

**Noise Assessment Report -  
801 Ralph Hennessy Avenue  
(Block 221 Riverside South  
Phase 8)**

Project # 160401422



Prepared for:  
Richcraft Group of Companies

Prepared by:  
Stantec Consulting Ltd.

November 15, 2018

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

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## **1.0 INTRODUCTION**

### **1.1 PURPOSE OF REPORT**

Stantec Consulting Ltd. has been retained by Richcraft Group of Companies to prepare an environmental noise assessment for the proposed private back to back townhome and terrace home development at 801 Ralph Hennessy Avenue, located in the City of Ottawa. A site plan control application is being prepared and a Noise Assessment Study is required to address City policies regarding residential development adjacent to an arterial road and within proximity of the Macdonald Cartier International Airport.

The purpose of this report is to:

- outline the Ontario Ministry of the Environment and Climate Change (MOECP) and City of Ottawa guidelines and criteria for noise levels and residential land use;
- apply the noise level standards of the Ontario Ministry of the Environment Conservation and Parks NPC-300 to the site in conjunction with the City of Ottawa document "Environmental Noise Control Guidelines" dated January 2016;
- determine the extent to which noise levels will be of concern to future residents of the proposed development, using the computerized version (STAMSON 5.03) of the MOECP's noise model;
- outline recommendations for noise attenuation, as necessary, to achieve acceptable noise levels for future residents of the proposed development.

### **1.2 LOCATION**

The site is located at the southeast corner of the intersection between Earl Armstrong Road and Ralph Hennessy Avenue. The proposed site is illustrated in **Figure 1**. The proposed development consists of 36 back to back townhome units and 80 back to back terrace homes. This report will focus on the rooms with exposure to Earl Armstrong Road and Ralph Hennessy Avenue.

Surrounding land uses are as follows:

- north – existing residential, existing Earl Armstrong Road;
- west – future residential, existing Ralph Hennessy Avenue;
- south – future residential;
- east – future residential.

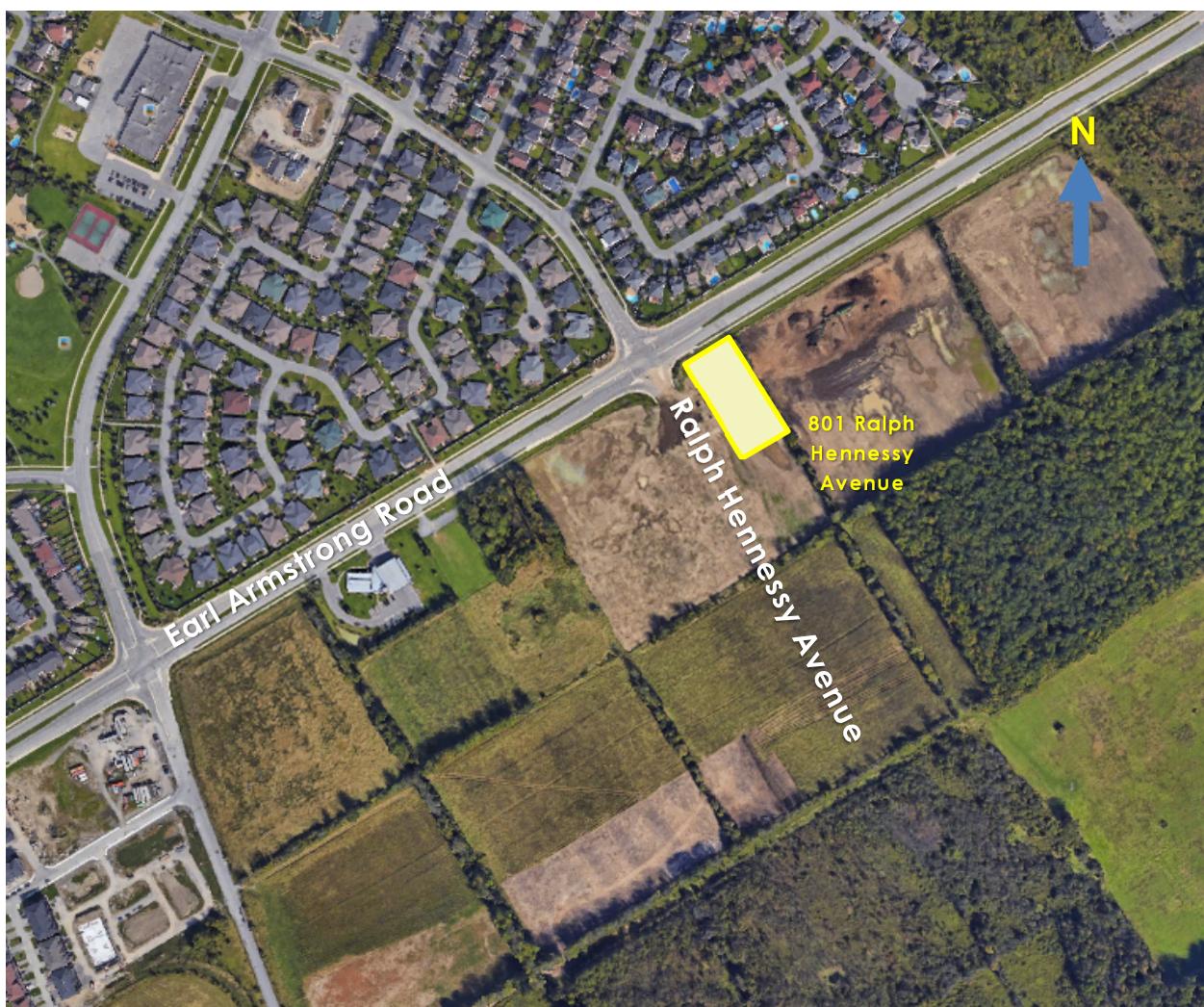
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The main potential noise source that may impact the subject site is vehicular traffic from Earl Armstrong Road and Ralph Hennessy Avenue. The traffic volumes for these roadways are based on the City of Ottawa document "Environmental Noise Control Guidelines".

The proposed site is also located within the Airport Vicinity Development Zone and outside of the 25 NEF/NEP composite line for the Macdonald Cartier International Airport (Annex 10 of the City of Ottawa Official Plan) (**Appendix D**)

**Figure 1 – 801 Ralph Hennessy Avenue Development**



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Noise Level Criteria  
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## **2.0 NOISE LEVEL CRITERIA**

### **2.1 GUIDELINES**

The City of Ottawa has produced guidelines for noise levels for use in noise assessment and land use planning based on MOECP Publication NPC-300 guidelines. Noise level criteria for residential land use are summarized in **Table 1** below. Noise levels higher than the guidelines presented are acceptable under certain conditions and with certain provisions.

