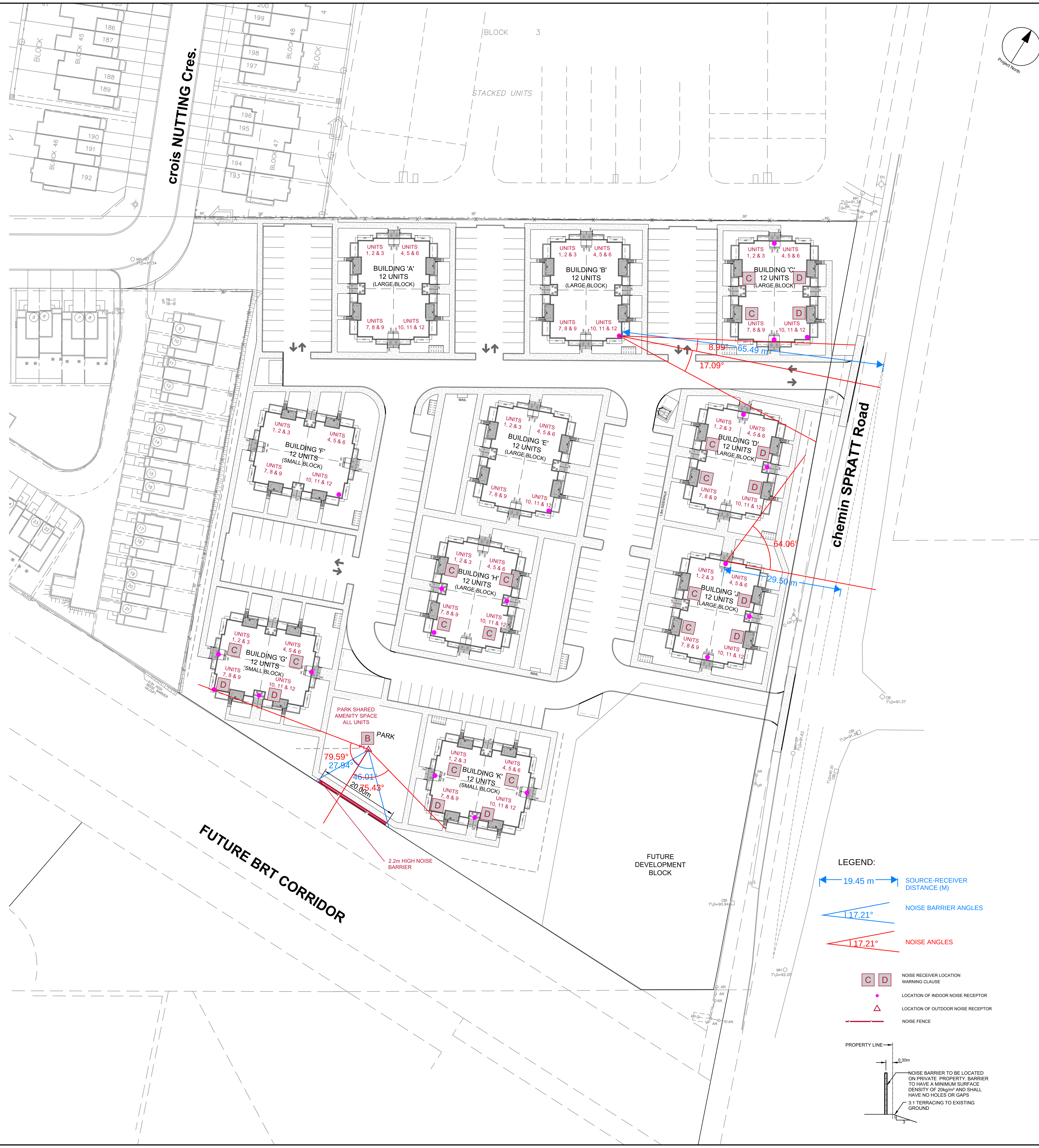
CITY FILE No. D07-xx-xx-xxxx

CITY PLAN No. xxxxx



CLIENT

CLARIDGE HOMES

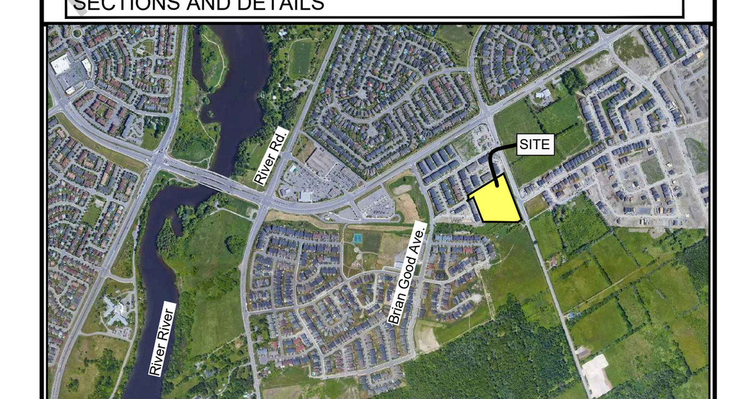
210 Gladstone Ave. Ottawa, On K0P 0Y6

ISSUES

No.	DESCRIPTION	DATE
1	XX	2021-12-xx

NOT FOR CONSTRUCTION

SEE 010, FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS



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PROJECT

ZENS - 4624 SPRATT

PROJECT NO:
135856

DRAWN BY:	CHECKED BY:
D.D./S.G.	**B. P-N.**
PROJECT MGR:	APPROVED BY:
R.M.	**----**

SHEET TITLE

SAMPLE NOISE MEASUREMENTS

SHEET NUMBER N-2 | ISSUE 1

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SCALE CHECK 1 in 10mm

CITY FILE No. D07-XX-XX-XXXX

CITY PLAN No. xxxxx

Lance Erion

From: Yousfani, Asad <Asad.Yousfani@ottawa.ca>
Sent: Monday, April 04, 2016 10:08 AM
To: Lance Erion
Cc: Kaufman, Cathlyn; Jim Burghout; Terry Brule
Subject: FW: BRRT

Hi Lance,

I've received the following information from Frank for you to update the noise study.

Thanks,

Asad

From: McKinney, Frank
Sent: Monday, April 04, 2016 9:39 AM
To: Yousfani, Asad
Subject: FW: BRRT

Hi Asad, as requested by IBI at Friday's meeting:

As per p. 5 of Appendix F, the vehicle type, volume and speed assumptions were as follows:

"The ENCG accepts noise models based on the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT), including the computerized version, STAMSON (MOE 1996). These models have built-in sound power data for road vehicles; however, they do not specify values specifically for buses. Based on ENCG section 2.4.1, transitway buses should be classified as "medium trucks" for modeling purposes using STAMSON. However, the buses operating on the BRT are 60 foot articulating buses, with three axles and a weight over 18,000 kg. Based on the MOE "STAMSON Version 4.1 User's Guide", a vehicle with three or more axles and a weight greater than 12,000 kg should be considered as a "heavy truck" for modelling. Therefore, the proposed BRT buses were modelled as "heavy trucks". A summary of the model inputs is presented below in Table 3.