**Table 1 Noise Criteria for Residential and Office Land Use**

Location	Leq (16hr) (dBA) (7 a.m. – 11 p.m.)	Leq (8hr) (dBA)(11 p.m. – 7 a.m.)
Outdoor Living Areas	55 dBA	N/A
Indoor Living Areas	45 dBA	40 dBA
General offices, reception areas, retail stores, etc.	50 dBA	N/A

(Source: Ministry of the Environment Conservation and Parks, Environmental Noise Guideline – Stationary and Transportation Sources- Approval and Planning – Publication NPC-300, August 2013 and City of Ottawa, Environmental Noise Control Guidelines, January 2016)

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**Table 2** and

Location	Leq (16hr) (dBA)	Ventilation Requirements	Outdoor Control Measures	Warning Clause
Outdoor Living Area	Leq16hr less than or equal to 55 dBA	N/A	None required	Not required
	Leq (16hr) greater than 55 dBA to less than or equal to 60 dBA	N/A	Control measures (barriers) may not be required but should be considered	Required if resultant Leq exceeds 55 dBA Generic Clause or Extensive Mitigation Clause for outdoor amenity area
	Leq (16hr) greater than 60 dBA	N/A	Control measures (barriers) required to reduce the Leq to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible	Required if resultant Leq exceeds 55 dBA Extensive Mitigation Clause for outdoor amenity area
Plane of Living Room Window	Leq (16hr) less than or equal to 55 dBA	None required	N/A	Not required
	Leq (16hr) greater than 55 dBA to less than or equal to 65 dBA	Provision for central air conditioning	N/A	Required Extensive Mitigation Clause for indoor area
	Leq (16hr) greater than 65 dBA	Central air conditioning	N/A	Required Extensive Mitigation Clause for indoor areas (Supplied Central Air Conditioning)

(Source: Ministry of the Environment and Climate Change, Environmental Noise Guideline – Stationary and Transportation Sources- Approval and Planning – Publication NPC-300, August 2013 and City of Ottawa, Environmental Noise Control Guidelines, January 2016)

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Table 3 set out the required controls and warning clauses that can be applied to allow residential activity in locations where noise levels are expected to exceed the criteria in Table 1.

**Table 2 Combination of Road and Rail Noise  
Daytime Outdoor, Ventilation and Warning Clause Recommendations**

Location	Leq (16hr) (dBA)	Ventilation Requirements	Outdoor Control Measures	Warning Clause
Outdoor Living Area	Leq <sub>16hr</sub> less than or equal to 55 dBA	N/A	None required	Not required
	Leq (16hr) greater than 55 dBA to less than or equal to 60 dBA	N/A	Control measures (barriers) may not be required but should be considered	Required if resultant Leq exceeds 55 dBA Generic Clause or Extensive Mitigation Clause for outdoor amenity area
	Leq (16hr) greater than 60 dBA	N/A	Control measures (barriers) required to reduce the Leq to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible	Required if resultant Leq exceeds 55 dBA Extensive Mitigation Clause for outdoor amenity area
Plane of Living Room Window	Leq (16hr) less than or equal to 55 dBA	None required	N/A	Not required
	Leq (16hr) greater than 55 dBA to less than or equal to 65 dBA	Provision for central air conditioning	N/A	Required Extensive Mitigation Clause for indoor area
	Leq (16hr) greater than 65 dBA	Central air conditioning	N/A	Required Extensive Mitigation Clause for indoor areas (Supplied Central Air Conditioning)

(Source: Ministry of the Environment and Climate Change, Environmental Noise Guideline – Stationary and Transportation Sources- Approval and Planning – Publication NPC-300, August 2013 and City of Ottawa, Environmental Noise Control Guidelines, January 2016)

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**Table 3 Combination of Road and Rail Noise,  
Night-Time Ventilation and Warning Clause Requirements**

Location	Leq (8hr) (dBA)	Ventilation Requirements	Outdoor Control Measures	Warning Clause
Plane of Bedroom Window	Leq <sub>8hr</sub> greater than 50 dBA to less or equal to 60 dBA	Provision for central air conditioning	N/A	Required Extensive Mitigation Clause for indoor areas
	Leq <sub>8hr</sub> greater than 60 dBA	Central air conditioning	N/A	Required Extensive mitigation of indoor and outdoor amenity area clause (Supplied Central Air Conditioning)

(Source: Ministry of the Environment Conservation and Parks, Environmental Noise Guideline – Stationary and Transportation Sources- Approval and Planning – Publication NPC-300, August 2013 and City of Ottawa, Environmental Noise Control Guidelines, January 2016))

The MOECP also specifies building component requirements where indoor noise levels are expected to exceed the Table 1 criteria. These requirements are summarized in

**Table 4.**

**Table 4 Road and Rail Noise – Building Component Requirements**

Location	Leq (16hr) (dBA)		Building Component Requirements
Plane of Living Room Window- Daytime	Road	Less than or equal to 65 dBA	Building compliant with the Ontario Building Code
		Greater than 65 dBA	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria

Location	Leq (8hr) (dBA)		Building Component Requirements
Plane of Bedroom Window-Nighttime	Road	Less than or equal to 60 dBA	Building compliant with the Ontario Building Code
		Greater than 60 dBA	Building components (walls, windows, etc.) must be designed to achieve indoor sound level criteria

(Source: Ministry of the Environment Conservation and Parks, Environmental Noise Guideline – Stationary and Transportation Sources- Approval and Planning – Publication NPC-300, August 2013 and City of Ottawa, Environmental Noise Control Guidelines, January 2016)

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## **3.0 CALCULATIONS**

### **3.1 NOISE LEVEL PREDICTIONS**

Noise predictions in this report were conducted in accordance with the methods defined in Ontario Roads Noise Analysis Method for Environment and Transportation (ORNAMENT). The analysis was preformed using the computerized version (STAMSON 5.03) of the methods contained in ORNAMENT. The program accepts variables related to noise sources and receivers, road traffic volumes, and the nature and extent of noise mitigation features, if required.

### **3.2 ROAD TRAFFIC VOLUMES**

Traffic volume parameters are outlined in the City of Ottawa document "Environmental Noise Control Guidelines" dated January 2016. The document indicates that the average annual daily traffic volume for Earl Armstrong Road, a 4-lane urban divided arterial road, shall be estimated to be 35,000 vehicles per day and Ralph Hennessy Avenue, a 2-lane urban collector, shall have an estimated traffic volume of 8,000 vehicles per day. Additional assumptions and ratios for day/night traffic and car/ truck traffic are summarized as follows:

- heavy truck traffic for this segment is estimated to be 5% of total traffic volume;
- medium truck traffic for this segment is estimated to be 7% of total traffic volume; the rest is assumed to be car traffic;
- daytime (7 am – 11 pm) traffic is assumed to be 92%, with the remaining 8% at night (11 pm – 7 am); and
- the speed limit for Earl Armstrong Road is 80 km/hr and Ralph Hennessy Avenue is 50 km/hr.

**Table 5 and Table 6** summarize the traffic volumes used for calculations in this report.

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**Table 5 Traffic Volumes – Earl Armstrong Road, 4-Lane Urban Arterial Divided**

	Day	Night	Total
Car	28,336	2,464	30,800
Medium Truck	2,254	196	2,450
Heavy Truck	1,610	140	1,750
TOTAL	32,200	2,800	35,000
Speed Limit	80 km/hr		
Gradient	Approx. 1%		
Surface	Asphalt		

**Table 6 Traffic Volumes – Ralph Hennessy Avenue, 2-Lane Urban Collector**

	Day	Night	Total
Car	6,477	563	7,040
Medium Truck	515	45	560
Heavy Truck	368	32	400
TOTAL	7,360	640	8,000
Speed Limit	50 km/hr		
Gradient	Approx. 1%		
Surface	Asphalt		

### **3.3 PROJECTED NOISE LEVELS**

Using the MOECP noise model, ORNAMENT, noise levels were calculated for daytime and nighttime conditions at the points representing the anticipated building locations based on the site plan prepared by Richcraft Group of Companies. The resulting receiver sites are illustrated in **Figure 2**.

The receiver heights for indoor, daytime, and nighttime noise level calculations for the proposed buildings were completed at the mid-height of each floor starting with the main floor at 2.9m for the stacked apartments and 1.5m for the back to back townhome units. The indoor nighttime noise levels were taken at a receiver height corresponding to the mid height of the bedroom floor of 0m, and 4.5m for the townhome blocks. It was determined that noise level predictions

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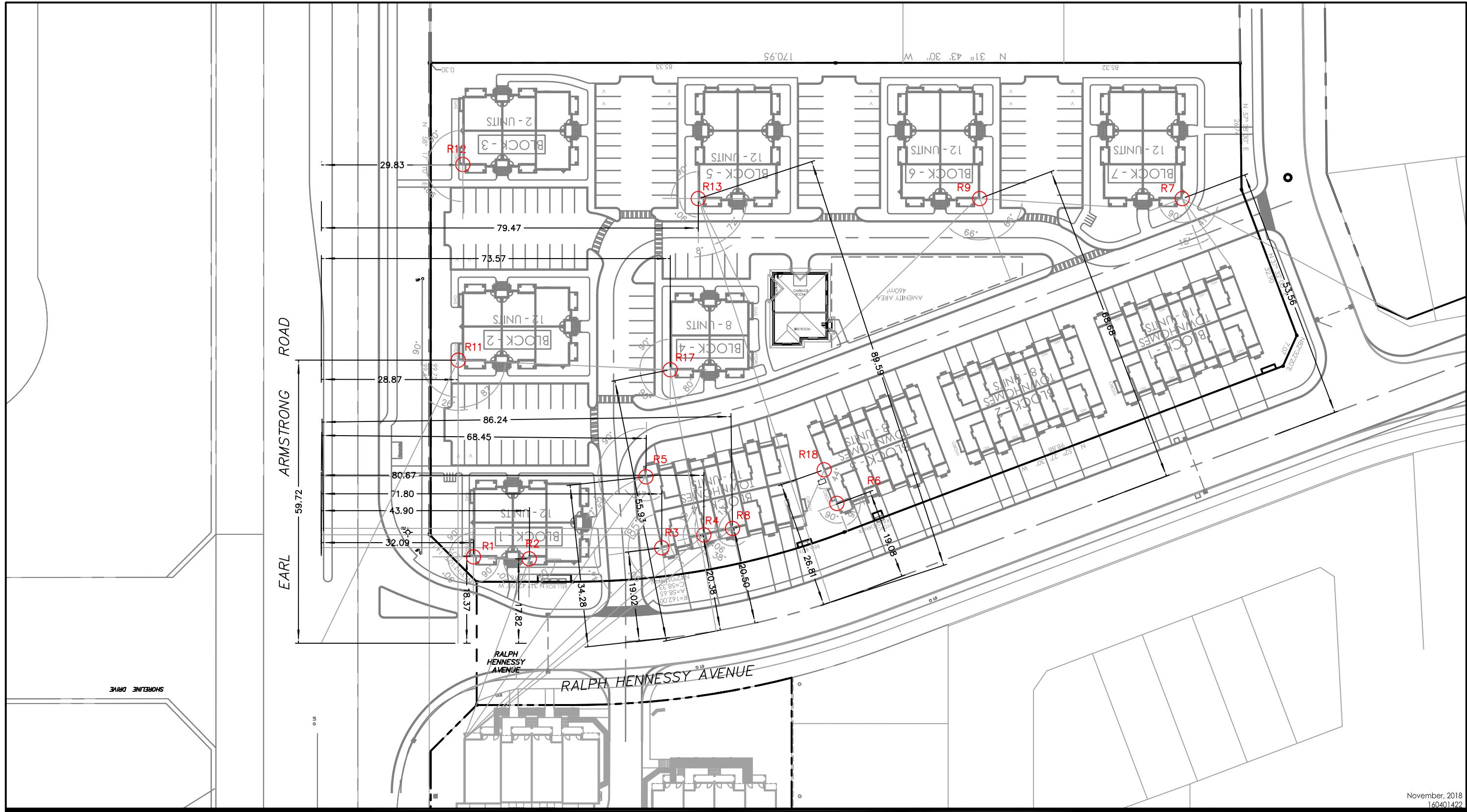
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remained equal at varying receiver heights and therefore the noise at the lower level unit was considered to establish the anticipated noise level at each floor. The floor plans and elevations used to determine receiver locations can be found in **APPENDIX B**.

The unattenuated receiver noise levels have been summarized in **Table 7** and noise level calculations are provided in **Appendix A** for daytime and nighttime building face.

**Table 7 Summary of Projected Unattenuated Noise Levels**

Receiver Site	Location	Elevation (m)	Daytime-Building Face (dBA)	Nighttime-Building Face (dBA)
R1	Terrace homes - Block 1 – Northwest Exterior - Main floor	2.9	73.5	65.9
R1A	Terrace homes - Block 1 – Northwest Exterior – Third floor	9.2	73.5	65.9
R2	Terrace homes - Block 1 – West Interior	2.9	69.4	61.8
R3	Town homes - Block 4 – Northwest Exterior – First floor	1.5	66.8	59.2
R3A	Town homes - Block 4 – Northwest Exterior – Third floor	7.4	66.8	59.2
R4	Town homes - Block 4 – West Interior	1.5	64.9	58.3
R5	Town homes - Block 4 - Northeast Exterior	1.5	68.9	61.3
R6	Town homes - Block 1-3 – Southwest Units	1.5	64.3	57.1
R7	Terrace homes - Block 7	2.9	43	35.1
R9	Terrace homes - Block 6	2.9	42.3	34.4
R11	Terrace homes - Block 2	2.9	73.4	65.7
R12	Terrace homes - Block 3	2.9	73.2	65.6
R13	Terrace homes - Block 5	2.9	63.9	56.3
R17	Terrace homes - Block 4	2.9	64.4	56.7
R18	Town homes Block 1-3 – Northeast facing	2.9	55.2	47.8
RO1	Outdoor Amenity Area	1.5	43.3	-