Table 3: Traffic Inputs for Surface Transportation Corridor Modelling

	Dedicated BRT Sections of Project	Transit Street without Proposed BRT	Transit Street with Median BRT
AADT	600	14000	14600
Speed Limit	80 km/h	60 km/h	60 km/h
Day / Night Split	74% / 26%	92% / 8%	91% / 9%
% Medium / % Heavy of Total Traffic	0% / 100%	7% / 5%	7% / 8%

Frank

Appendix B
STAMSON Noise Calculations

Noise Calculations - Indoor

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:34:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bbu10t12.te Time Period: Day/Night 16/8 hours
Description: building b units 10 to 12 indoor

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : -10.00 deg 20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 65.50 / 65.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 51.74 + 0.00) = 51.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	20	0.48	69.03	0.00	-9.48	-7.81	0.00	0.00	0.00	51.74

Segment Leq : 51.74 dBA

Total Leq All Segments: 51.74 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 44.14 + 0.00) = 44.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	20	0.48	61.43	0.00	-9.48	-7.81	0.00	0.00	0.00	44.14

Segment Leq : 44.14 dBA

Total Leq All Segments: 44.14 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 51.74
(NIGHT): 44.14

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:03:08
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: spratt (day/night)

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : -80.00 deg -10.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 32.00 / 32.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 59.11 + 0.00) = 59.11 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	-10	0.48	69.03	0.00	-4.87	-5.04	0.00	0.00	0.00	59.11

Segment Leq : 59.11 dBA

Total Leq All Segments: 59.11 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 51.51 + 0.00) = 51.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-80	-10	0.48	61.43	0.00	-4.87	-5.04	0.00	0.00	0.00	51.51

Segment Leq : 51.51 dBA

Total Leq All Segments: 51.51 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 59.11
(NIGHT): 51.51

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 10-12-2021 17:39:20
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: spratt (day/night)

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : -10.00 deg 80.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 28.00 / 28.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 61.29 + 0.00) = 61.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	80	0.48	69.03	0.00	-4.01	-3.73	0.00	0.00	0.00	61.29

Segment Leq : 61.29 dBA

Total Leq All Segments: 61.29 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 53.69 + 0.00) = 53.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	80	0.48	61.43	0.00	-4.01	-3.73	0.00	0.00	0.00	53.69

Segment Leq : 53.69 dBA

Total Leq All Segments: 53.69 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 61.29
(NIGHT): 53.69

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:01:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (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 : 19.00 / 19.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 66.37 + 0.00) = 66.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	69.03	0.00	-1.52	-1.14	0.00	0.00	0.00	66.37

Segment Leq : 66.37 dBA

Total Leq All Segments: 66.37 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 58.77 + 0.00) = 58.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	61.43	0.00	-1.52	-1.14	0.00	0.00	0.00	58.77

Segment Leq : 58.77 dBA

Total Leq All Segments: 58.77 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 66.37
(NIGHT): 58.77

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 13-12-2021 12:56:18
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : -60.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 32.00 / 32.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 58.97 + 0.00) = 58.97 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	0	0.48	69.03	0.00	-4.87	-5.19	0.00	0.00	0.00	58.97

Segment Leq : 58.97 dBA

Total Leq All Segments: 58.97 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 51.37 + 0.00) = 51.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	0	0.48	61.43	0.00	-4.87	-5.19	0.00	0.00	0.00	51.37

Segment Leq : 51.37 dBA

Total Leq All Segments: 51.37 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 58.97
(NIGHT): 51.37

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:17:37
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bdu4t12.te Time Period: Day/Night 16/8 hours
Description: building d units 4 to 12 indoor

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (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 : 23.00 / 23.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 65.14 + 0.00) = 65.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	69.03	0.00	-2.75	-1.14	0.00	0.00	0.00	65.14

Segment Leq : 65.14 dBA

Total Leq All Segments: 65.14 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 57.54 + 0.00) = 57.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.48	61.43	0.00	-2.75	-1.14	0.00	0.00	0.00	57.54

Segment Leq : 57.54 dBA

Total Leq All Segments: 57.54 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 65.14
(NIGHT): 57.54

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 37:47:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: beu4t6.te Time Period: Day/Night 16/8 hours
Description: building e units 10 to 12 indoor

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (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 : 81.00 / 81.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : 35.00 deg 85.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 81.00 / 81.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 47.39 + 0.00) = 47.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	5	0.48	69.03	0.00	-10.84	-10.80	0.00	0.00	0.00	47.39

Segment Leq : 47.39 dBA

FF
Results segment # 2: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 50.98 + 0.00) = 50.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
35	85	0.48	69.03	0.00	-10.84	-7.21	0.00	0.00	0.00	50.98

Segment Leq : 50.98 dBA

Total Leq All Segments: 52.56 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 39.79 + 0.00) = 39.79 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-10	5	0.48	61.43	0.00	-10.84	-10.80	0.00	0.00	0.00	39.79

Segment Leq : 39.79 dBA

FF
Results segment # 2: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 43.38 + 0.00) = 43.38 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
35	85	0.48	61.43	0.00	-10.84	-7.21	0.00	0.00	0.00	43.38

Segment Leq : 43.38 dBA

Total Leq All Segments: 44.96 dBA

FF
RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)
```
-------------------------------------
Angle1   Angle2           : -75.00 deg   -30.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 108.00 / 108.00 m
Receiver height           :   7.50 / 7.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

FF

Results segment # 1: BRT (day)
```
-------------------------------
```

Source height = 2.40 m

RT/Custom (0.00 + 49.60 + 0.00) = 49.60 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	-30	0.45	69.16	-12.46	-7.10	0.00	0.00	0.00	49.60

Segment Leq : 49.60 dBA

Total Leq All Segments: 49.60 dBA

FF

Results segment # 1: BRT (night)
```
-------------------------------
```

Source height = 2.40 m

RT/Custom (0.00 + 48.07 + 0.00) = 48.07 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	-30	0.45	67.63	-12.46	-7.10	0.00	0.00	0.00	48.07

Segment Leq : 48.07 dBA

Total Leq All Segments: 48.07 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 54.34
(NIGHT): 49.80

FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:53:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bfu10t12.te Time Period: Day/Night 16/8 hours
Description: building f units 10 to 12 indoor

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -45.00 deg -20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 83.00 / 83.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
RT/Custom data, segment # 2: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 2: BRT (day/night)

Angle1 Angle2 : 15.00 deg 25.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 83.00 / 83.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 49.44 + 0.00) = 49.44 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-45	-20	0.45	69.16	-10.80	-8.93	0.00	0.00	0.00	49.44

Segment Leq : 49.44 dBA

FF
Results segment # 2: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 45.69 + 0.00) = 45.69 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
15	25	0.45	69.16	-10.80	-12.68	0.00	0.00	0.00	45.69

Segment Leq : 45.69 dBA

Total Leq All Segments: 50.97 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 47.91 + 0.00) = 47.91 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-45	-20	0.45	67.63	-10.80	-8.93	0.00	0.00	0.00	47.91

Segment Leq : 47.91 dBA

FF
Results segment # 2: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 44.16 + 0.00) = 44.16 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
15	25	0.45	67.63	-10.80	-12.68	0.00	0.00	0.00	44.16

Segment Leq : 44.16 dBA

Total Leq All Segments: 49.44 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 50.97
(NIGHT): 49.44
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 16:46:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -20.00 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: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 61.08 + 0.00) = 61.08 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	90	0.45	69.16	-5.07	-3.02	0.00	0.00	0.00	61.08

Segment Leq : 61.08 dBA

Total Leq All Segments: 61.08 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 59.54 + 0.00) = 59.54 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	90	0.45	67.63	-5.07	-3.02	0.00	0.00	0.00	59.54

Segment Leq : 59.54 dBA

Total Leq All Segments: 59.54 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 61.08
(NIGHT): 59.54
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 16:48:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -70.00 deg -20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 42.50 / 42.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 56.24 + 0.00) = 56.24 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	-20	0.45	69.16	-6.57	-6.35	0.00	0.00	0.00	56.24

Segment Leq : 56.24 dBA

Total Leq All Segments: 56.24 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 54.71 + 0.00) = 54.71 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-70	-20	0.45	67.63	-6.57	-6.35	0.00	0.00	0.00	54.71

Segment Leq : 54.71 dBA

Total Leq All Segments: 54.71 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 56.24
(NIGHT): 54.71
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 16:41:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (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 : 25.00 / 25.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 64.85 + 0.00) = 64.85 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.45	69.16	-3.22	-1.09	0.00	0.00	0.00	64.85

Segment Leq : 64.85 dBA