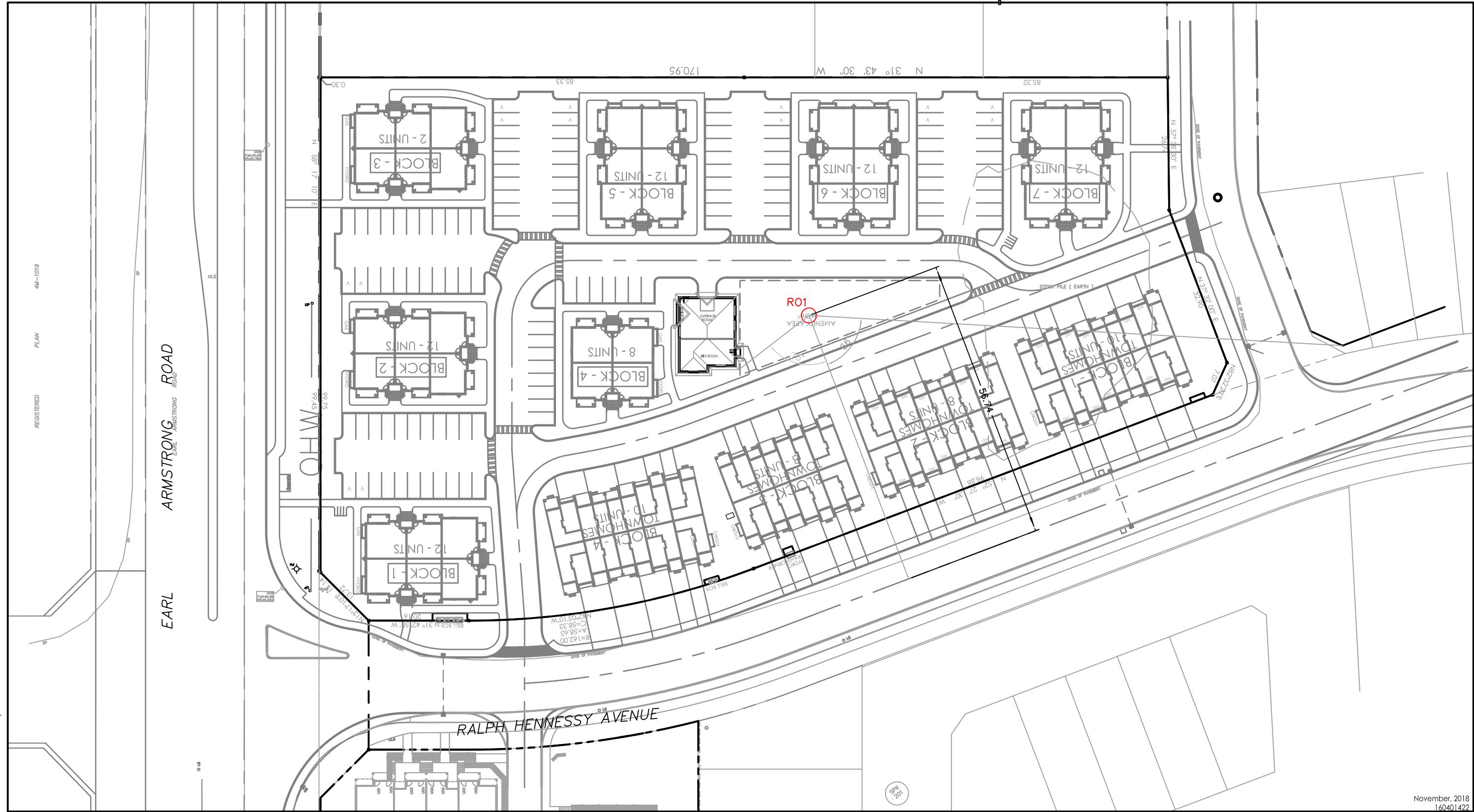


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NOISE ASSESSMENT

Figure No. 2.0  
Title INDOOR RECEIVERS

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## **4.0 CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 OUTDOOR NOISE IMPACTS**

Predicted noise levels lie within City of Ottawa and MOECP criteria at the outdoor living area with potential exposure to Ralph Hennessy Avenue.

The following summarizes the measures required by the City of Ottawa and MOECP criteria for the development to occur within accepted standards:

- The predicted noise level for the outdoor amenity area located at the rear of the proposed building is 43.3 dBA. This falls within the accepted noise level standards and therefore there are no additional measures required for outdoor noise mitigation.

### **4.2 NOISE IMPACTS AND WARNING CLAUSES**

Predicted noise levels are above City of Ottawa and MOECP criteria for the daytime building face and the nighttime building face for proposed units with exposure to Earl Armstrong Road and Ralph Hennessy Avenue.

In accordance with the City of Ottawa and MOECP guidelines, the following control measures and warning clauses are required for the proposed development.

- The provision for adding central air conditioning is to be included for Back to back Terrace Home Blocks 4 and 5 and the southwest facing Back to Back Town Home Blocks 1 to 3. Noise Warning Clause "generic indoor" is to be included in all offers of purchase and sale.
- A forced air heating and central air conditioning system is to be installed for Back to back Terrace Home Blocks 1 to 3 and Back to Back Town Home Block 4. Noise Warning Clause "extensive mitigation of indoor area" is to be included in all offers of purchase and sale.
- Warning Clause "aircraft noise" is to be included in all offers of purchase and sale.

Noise warning clauses are provided in **Appendix C**.

### **4.3 INDOOR NOISE MITIGATION – AIF METHOD**

The following building components will apply based on calculations per the Acoustical Insulation Factor (AIF) method, as per "Environmental Noise Assessment in Land Use Planning Manual", 1999.

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**Table 8** summarizes the AIF values and minimum building components that must be applied to the proposed development, and **Appendix B** provides the floor plans and complete AIF calculations. Given the mirrored floor plans for the back to back units, calculations were done for half of the block and the results were applied conservatively to the other side of the block. The summary table below contains the component requirements that include both sides of the block where applicable.

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**Table 8 AIF Summary**

Richcraft - B2B Terrace Block Units						
Units	Space	Wall	AIF Value	Type of Window Glazing	Type of exterior glazing	Type of Door
Blocks 1-3	North West Exterior Quadrant - Basement Floor - Bedroom 2	1	34	2 (15) 2	EW1	-
	North East Exterior Quadrant - Basement Floor - Bedroom 2	1	34	2 (15) 2	EW1	-
	North West Exterior Quadrant - Basement Floor - Master Bedroom	1	35	-	EW1	-
		2	35	2 (28) 2	EW1	-
	North East Exterior Quadrant - Basement Floor - Master Bedroom	1	35	-	EW1	-
		4	35	2 (28) 2	EW1	-
	North West Exterior Quadrant - Basement Floor - Ensuite	2	34	2 (18) 2	EW1	-
	North East Exterior Quadrant - Basement Floor - Ensuite	4	34	2 (18) 2	EW1	-
	North West Exterior Quadrant - Main Floor - Upper Level Entry	2	34	-	EW1	D3-sd
	North East Exterior Quadrant - Main Floor - Upper Level Entry	4	34	-	EW1	D3-sd
	North West Exterior Quadrant - Floor 1 - Main Room	1	37	2 (18) 2	EW2	-
		2	37	2 (50) 2	EW2	-
	North East Exterior Quadrant - Floor 1 - Main Room	1	37	2 (18) 2	EW2	-
		4	37	2 (50) 2	EW2	-

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North West Exterior Quadrant - Floor 2 - Main Room	1	37	2 (18) 2	EW2	-
	2	37	2 (63) 2	EW2	-
North East Exterior Quadrant - Floor 2 - Main Room	1	37	2 (18) 2	EW2	-
	4	37	2 (63) 2	EW2	-
North West Exterior Quadrant - Floor 3 - Bedroom 3	2	34	2 (42) 2	EW2	-
North East Exterior Quadrant - Floor 3 - Bedroom 3	4	34	2 (42) 2	EW2	-
North West Exterior Quadrant - Floor 3 - Master bedroom	1	35	-	EW2	-
	2	35	2 (63) 2	EW2	-
North East Exterior Quadrant - Floor 3 - Master bedroom	1	35	-	EW2	-
	4	35	2 (63) 2	EW2	-
North West Exterior Quadrant - Floor 3 - Bedroom 2	2	34	2 (63) 2	EW2	-
North East Exterior Quadrant - Floor 3 - Bedroom 2	4	34	2 (63) 2	EW2	-
West Interior Quadrant - Basement Floor - Bedroom 2	2	34	2 (6) 2	EW1	-
East Interior Quadrant - Basement Floor - Bedroom 2	4	34	2 (6) 2	EW1	-
West Interior Quadrant - Basement Floor - Master Bedroom	2	34	2 (22) 2	EW2	-
East Interior Quadrant - Basement Floor - Master Bedroom	4	34	2 (22) 2	EW2	-

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West Interior Quadrant - Floor 1 - Upper Level Entry	2	34	-	EW1	D3-sd
East Interior Quadrant - Floor 1 - Upper Level Entry	4	34	-	EW1	D3-sd
West Interior Quadrant - Floor 1 - Main Room	2	34	2 (35) 2	EW1	-
East Interior Quadrant - Floor 1 - Main Room	4	34	2 (35) 2	EW1	-
West Interior Quadrant - Floor 2 - Main Room	2	34	2 (35) 2	EW1	-
East Interior Quadrant - Floor 2 - Main Room	4	34	2 (35) 2	EW1	-
West Interior Quadrant - Floor 3 - Bedroom 2	2	34	2 (50) 2	EW1	-
East Interior Quadrant - Floor 3 - Bedroom 2	4	34	2 (50) 2	EW1	-
West Interior Quadrant - Floor 3 - Master Bedroom	2	34	2 (42) 2	EW1	-
East Interior Quadrant - Floor 3 - Master Bedroom	4	34	2 (42) 2	EW1	-
South West Exterior Quadrant - Basement Floor - Bedroom 2	2	34	2 (15) 2	EW1	-
South East Exterior Quadrant - Basement Floor - Bedroom 2	4	34	2 (15) 2	EW1	-
South West Exterior Quadrant - Basement Floor - Master Bedroom	2	35	-	EW1	-
	3	23	2 (6) 2	EW1	-

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South East Exterior Quadrant - Basement Floor - Master Bedroom	4	35	-	EW1	-
	3	23	2 (6) 2	EW1	-
South West Exterior Quadrant - Basement Floor - Ensuite	2	22	2 (6) 2	EW1	-
South East Exterior Quadrant - Basement Floor - Ensuite	4	22	2 (6) 2	EW1	-
South West Exterior Quadrant - Floor 1 - Upper Level Entry	2	22	-	EW1	D1
South East Exterior Quadrant - Floor 1 - Upper Level Entry	4	22	-	EW1	D1
South West Exterior Quadrant - Floor 1 - Main Room	2	37	2 (18) 2	EW2	-
	3	25	2 (6) 2	EW1	-
South East Exterior Quadrant - Floor 1 - Main Room	4	37	2 (18) 2	EW2	-
	3	25	2 (6) 2	EW1	-
South West Exterior Quadrant - Floor 2 - Main Room	2	37	2 (18) 2	EW2	-
	3	25	2 (6) 2	EW1	-
South East Exterior Quadrant - Floor 2 - Main Room	4	37	2 (18) 2	EW2	-
	3	25	2 (6) 2	EW1	-
South West Exterior Quadrant - Floor 3 - Bedroom 3	2	34	2 (42) 2	EW2	-
South East Exterior Quadrant - Floor 3 - Bedroom 3	4	34	2 (42) 2	EW2	-

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	South West Exterior Quadrant - Floor 3 - Master bedroom	2	35	-	EW2	-
		3	23	2 (6) 2	EW1	-
	South East Exterior Quadrant - Floor 3 - Master bedroom	4	35	-	EW2	-
		3	23	2 (6) 2	EW1	-
	South West Exterior Quadrant - Floor 3 - Bedroom 2	2	22	2 (6) 2	EW1	-
	South East Exterior Quadrant - Floor 3 - Bedroom 2	4	22	2 (6) 2	EW1	-

<b>Richcraft - B2B Town Block 4 Units</b>						
<b>Units</b>	<b>Space</b>	<b>Wall</b>	<b>AIF Value</b>	<b>Type of Window Glazing</b>	<b>Type of exterior glazing</b>	<b>Type of Door</b>
North West Exterior Units	Foyer - ground floor	1	31	-	EW1	D5
		2	31	-	EW1	-
	Bathroom - ground floor	1	31	-	EW2	-
		2	31	2 (22) 2	EW1	-
	Den - ground floor	1	32	2 (13) 2	EW1	-
	Kitchen - main floor	2	29	2 (6) 2	EW1	-
	Great room - main floor	1	32	2 (13) 2	EW2	-
		2	32	-	EW1	D3
	Master bedroom - upper floor	2	29	2 (18) 2	EW1	-
	Bedroom 2 - upper floor	1	31	-	EW1	-
		2	31	2 (28) 2	EW1	-
	Bedroom 3 - upper floor	1	29	2 (15) 2	EW1	-

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Conclusions and Recommendations  
November 15, 2018

South Interior and South East Exterior Units	Foyer - ground floor	2	29	-	EW1	D4
	Bathroom - ground floor	2	29	2 (18) 2	EW1	-
	Kitchen - main floor	2	29	2 (6) 2	EW1	-
	Great room - main floor	2	29	-	EW1	D2
	Master bedroom - upper floor	2	29	2 (18) 2	EW1	-
	Bedroom 2 - upper floor	2	29	2 (28) 2	EW1	-

As the noise levels exceed the MOECP Criteria, building components including walls and windows are to be designed so the indoor sound levels comply with MOECP noise criteria by using EW1 and EW2 as illustrated above. In this situation, double glazed windows with 2mm thickness and various spacing outlined above would be required. The building windows with an equivalent AIF may be substituted for the recommended thickness, glazing and spacing. E.g. a double glazed 3mm pane with 6mm spacing may be substituted for double glazed 2mm panes with 15mm spacing.

EW1 construction consists of:

- 12.7 mm gypsum board, vapour barrier, and 38x89 studs with 50 mm mineral wool or glass fibre batts in inner stud cavities. As well as sheathing and wood siding or metal siding and fibre backer board.

EW2 construction consists of:

- 12.7 mm gypsum board, vapour barrier, and 38x89 studs with 50 mm mineral wool or glass fibre batts in inner stud cavities. As well as rigid insulation(25-30mm) and wood siding or metal siding and fibre backer board.

Should the actual floor plans differ from the plans shown in **Appendix B**, updated calculations must be performed prior to the issuance of building permits.

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Conclusions and Recommendations  
November 15, 2018

The application of these noise mitigation measures and warning clauses will allow the proposed residential development to meet MOECP and City of Ottawa criteria with respect to environmental noise.

Respectfully submitted by:



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Cameron Odam  
Engineering Intern



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Dustin Thiffault, P.Eng.,  
Project Engineer

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix A : Noise Level Calculations  
November 15, 2018

**Appendix A : NOISE LEVEL CALCULATIONS**

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix A : Noise Level Calculations  
November 15, 2018

**A.1 INDOOR RECEIVER STAMSON REPORTS**





Data for Segment # 2: Ralph Hennes (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg  
 Wood depth : 0 / 0 (No woods.)  
 No of house rows : 0 / 0  
 Surface : 2 [Reflective ground surface]  
 Receiver source distance : 18.37 / 18.37 m  
 Receiver height : 6.25 / 9.20 m (Flat/gentle slope; no barrier)  
 Topography : 0.1  
 Reference angle : 0.00

Results segment # 1: Earl Armstrong (day)

Source height = 1.50 m

	ROAD	(0.00 + 72.86 + 0.00) = 72.86 dBA	Angle1 Angle2	Alpha RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ
SubLeg	0.00 + 57.28 + 0.00 = 57.28 dBA	-90	90	0.00	76.17	0.00	-3.30	0.00	0.00	0.00
	Angle1 Angle2	Alpha RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ		
	SubLeg	0.00 + 64.87 + 0.00 = 64.87 dBA	-90	90	0.00	65.75	0.00	-0.88	0.00	0.00

Segment Leg : 72.86 dBA

Results segment # 2: Ralph Hennes (day)

Source height = 1.50 m

	ROAD	(0.00 + 65.27 + 0.00) = 65.27 dBA	Angle1 Angle2	Alpha RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ
SubLeg	0.00 + 57.28 + 0.00 = 57.28 dBA	-90	90	0.00	68.57	0.00	-3.30	0.00	0.00	0.00
	Angle1 Angle2	Alpha RefLeq	P.ADJ	D.ADJ	F.ADJ	W.ADJ	H.ADJ	B.ADJ		
	SubLeg	0.00 + 64.87 + 0.00 = 64.87 dBA	-90	90	0.00	58.16	0.00	-0.88	0.00	0.00

Segment Leg : 64.87 dBA

Total Leg All Segments: 73.50 dBA

Total Leg All Sources (DAY) : 73.50  
 (NIGHT) : 65.91

STAMSON 5.0  
NORMAL REPORT  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Date: 07-11-2018 12:04:56

Filename: r2.te Time Period: Day/Night 16/8 hours  
Description: Indoor Receiver 2

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

Car traffic volume :	28336/2464	veh/TimePeriod *
Medium truck volume :	2254/196	veh/TimePeriod *
Heavy truck volume :	1610/140	veh/TimePeriod *
Posted speed limit :	80 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) :	35000
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: Earl Armstrong (day/night)