Total Leq All Segments: 64.85 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 63.32 + 0.00) = 63.32 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.45	67.63	-3.22	-1.09	0.00	0.00	0.00	63.32

Segment Leq : 63.32 dBA

Total Leq All Segments: 63.32 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 64.85
(NIGHT): 63.32
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 16:44:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -90.00 deg 70.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 30.00 / 30.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 63.43 + 0.00) = 63.43 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	70	0.45	69.16	-4.37	-1.36	0.00	0.00	0.00	63.43

Segment Leq : 63.43 dBA

Total Leq All Segments: 63.43 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 61.90 + 0.00) = 61.90 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	70	0.45	67.63	-4.37	-1.36	0.00	0.00	0.00	61.90

Segment Leq : 61.90 dBA

Total Leq All Segments: 61.90 dBA

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TOTAL Leq FROM ALL SOURCES (DAY): 63.43
(NIGHT): 61.90
FF
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STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:23:45
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

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -20.00 deg 20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 77.00 / 77.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 52.27 + 0.00) = 52.27 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	20	0.45	69.16	-10.32	-6.57	0.00	0.00	0.00	52.27

Segment Leq : 52.27 dBA

Total Leq All Segments: 52.27 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 50.74 + 0.00) = 50.74 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	20	0.45	67.63	-10.32	-6.57	0.00	0.00	0.00	50.74

Segment Leq : 50.74 dBA

Total Leq All Segments: 50.74 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 52.27
(NIGHT): 50.74
FF
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STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 37:33:39
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: spratt (day/night)

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : 5.00 deg 70.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 81.00 / 81.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 53.13 + 0.00) = 53.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
5	70	0.48	69.03	0.00	-10.84	-5.06	0.00	0.00	0.00	53.13

Segment Leq : 53.13 dBA

Total Leq All Segments: 53.13 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 45.53 + 0.00) = 45.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
5	70	0.48	61.43	0.00	-10.84	-5.06	0.00	0.00	0.00	45.53

Segment Leq : 45.53 dBA

Total Leq All Segments: 45.53 dBA

FF
RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -90.00 deg -35.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 84.00 / 84.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 51.31 + 0.00) = 51.31 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-35	0.45	69.16	-10.87	-6.98	0.00	0.00	0.00	51.31

Segment Leq : 51.31 dBA

Total Leq All Segments: 51.31 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 49.78 + 0.00) = 49.78 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-35	0.45	67.63	-10.87	-6.98	0.00	0.00	0.00	49.78

Segment Leq : 49.78 dBA

Total Leq All Segments: 49.78 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 55.32
(NIGHT): 51.17
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 16:54:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -30.00 deg 30.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 66.00 / 66.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 54.95 + 0.00) = 54.95 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-30	30	0.45	69.16	-9.35	-4.86	0.00	0.00	0.00	54.95

Segment Leq : 54.95 dBA

Total Leq All Segments: 54.95 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 53.42 + 0.00) = 53.42 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-30	30	0.45	67.63	-9.35	-4.86	0.00	0.00	0.00	53.42

Segment Leq : 53.42 dBA

Total Leq All Segments: 53.42 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 54.95
(NIGHT): 53.42
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:07:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bju1t3.te Time Period: Day/Night 16/8 hours
Description: building j units 1 to 3 indoor

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : -65.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 29.50 / 29.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 59.76 + 0.00) = 59.76 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-65	0	0.48	69.03	0.00	-4.35	-4.92	0.00	0.00	0.00	59.76

Segment Leq : 59.76 dBA

Total Leq All Segments: 59.76 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 52.16 + 0.00) = 52.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-65	0	0.48	61.43	0.00	-4.35	-4.92	0.00	0.00	0.00	52.16

Segment Leq : 52.16 dBA

Total Leq All Segments: 52.16 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 59.76
(NIGHT): 52.16

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:10:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bju7t9.te Time Period: Day/Night 16/8 hours
Description: building j units 7 to 9 indoor

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (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 : 29.50 / 29.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 60.53 + 0.00) = 60.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.48	69.03	0.00	-4.35	-4.15	0.00	0.00	0.00	60.53

Segment Leq : 60.53 dBA

Total Leq All Segments: 60.53 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 52.93 + 0.00) = 52.93 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.48	61.43	0.00	-4.35	-4.15	0.00	0.00	0.00	52.93

Segment Leq : 52.93 dBA

Total Leq All Segments: 52.93 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 60.53
(NIGHT): 52.93

FF

FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 16:51:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bku1t3.te Time Period: Day/Night 16/8 hours
Description: block k units 1 to 3 indoor

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -20.00 deg 85.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 37.00 / 37.00 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 60.39 + 0.00) = 60.39 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	85	0.45	69.16	-5.70	-3.07	0.00	0.00	0.00	60.39

Segment Leq : 60.39 dBA

Total Leq All Segments: 60.39 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 58.86 + 0.00) = 58.86 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-20	85	0.45	67.63	-5.70	-3.07	0.00	0.00	0.00	58.86

Segment Leq : 58.86 dBA

Total Leq All Segments: 58.86 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 60.39
(NIGHT): 58.86
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 10-12-2021 17:31:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bku4t6.te Time Period: Day/Night 16/8 hours
Description: building k units 4 to 6 indoor

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

Car traffic volume : 9715/845 veh/TimePeriod *
Medium truck volume : 773/67 veh/TimePeriod *
Heavy truck volume : 552/48 veh/TimePeriod *
Posted speed limit : 60 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): 12000
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: spratt (day/night)

Angle1 Angle2 : -40.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 67.50 / 67.50 m
Receiver height : 7.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: spratt (day)

Source height = 1.50 m

ROAD (0.00 + 57.13 + 0.00) = 57.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-40	90	0.48	69.03	0.00	-9.67	-2.23	0.00	0.00	0.00	57.13

Segment Leq : 57.13 dBA

Total Leq All Segments: 57.13 dBA

FF
Results segment # 1: spratt (night)

Source height = 1.50 m

ROAD (0.00 + 49.53 + 0.00) = 49.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-40	90	0.48	61.43	0.00	-9.67	-2.23	0.00	0.00	0.00	49.53

Segment Leq : 49.53 dBA

Total Leq All Segments: 49.53 dBA

FF
RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -90.00 deg -20.00 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: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 56.55 + 0.00) = 56.55 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-20	0.45	69.16	-7.07	-5.54	0.00	0.00	0.00	56.55

Segment Leq : 56.55 dBA

Total Leq All Segments: 56.55 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 55.02 + 0.00) = 55.02 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-20	0.45	67.63	-7.07	-5.54	0.00	0.00	0.00	55.02

Segment Leq : 55.02 dBA

Total Leq All Segments: 55.02 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 59.86
(NIGHT): 56.10
FF
FF

STAMSON 5.0 NORMAL REPORT Date: 09-12-2021 17:47:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: bku10t12.te Time Period: Day/Night 16/8 hours
Description: building k units 10 to 12 indoor

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (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 : 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: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 62.83 + 0.00) = 62.83 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	75	0.45	69.16	-5.07	-1.26	0.00	0.00	0.00	62.83