Angle1 Angle2 :	0.00 deg	70.00 deg
Wood depth :	0	(No woods.)
No of house rows :	0	/ 0
Surface :	2	(Reflective ground surface)
Receiver source distance :	43.90	/ 43.90 m
Receiver height :	2.90	/ 0.00 m
Topography :	1	(Flat/gentle slope; no barrier)
Reference angle :	0.00	

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

24 hr Traffic Volume (AADT or SADT) :	8000
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

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

24 hr Traffic Volume (AADT or SADT) :	8000
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 : Ralph Hennes (day/night)

Angle1 Angle2 :	-90.00 deg	90.00 deg
Wood depth :	0	(No woods.)
No of house rows :	0	/ 0
Surface :	2	(Reflective ground surface)
Receiver source distance :	17.82	/ 17.82 m
Receiver height :	2.90	/ 0.00 m
Topography :	1	(Flat/gentle slope; no barrier)
Reference angle :	0.00	

Results segment # 1: Earl Armstrong (day)

Source height = 1.50 m

ROAD (0.00 + 67.40 + 0.00) = 67.40 dBA
Angle1 Angle2 Alpha RefLeg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubSeq

-----

ROAD (0.00 + 65.00 + 0.00) = 65.00 dBA
Angle1 Angle2 Alpha RefLeg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubSeq

-----

Segment Leg : 67.40 dBA
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Results segment # 2 : Ralph Hennes (day)
--

-----

Segment Leg : 65.00 dBA
-------------------------

-----

Source height = 1.50 m
------------------------

ROAD (0.00 + 65.00 + 0.00) = 65.00 dBA
Angle1 Angle2 Alpha RefLeg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubSeq

-----

ROAD (0.00 + 65.00 + 0.00) = 65.00 dBA
Angle1 Angle2 Alpha RefLeg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubSeq

-----

Segment Leg : 65.00 dBA
-------------------------

Total Leg All Segments: 69.37 dBA

Results segment # 1: Earl Armstrong (night)

Source height = 1.50 m  
ROAD (0.00 + 59.80 + 0.00) = 59.80 dBA  
Angle1 Angle2 Alpha RefEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeg

0 70 0.00 68.57 0.00 -4.66 -4.10 0.00 0.00 0.00  
59.80

Segment L<sub>eq</sub> : 59.80 dBA

Results segment # 2: Ralph Hennes (night)

Source height = 1.50 m  
ROAD (0.00 + 57.41 + 0.00) = 57.41 dBA  
Angle1 Angle2 Alpha RefEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeg

-90 90 0.00 58.16 0.00 -0.75 0.00 0.00 0.00 0.00  
57.41

Segment L<sub>eq</sub> : 57.41 dBA

Total L<sub>eq</sub> All Segments: 61.78 dBA

STANSON 5.0 NORMAL REPORT Date: 07-11-2018 15:52:22  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3.tte Description: Indoor Receiver 3 Time Period: Day/Night 16/8 hours

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

Car traffic volume : 28336/2464 veh/TimePeriod \*  
Medium truck volume : 2254/196 veh/TimePeriod \*  
Heavy truck volume : 1610/140 veh/TimePeriod \*  
Posted speed limit : 80 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) : 35000  
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: Earl Armstrong (day/night)

Angle1 Angle2 : -44.00 deg 77.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 2 / 2  
House density : 60 % (Reflective ground surface)  
Surface : 1 / 2  
Receiver source distance : 71.80 / 71.80 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 / 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Ralph Hennes (day/night)

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

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

24 hr Traffic Volume (AADT or SADT) : 8000  
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

TOTAL L<sub>eq</sub> FROM ALL SOURCES (DAY) : 69.37  
(NIGHT) : 61.78

Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 2: Ralph Hennes (day/night)

	Angle1	Angle2	deg	90.00	deg	90.00	deg
Wood depth	:	:	0	0	(No woods.)		
No of house rows	:	:	0	0			
Surface	:	:	19.2	/	19.02	m	(Reflective ground surface)
Receiver source distance	:	19.02	/	19.02	m		
Receiver height	:	1.50	/	4.50	m		
Topography	:	1.1	/	1.1	m		(Flat/gentle slope; no barrier)
Reference angle	:	0.00					

Results segment # 1: Earl Armstrong (day)

	Angle1	Angle2	deg	90.00	deg	90.00	deg
Wood depth	:	:	0	0	(No woods.)		
No of house rows	:	:	0	0			
Surface	:	:	19.2	/	19.02	m	(Reflective ground surface)
Receiver source distance	:	19.02	/	19.02	m		
Receiver height	:	1.50	/	4.50	m		
Topography	:	1.1	/	1.1	m		(Flat/gentle slope; no barrier)
Reference angle	:	0.00					

Source height = 1.50 m

Segment Leg : 54.98 dBA

Results segment # 2: Earl Armstrong (night)

	Angle1	Angle2	deg	90.00	deg	90.00	deg
Wood depth	:	:	0	0	(No woods.)		
No of house rows	:	:	0	0			
Surface	:	:	19.2	/	19.02	m	(Reflective ground surface)
Receiver source distance	:	19.02	/	19.02	m		
Receiver height	:	1.50	/	4.50	m		
Topography	:	1.1	/	1.1	m		(Flat/gentle slope; no barrier)
Reference angle	:	0.00					

Source height = 1.50 m

Segment Leg : 54.98 dBA

Results segment # 2: Ralph Hennes (night)

	Angle1	Angle2	deg	90.00	deg	90.00	deg
Wood depth	:	:	0	0	(No woods.)		
No of house rows	:	:	0	0			
Surface	:	:	19.2	/	19.02	m	(Reflective ground surface)
Receiver source distance	:	19.02	/	19.02	m		
Receiver height	:	1.50	/	4.50	m		
Topography	:	1.1	/	1.1	m		(Flat/gentle slope; no barrier)
Reference angle	:	0.00					

Source height = 1.50 m

Segment Leg : 54.98 dBA

Results segment # 2: Ralph Hennes (day)

	Angle1	Angle2	deg	90.00	deg	90.00	deg
Wood depth	:	:	0	0	(No woods.)		
No of house rows	:	:	0	0			
Surface	:	:	19.2	/	19.02	m	(Reflective ground surface)
Receiver source distance	:	19.02	/	19.02	m		
Receiver height	:	1.50	/	4.50	m		
Topography	:	1.1	/	1.1	m		(Flat/gentle slope; no barrier)
Reference angle	:	0.00					

Source height = 1.50 m

Segment Leg : 57.13 dBA

Total Leg All Segments: 59.20 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 66.79  
 (NIGHT): 59.20

Segment Leg : 64.72 dBA

Total Leg All Segments: 66.79 dBA

STAMSON 5.0      NORMAL REPORT      Date: 07-11-2018 15:53:29  
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r38.te      Time Period: Day/Night 16/8 hours  
 Description: Indoor Receiver 3 - Upper section

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

Car traffic volume :	28336/2464	veh/TimePeriod *
Medium truck volume :	2254/196	veh/TimePeriod *
Heavy truck volume :	1610/140	veh/TimePeriod *
Posted speed limit :	80 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) :	35000
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: Earl Armstrong (day/night)

Angle1 Angle2 :	-44.00 deg	77.00 deg
Wood depth :	0	(No woods.)
No of house rows :	2	/ 2
House density :	60 %	
Surface :	2	(Reflective ground surface)
Receiver source distance :	71.80 / 71.80	m
Receiver height :	7.40 / 4.50	m
Topography :	1	(Flat/gentle slope; no barrier)
Reference angle :	0.00	

Road data, segment # 2: Ralph Hennes (day/night)

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

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

24 hr Traffic Volume (AADT or SADT) :	8000
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: Ralph Hennes (day/night)

Angle1 Angle2 :	-90.00 deg	90.00 deg
Wood depth :	0	(No woods.)
No of house rows :	0	/ 0
Surface :	2	(Reflective ground surface)
Receiver source distance :	19.02 / 19.02	m
Receiver height :	7.40 / 4.50	m
Topography :	1	(Flat/gentle slope; no barrier)
Reference angle :	0.00	