Segment Leq : 62.83 dBA

Total Leq All Segments: 62.83 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 61.30 + 0.00) = 61.30 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	75	0.45	67.63	-5.07	-1.26	0.00	0.00	0.00	61.30

Segment Leq : 61.30 dBA

Total Leq All Segments: 61.30 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 62.83
(NIGHT): 61.30
FF
FF

Noise Calculations – Outdoor Living Area (OLA)

STAMSON 5.0 NORMAL REPORT Date: 10-12-2021 15:32:27
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: brt.te Time Period: Day/Night 16/8 hours
Description: park - p1 - ola no barrier

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -75.00 deg 80.00 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 : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

RT/Custom (0.00 + 61.85 + 0.00) = 61.85 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	80	0.63	69.16	-5.70	-1.62	0.00	0.00	0.00	61.85

Segment Leq : 61.85 dBA

Total Leq All Segments: 61.85 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

RT/Custom (0.00 + 60.75 + 0.00) = 60.75 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	80	0.54	67.63	-5.38	-1.49	0.00	0.00	0.00	60.75

Segment Leq : 60.75 dBA

Total Leq All Segments: 60.75 dBA

FF

TOTAL Leq FROM ALL SOURCES (DAY): 61.85
(NIGHT): 60.75
FF
FF

Noise Calculations – Outdoor Living Area (OLA) with Noise Barrier

STAMSON 5.0 NORMAL REPORT Date: 10-12-2021 15:37:14
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: brt.te Time Period: Day/Night 16/8 hours
Description: park - p1 - ola w barrier

RT/Custom data, segment # 1: BRT (day/night)
---
1 - Custom (87.0 dBA):
Traffic volume : 444/156 veh/TimePeriod
Speed : 80 km/h

Data for Segment # 1: BRT (day/night)

Angle1 Angle2 : -75.00 deg 80.00 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 : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -45.00 deg Angle2 : 30.00 deg
Barrier height : 2.20 m
Barrier receiver distance : 13.50 / 13.50 m
Source elevation : 91.40 m
Receiver elevation : 91.35 m
Barrier elevation : 91.70 m
Reference angle : 0.00

FF
Results segment # 1: BRT (day)

Source height = 2.40 m

Barrier height for grazing incidence

Source Height (m)	Receiver Height (m)	Barrier Height (m)	Elevation of Barrier Top (m)
2.40	1.50	1.53	93.23

RT/Custom (53.71 + 53.73 + 56.21) = 59.49 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	-45	0.63	69.16	-5.70	-9.76	0.00	0.00	0.00	53.71
-45	30	0.50	69.16	-5.24	-3.98	0.00	0.00	-6.22	53.73
30	80	0.63	69.16	-5.70	-7.26	0.00	0.00	0.00	56.21

Segment Leq : 59.49 dBA

Total Leq All Segments: 59.49 dBA

FF
Results segment # 1: BRT (night)

Source height = 2.40 m

Barrier height for grazing incidence

Source ! Receiver ! Barrier ! Elevation of

Height (m)	Height (m)	Height (m)	Barrier Top (m)
2.40	4.50	3.32	95.02

RT/Custom (52.76 + 58.25 + 55.21) = 60.75 dBA

Angle1	Angle2	Alpha	RefLeq	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	-45	0.54	67.63	-5.38	-9.48	0.00	0.00	0.00	52.76
-45	30	0.41	67.63	-4.92	-3.95	0.00	0.00	-0.09	58.67*
-45	30	0.54	67.63	-5.38	-4.00	0.00	0.00	0.00	58.25
30	80	0.54	67.63	-5.38	-7.03	0.00	0.00	0.00	55.21

* Bright Zone !

Segment Leq : 60.75 dBA

Total Leq All Segments: 60.75 dBA

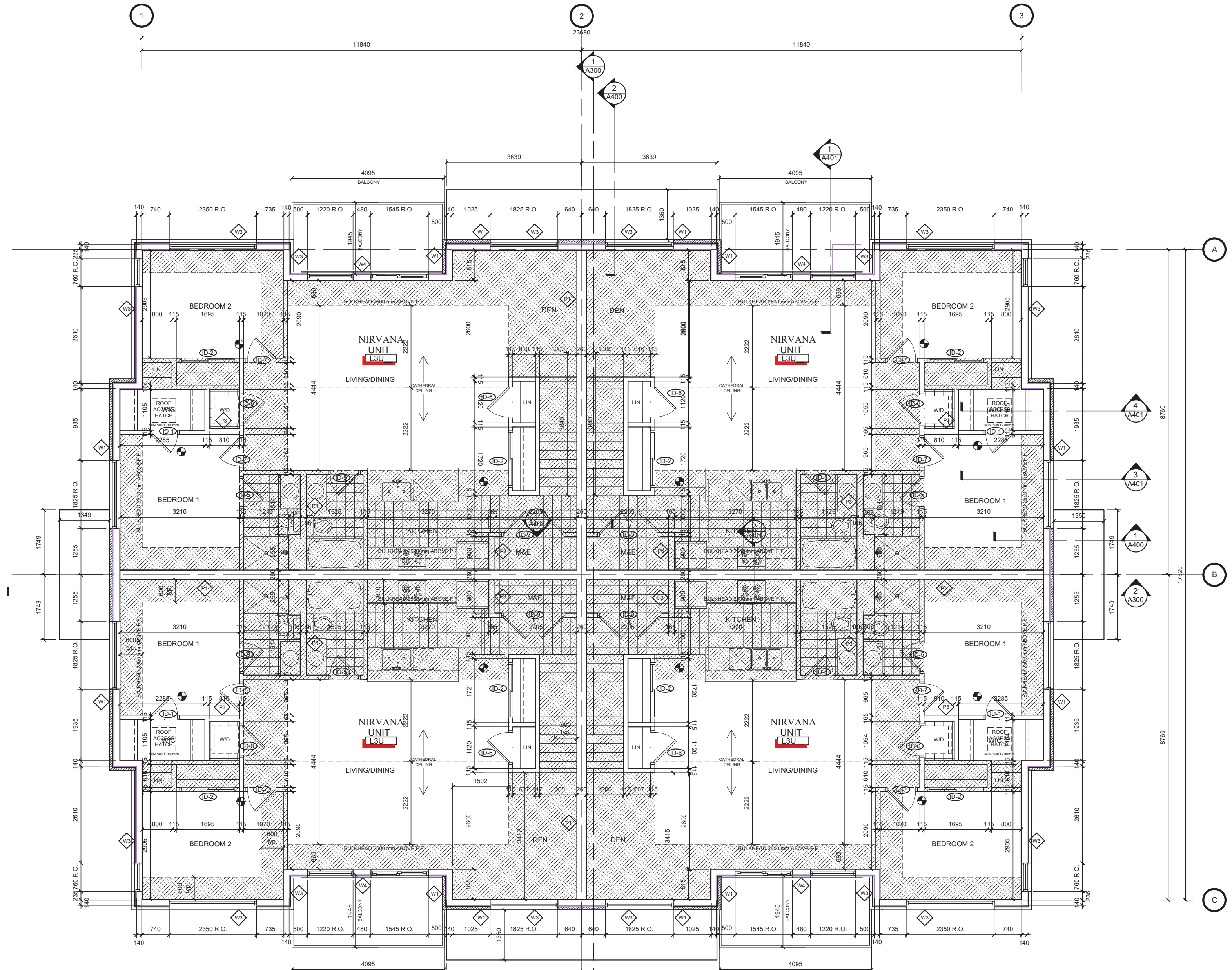
FF

TOTAL Leq FROM ALL SOURCES (DAY): 59.49
(NIGHT): 60.75

FF
FF

Appendix C
Architectural Drawings

LILYTHORNE BLOCK _
ARCH ELEV. 100.00 = TBD 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.

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.
- ⬡00 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 — DETAIL NUMBER; TITLE; SCALE; DETAIL REFERENCE PAGE

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.

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.

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.

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.

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.

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

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

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 TRAVELED 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.

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

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.

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.

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.

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.

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

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

No.	DESCRIPTION	DATE
1	ISSUED FOR _	DATE

REVISIONS:

ARCHITECT SEAL:
SEAL DATE: STAMP DATE

NORTH ARROW:

CLIENT: CLARIDGE HOMES

ARCHITECT: rla/architecture
roderick lahey architect inc.
56 beech street, ottawa, ontario K1S 3J6
t. 613.724.9932 f. 613.724.1209 rlaarchitecture.ca

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

SHEET TITLE: SECOND FLOOR PLAN & CONSTRUCTION ASSEMBLIES

DRAWN:	CHECKED:
CM	RLA
SCALE: 1:75	SHEET No.
PROJECT No. 2006	A103

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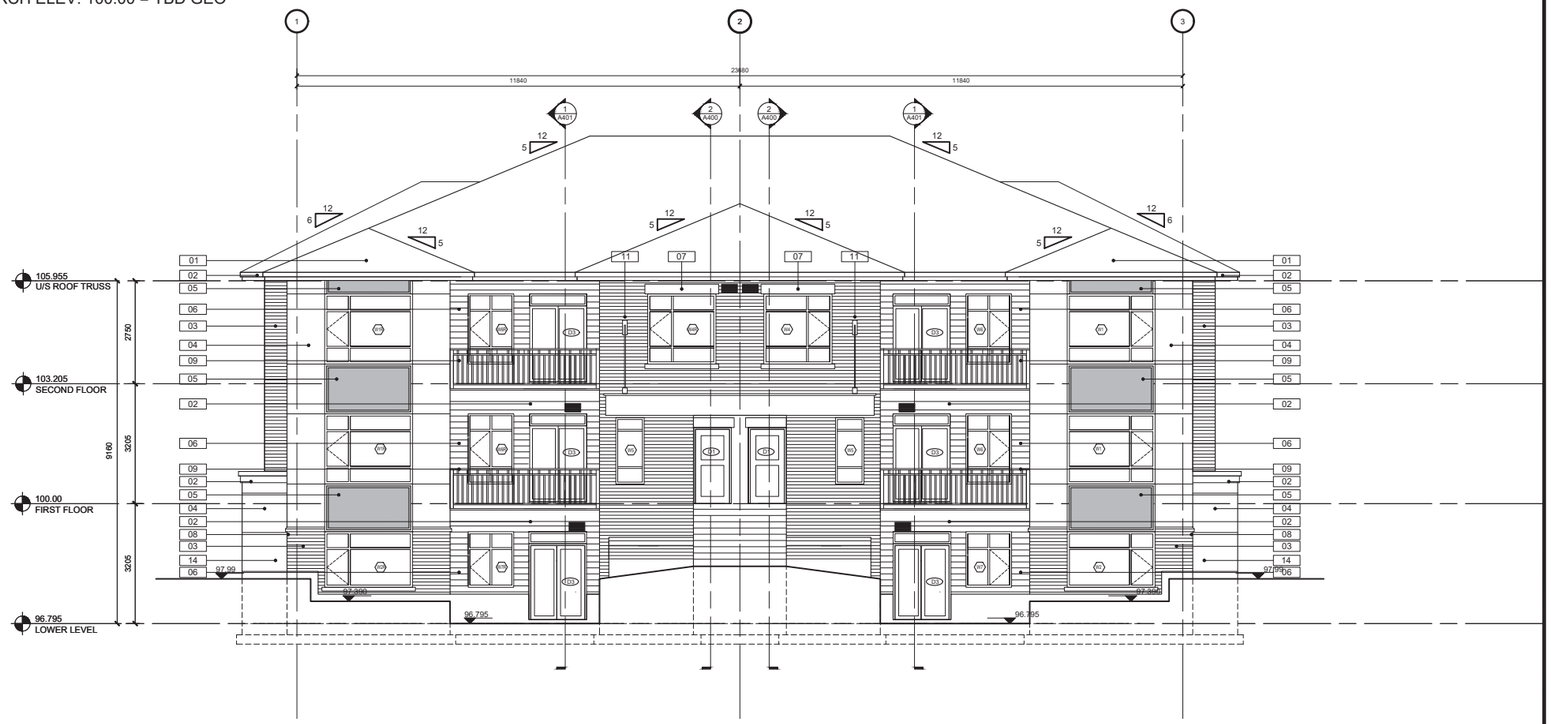
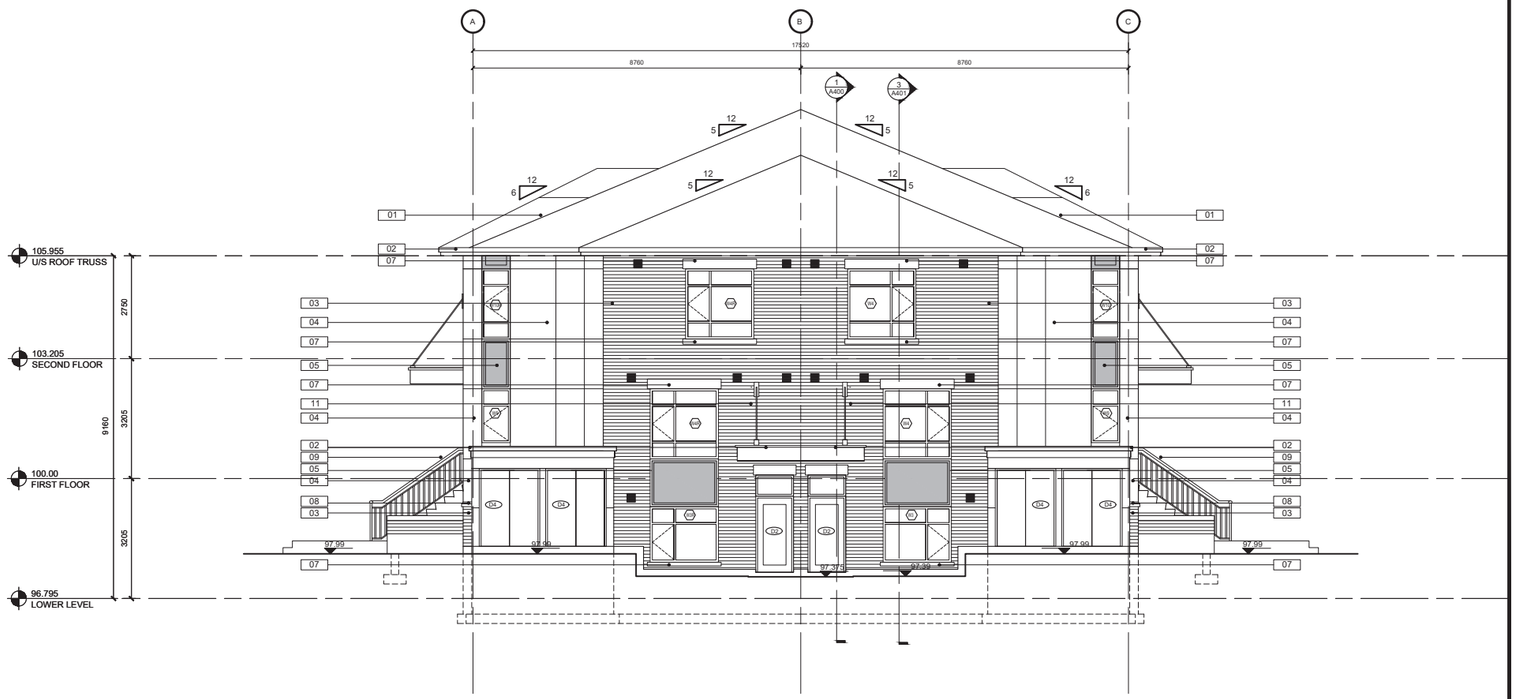
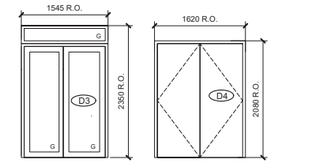
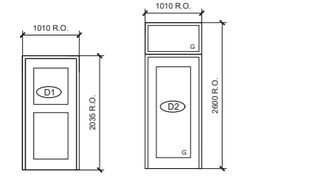
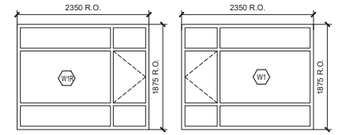
LILYTHORNE BLOCK _
ARCH ELEV. 100.00 = TBD GEO

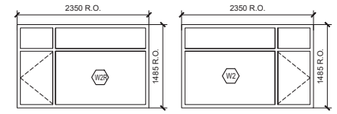


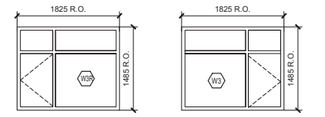


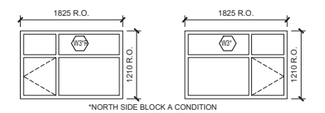




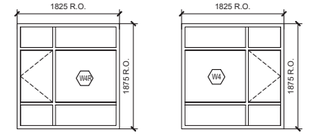


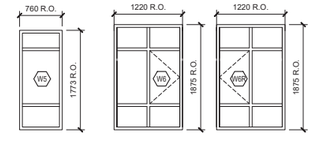


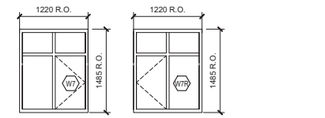


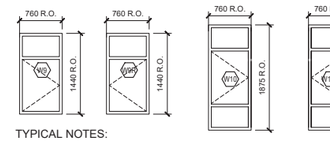


*NORTH SIDE BLOCK A CONDITION









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 A200-201 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.

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- 00 / A000 — DETAIL NUMBER / TITLE / SCALE / DETAIL REFERENCE PAGE

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 _	DATE

REVISIONS:

ARCHITECT SEAL:
SEAL DATE: STAMP DATE

NORTH ARROW:

CLIENT:
CLARIDGE HOMES

ARCHITECT:
rla/architecture
roderick lahey architect inc.
56 beech street, ottawa, ontario K1S 3J6
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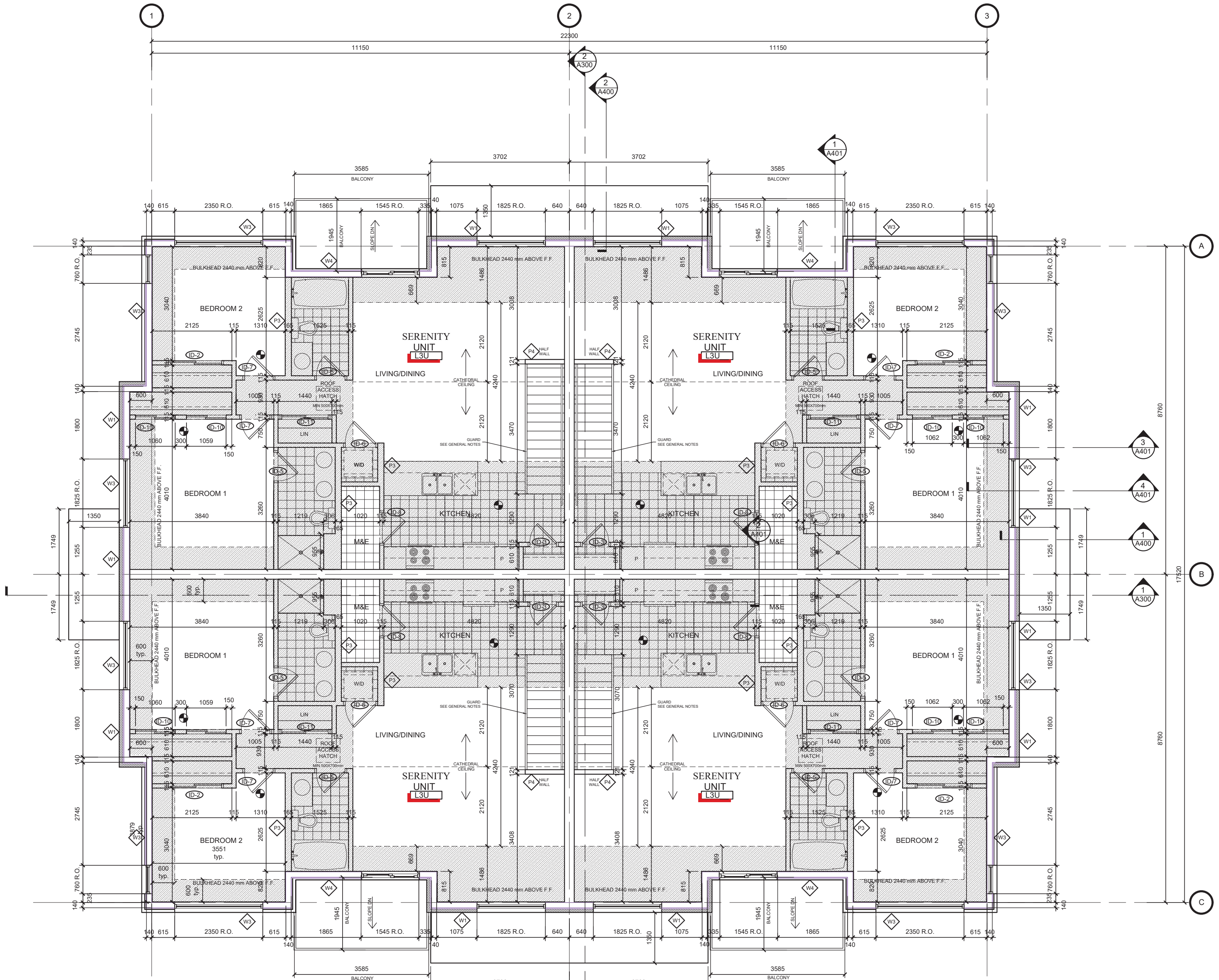
PROJECT TITLE:
(LARGE)
LILYTHORNE ZEN
BLOCK _
OTTAWA ONTARIO

SHEET TITLE:
ELEVATIONS
WINDOW & DOOR
SCHEDULE

DRAWN:	CHECKED:
CM	RLA
SCALE: 1:75	SHEET No. A200
PROJECT No. 2006	

LILYTHORNE BLOCK _
ARCH ELEV. 100.00 = TBD 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 CO/ STROBE TYPE SMOKE ALARMS AS PER O.B.C 9.10.19. & 9.33.4. REQUIREMENTS; SEE PLAN FOR GENERAL LOCATIONS; EXACT LOCATIONS TO BE CONFIRMED ON SITE.
   COMBINED CO/ SMOKE STROBE TYPE ALARM 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.

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

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DO NOT SCALE DRAWINGS.

NOTATION SYMBOLS:

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- 00 — INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDUAL.
- 00 — 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.
- DETAIL NUMBER / 00 TITLE SCALE / A000 / DETAIL REFERENCE PAGE

No.	DESCRIPTION	DATE
1	ISSUED FOR _	DATE

REVISIONS:

ARCHITECT SEAL:
SEAL DATE: STAMP DATE

NORTH ARROW:

CLIENT: CLARIDGE HOMES

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

FLOOR TYPES

FLOOR TYPE - F1
TYPICAL FLOOR CONSTRUCTION
1 HR. F.R.R.; STC 53; AS PER SB-3 F9h

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+

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

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 · 140 · 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 TYPE 'X' GYPSUM BOARD c/w PRIME & PAINT FINISH.
89 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 · 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 - 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

ARCHITECT:
rla / architecture
roderick lahey architect inc.
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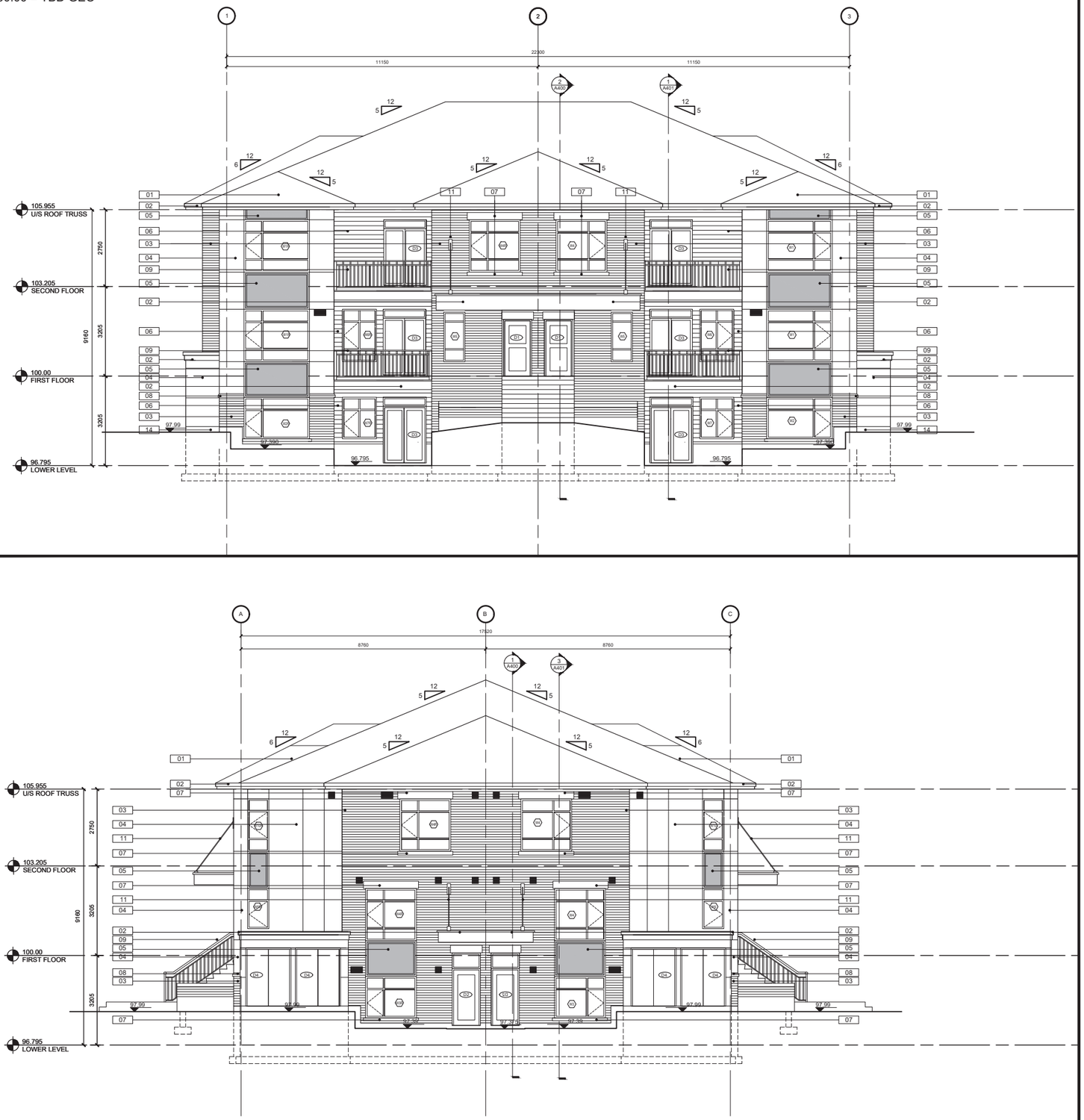
PROJECT TITLE:
(SMALL)
LILYTHORNE ZEN
BLOCK _
OTTAWA ONTARIO

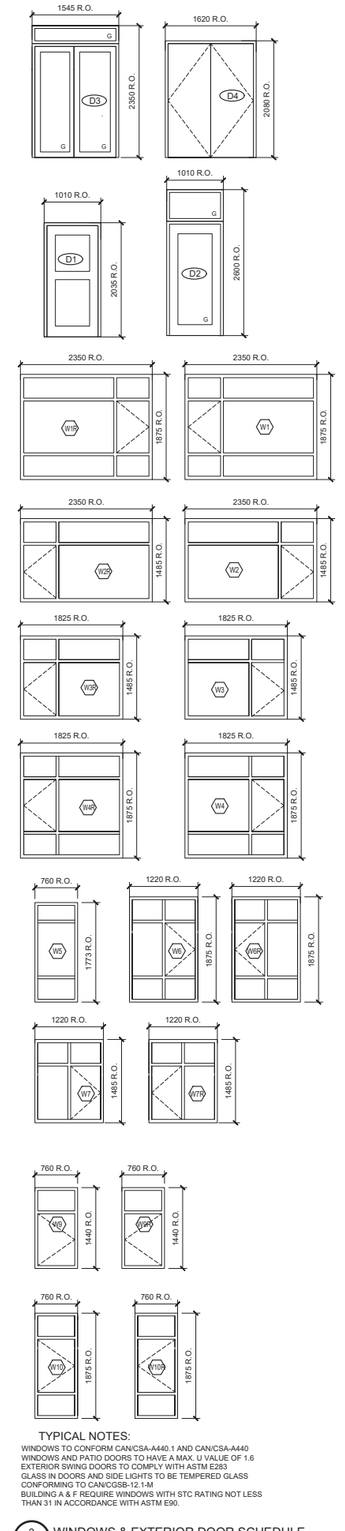
SHEET TITLE:
SECOND FLOOR PLAN & CONSTRUCTION ASSEMBLIES

DRAWN:	CHECKED:
CM	RLA

SCALE:	SHEET No.
1:50	A103
PROJECT No. 2006	

LILYTHORNE BLOCK _
ARCH ELEV. 100.00 = TBD GEO





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 WINDOWS & EXTERIOR DOOR SCHEDULE
A200-201
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.

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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

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 _	

REVISIONS:

ARCHITECT SEAL:
SEAL DATE: STAMP DATE

NORTH ARROW:

CLIENT:
CLARIDGE HOMES

ARCHITECT:
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PROJECT TITLE:
(SMALL)
LILYTHORNE ZEN
BLOCK _
OTTAWA ONTARIO

SHEET TITLE:
ELEVATIONS
WINDOW & DOOR
SCHEDULE

DRAWN:	CHECKED:
CM	RLA
SCALE: 1:75	SHEET No. A200
PROJECT No. 2006	