Results segment # 1: Earl Armstrong (day)

Source height = 1.50 m

ROAD (0.00 + 62.58 + 0.00) = 62.58 dBa
Angle1 Angle2 Alpha RefLg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLg
---
-44 77 0.00 76.17 0.00 -6.80 -1.72 0.00 -5.06 0.00
62.58
---
---
Segment Leg : 62.58 dBa

Results segment # 2: Ralph Hennes (day)

ROAD (0.00 + 64.72 + 0.00) = 64.72 dBa
Angle1 Angle2 Alpha RefLg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLg
---
-90 90 0.00 65.75 0.00 -1.03 0.00 0.00 0.00 0.00
64.72
---
Segment Leg : 64.72 dBa

Total Leg All Segments: 66.79 dBa

Results segment # 1: Earl Armstrong (night)

Source height = 1.50 m

ROAD (0.00 + 54.98 + 0.00) = 54.98 dBA  
Angle1 Angle2 Alpha RefEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubEq

54.98 -44 77 0.00 68.57 0.00 -6.80 -1.72 0.00 -5.06 0.00

Segment Leq : 54.98 dBA

Results segment # 2: Ralph Hennes (night)

Source height = 1.50 m

ROAD (0.00 + 57.13 + 0.00) = 57.13 dBA  
Angle1 Angle2 Alpha RefEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubEq

57.13 -90 90 0.00 58.16 0.00 -1.03 0.00 0.00 0.00 0.00

Segment Leq : 57.13 dBA

Total Leq All Segments: 59.20 dBA

STANSON 5.0 NORMAL REPORT Date: 07-11-2018 13:09:11

MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4.te Time Period: Day/Night 16/8 hours

Description: Indoor Receiver 4

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

Car traffic volume :	28336/2464	veh/TimePeriod *
Medium truck volume :	2254/196	veh/TimePeriod *
Heavy truck volume :	1610/140	veh/TimePeriod *
Posted speed limit :	80 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) :	35000
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: Earl Armstrong (day/night)

Angle1 Angle2 :	13.00 deg	40.00 deg
Wood depth :	0	(No woods.)
No of house rows :	0	/ 0
Surface :	2	(Reflective ground surface)
Receiver source distance :	80.67	/ 80.67 m
Receiver height :	1.50	/ 4.50 m
Topography :	1	(Flat/gentle slope; no barrier)
Reference angle :	0.00	

Road data, segment # 2: Ralph Hennes (day/night)

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

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

24 hr Traffic Volume (AADT or SADT) :	8000
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

Source height = 1.50 m

Data for Segment # 2: Ralph Hennes (day/night)

Angle1 Angle2	:	-90.00 deg	90.00 deg
Wood depth	:	0	(No woods.)
No of house rows	:	0 / 0	
Surface	:	2	(Reflective ground surface)
Receiver source distance	:	20.38 / 20.38 m	
Receiver height	:	1.50 / 4.50 m	(Flat/gentle slope; no barrier)
Topography	:	1	
Reference angle	:	0.00	

Results segment # 1: Earl Armstrong (day)

Source height	=	1.50 m						
ROAD (0.00 + 60.62 + 0.00) =	60.62	dB <sub>A</sub>						
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj								
SubLeq								
- - -								
60.62	40	0.00	76.17	0.00	-7.31	-8.24	0.00	0.00
- - -								
Segment Leg :	60.62	dB <sub>A</sub>						

Results segment # 2: Ralph Hennes (day)

Source height	=	1.50 m							
ROAD (0.00 + 53.02 + 0.00) =	53.02	dB <sub>A</sub>							
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj									
SubLeq									
- - -									
53.02	13	40	0.00	68.57	0.00	-7.31	-8.24	0.00	0.00
- - -									
Segment Leg :	53.02	dB <sub>A</sub>							

Results segment # 2: Ralph Hennes (night)

Source height	=	1.50 m							
ROAD (0.00 + 56.83 + 0.00) =	56.83	dB <sub>A</sub>							
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj									
SubLeq									
- - -									
56.83	90	0.00	58.16	0.00	-1.33	0.00	0.00	0.00	0.00
- - -									
Segment Leg :	56.83	dB <sub>A</sub>							

Total Leg All Segments: 58.34 dB<sub>A</sub>

Source height = 1.50 m

ROAD (0.00 + 64.42 + 0.00) = 64.42 dB<sub>A</sub>

Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj									
SubLeq									
- - -									
64.42	-90	90	0.00	65.75	0.00	-1.33	0.00	0.00	0.00
- - -									
Segment Leg :	64.42	dB <sub>A</sub>							

Total Leg All Segments: 65.93 dB<sub>A</sub>

Results segment # 1: Earl Armstrong (night)

Results segment # 2: Ralph Hennes (night)

TOTAL Leg FROM ALL SOURCES (DAY) : 65.93  
 (NIGHT) : 58.34



Results segment # 1: Earl Armstrong (night)						
Source height = 1.50 m						
ROAD	(0.00 + 61.04 + 0.00)	= 61.04	dBA			
Angleg Angle2	Alpha	RefLiqg	P	Adj	D	Adj
Subseq						
----	----	----	----	----	----	----
-55	90	0.00	68.57	0.00	-6.59	
61.04						
----	----	----	----	----	----	----
Segment Leg :	61.04	dBA				
Results segment # 2: Ralph Hennes (night)						
Source height = 1.50 m						
ROAD	(0.00 + 49.00 + 0.00)	= 49.00	dBA			
Angleg Angle2	Alpha	RefLiqg	P	Adj	D	Adj
Subseq						
----	----	----	----	----	----	----
0	50	0.00	58.16	0.00	-3.59	
49.00						
----	----	----	----	----	----	----
Segment Leg :	49.00	dBA				

STAMFORD 5.0 NORMAL REPORT Date: 07-11-2018 13:13:57  
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r6.te Time Period: Day/Night 16//8 hours  
 Description: Indoor Receiver 6

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

Car traffic volume	:	647/563	veh/TimePeriod
Medium truck volume	:	515/45	veh/TimePeriod
Heavy truck volume	:	368/32	veh/TimePeriod
Posted speed limit	:	50 km/h	
Road gradient	:	1 %	
Road pavement	:	1 (Typical asphalt or concrete)	

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

24 hr Traffic Volume (AADT or SADT)	:	8000	
Percentage of Annual Growth	:	0.00	
Number of Years of Growth	:	0.00	
Heavy Truck % of Total Volume	:	7.00	
Heavy Truck % of Total Volume Day (16 hrs) % of Total Volume	:	5.00	
	:	92.00	

Data for Segment # 1: Ralph Hennes (day/night)

Angle1 Angle2	:	-90.00 deg	90.00 deg
Wood depth	:	0	(No woods.)
No of house rows	:	0 / 0	
Surface	:	2	(Reflective ground surface
Receiver source distance	:	19.00 / 19.08 m	
Receiver height	:	1.50 / 4.50 m	
Topography	:	1	(Flat/gentle slope; no ba
Reference angle	:	0.00	

Total Leg All Segments: 64.70 dBA

Results segment # 1: Ralph Hennes (night)

Source height = 1.50 m

ROAD (0.00 + 57.11 + 0.00) = 57.11 dBA	Angle1 Angle2 Alpha ReflEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj	SubLeg
-90	90 0.00 58.16 0.00 -1.04 0.00 0.00 0.00	
57.11		

TOTAL Leg FROM ALL SOURCES (DAY): 64.70  
(NIGHT): 57.11

STANSON 5.0 NORMAL REPORT Date: 07-11-2018 13:15:59  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT  
Filename: r7.te Time Period: Day/Night 16/8 hours  
Description: Indoor Receiver 7