Appendix D
STC Calculations

Living Room - Large Block - (3rd Floor) - Spratt Zens

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

1.0	Free field sound level		66.37	dBA	Noise source
	Correction for reflections		3	dBA	Road
	Outdoor sound level		69.37	dBA	Indoor Quarters
	Indoor sound level	(Night time)	35	dBA	Living
	Required Noise Reduction (NR)		34.37	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 34.37 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	45.3 m^2	30.75055 % of floor area	
	Component Area	13.93 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -7 dB
				Correction 7 dB
5.0	Noise reduction if only this component transmits sound			40 dB
6.0	Required noise reduction (from Step 1)			34 dB
7.0	Term C_2: Subtract the Required NR from the Noise Reduction for this component			5.6 dB
8.0	Determine from Table 7.8 the corresponding value of total transmitted sound energy			25 %

	Component:	Window		After step 2 34.37 dB
9.0	Transmits	75 % of total sound energy		C_2 from Table 7.8 1 dB
10.0	Room floor area	45.3 m^2	17.94702 % of floor area	
	Component Area	8.13 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -7 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 35

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

Bedroom 2 - Large Block - Spratt Zens

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

1.0	Free field sound level		63.32	dBA	Noise source
	Correction for reflections		3	dBA	Road
	Outdoor sound level		66.32	dBA	Indoor Quarters
	Indoor sound level	(Night time)	35	dBA	Sleeping
	Required Noise Reduction (NR)		31.32	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 31.32 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	11.19 m^2	92.76139 % of floor area	
	Component Area	10.38 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)			31 dB
7.0	Term C_2: Subtract the Required NR from the Noise Reduction for this component			5.7 dB
8.0	Determine from Table 7.8 the corresponding value of total transmitted sound energy			25 %

	Component:	Window		After step 2 31.32 dB
9.0	Transmits	75 % of total sound energy		C_2 from Table 7.8 1 dB
10.0	Room floor area	11.19 m^2	34.94191 % of floor area	
	Component Area	3.91 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 35

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

Living Room - Small Block - (3rd Floor) - Spratt Zens

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

1.0	Free field sound level		66.37	dBA	Noise source
	Correction for reflections		3	dBA	Road
	Outdoor sound level		69.37	dBA	Indoor Quarters
	Indoor sound level	(Daytime)	40	dBA	Living
	Required Noise Reduction (NR)		29.37	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 29.37 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	35.5 m^2	39.57746 % of floor area	
	Component Area	14.05 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -7 dB
				Correction 7 dB
5.0	Noise reduction if only this component transmits sound			40 dB
6.0	Required noise reduction (from Step 1)			29 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 29.37 dB
9.0	Transmits	92 % of total sound energy		C_2 from Table 7.8 0 dB
10.0	Room floor area	35.5 m^2	17.21127 % of floor area	
	Component Area	6.11 m^2		
	Room absorption category	Intermediate		C_3 from Table 7.9 -7 dB
11.0	Noise spectrum type	D - Mixed Road Traffic, Distant Aircraft		
	Component category	d. Sealed thick window, or exterior wall, or roof/ceil		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

Bedroom 2 - Small Block (3rd Floor) - Spratt Zens

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

1.0	Free field sound level		63.32	dBA	Noise source
	Correction for reflections		3	dBA	Road
	Outdoor sound level		66.32	dBA	Indoor Quarters
	Indoor sound level	(Night time)	35	dBA	Sleeping
	Required Noise Reduction (NR)		31.32	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 31.32 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	11.42 m^2	79.24694 % of floor area	
	Component Area	9.05 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)			31 dB
7.0	Term C_2: Subtract the Required NR from the Noise Reduction for this component			5.7 dB
8.0	Determine from Table 7.8 the corresponding value of total transmitted sound energy			25 %

	Component:	Window		After step 2 31.32 dB
9.0	Transmits	75 % of total sound energy		C_2 from Table 7.8 1 dB
10.0	Room floor area	11.42 m^2	34.32574 % of floor area	
	Component Area	3.92 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 35

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