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

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

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

24 hr Traffic Volume (AADT or SADT):	8000
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: Ralph Hennes (day/night)

Angle1 Angle2	: -90.00 deg 40.00 deg
Wood depth	: 0 (No woods.)
No of house rows	: 2 / 2
House density	: 95 %
Surface	: 1 (Absorptive ground surface)
Receiver source distance	: 57.31 / 57.31 m
Receiver height	: 2.90 / 0.00 m
Topography	: 1 (Flat/gentle slope; no barrier)
Reference angle	: 0.00

Results segment # 1: Ralph Hennes (day)

Source height = 1.50 m

ROAD (0.00 + 42.96 + 0.00) = 42.96 dBA	Angle1 Angle2 Alpha ReflEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj	SubLeg
-90	40 0.62 65.75 0.00 -9.42 -2.41 0.00 -10.96 0.00	
42.96		

Segment Leg : 42.96 dBA

Total Leq All Segments: 42.96 dBA

Results segment # 1: Ralph Hennes (night)

Source height = 1.50 m  
ROAD (0.00 + 35.07 + 0.00) = 35.07 dBA  
Angle1 Angle2 Alpha RefEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubEq  
-----  
-----  
35.07 -90 40 0.66 58.16 0.00 -9.66 -2.46 0.00 -1.96 0.00

Segment Leq : 35.07 dBA

Total Leq All Segments: 35.07 dBA

TOTAL Leq FROM ALL SOURCES (DAY) : 42.96  
(NIGHT) : 35.07

STANSON 5.0 NORMAL REPORT Date: 07-11-2018 13:30:22  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r8.te Time Period: Day/Night 16/8 hours  
Description: Indoor Receiver 8

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

-----  
Car traffic volume : 28336/2464 veh/TimePeriod \*  
Medium truck volume : 2254/196 veh/TimePeriod \*  
Heavy truck volume : 1610/140 veh/TimePeriod \*  
Posted speed limit : 80 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) : 35000  
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: Earl Armstrong (day/night)

-----  
Angle1 Angle2 : 13.00 deg 38.00 deg  
Wood depth : 0 (No woods.)  
No of house rows : 0 / 0 (Reflective ground surface)  
Surface : 2  
Receiver source distance : 86.24 / 86.24 m  
Receiver height : 1.50 / 4.50 m  
Topography : 1 (Flat/gentle slope; no barrier)  
Reference angle : 0.00

Road data, segment # 2: Ralph Hennes (day/night)

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

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

24 hr Traffic Volume (AADT or SADT) : 8000  
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: Ralph Henness (day/night)			
Angle1	Angle2	- 90.00 deg	90.00 deg
Wood depth		0	(No woods.)
No. of house rows		0 / 0	
Surface		2	(Reflective ground surface)
Receiver source distance	:	20.50 / 20.50	m
Receiver height	:	1.50 / 4.50	m
Topography		1	(Flat/gentle slope; no barrier)
Reference angle		0.00	

Results segment # 1: Earl Armstrong (night)

---

Source height = 1.50 m

ROAD	(0.00 + 52.40 + 0.00) =	52.40	dBA
Angle1	Angle2	Alpha	RefLeq
SubEq		P	Adj
		D	Adj

---

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Source height = 1.50 m

ROAD	( <u>0.00</u> + <u>60.00</u> + <u>0.00</u> )	=	<u>60.00</u>	dba
Angle1	Angle2	Alpha	RefReq	P.Adj
S <sub>1,2,3,4</sub>				D.Adj
				F.Adj
				W.Adj
				H.Adj
				B.Adj

----  
13 38 0.00 76.17 0.00 -7.60 -8.57 0.00 0.00 0.00

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Results segment # 2: Ralph Henness (day)

SOMMERS / HABITS = 1 EO 3

$$\text{ROAD} \quad (0.00 + 64.39 + 0.00) = 64.39 \text{ dbA}$$

(MEHDI) : 38:13

Segment Leg : 64.39 dBA

Total Leg All Segments: 65. /4 qBA

STAMSON 5.0      NORMAL REPORT      Date: 07-11-2018 13:32:37  
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r9.te      Time Period: Day/Night 16/8 hours  
 Description: Indoor Receiver 9

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

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

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

24 hr Traffic Volume (AADT or SADT) :	8000
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: Ralph Hennes (day/night)

Angle1 Angle2 :	-66.00 deg	66.00 deg
Wood depth :	0	(No woods.)
No of house rows :	2	/ 2
House density :	95 %	(Absorptive ground surface)
Surface :	1	
Receiver source distance :	68.68	/ 68.68 m
Receiver height :	2.90	/ 0.00 m
Topography :	1	(Flat/gentle slope; no barrier)
Reference angle :	0.00	

Results segment # 1: Ralph Hennes (day)

Source height = 1.50 m
ROAD (0.00 + 42.28 + 0.00) = 42.28 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeq
- - -
-66    66    0.62    65.75    0.00    -10.69    -2.00    0.00    -10.78    0.00
42.28
- - -

Segment L<sub>eq</sub> : 42.28 dBA

Total Leg All Segments: 42.28 dBA

Results segment # 1: Ralph Hennes (night)

Source height = 1.50 m

ROAD (0.00 + 34.37 + 0.00) = 34.37 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeq
- - -
-66    66    0.66    58.16    0.00    -10.97    -2.04    0.00    -10.78    0.00
34.37
- - -

Segment L<sub>eq</sub> : 34.37 dBA

Total Leg All Segments: 34.37 dBA

TOTAL Leg FROM ALL SOURCES (DAY) : 42.28  
 (NIGHT) : 34.37



STANSON 5.0 NORMAL REPORT Date: 07-11-2018 13:40:17  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Results segment # 1: Earl Armstrong (night)

Source height = 1.50 m

ROAD (0.00 + 65.68 + 0.00) = 65.68 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubLeg

65.68  
-90 90 0.00 68.57 0.00 -2.89 0.00 0.00 0.00 0.00  
---  
Segment Leq : 65.68 dBA

Results segment # 2: Ralph Hennes (night)

Source height = 1.50 m

ROAD (0.00 + 43.43 + 0.00) = 43.43 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubLeg

43.43  
-26 87 0.00 58.16 0.00 -6.00 -2.02 0.00 -6.70 0.00  
---  
Segment Leq : 43.43 dBA

Total Leq All Segments: 65.71 dBA

Filename: r12.te Time Period: Day/Night 16/8 hours  
Description: Indoor Receiver 12

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

Car traffic volume : 28336/2464 veh/TimePeriod \*  
Medium truck volume : 2254/196 veh/TimePeriod \*  
Heavy truck volume : 1610/140 veh/TimePeriod \*  
Posted speed limit : 80 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) : 35000  
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: Earl Armstrong (day/night)

Angle1 Angle2 : -90.00 deg (No woods.)  
Wood depth : 0 / 0  
No of house rows : 2 / 0 (Reflective ground surface)  
Surface : 29.83 / 29.83 m  
Receiver source distance : 2.90 / 0.00 m  
Receiver height : 1 (Flat/gentle slope; no barrier)  
Topography : 0.00  
Reference angle : 0.00

Results segment # 1: Earl Armstrong (day)

Source height = 1.50 m  
ROAD (0.00 + 73.18 + 0.00) = 73.18 dBA  
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
SubLeg

73.18  
-90 90 0.00 76.17 0.00 -2.99 0.00 0.00 0.00 0.00  
---  
Segment Leq : 73.18 dBA

Total Leg All Segments: 73.18 dBA

Results segment # 1: Earl Armstrong (night)

Source height = 1.50 m
ROAD (0.00 + 65.58 + 0.00) = 65.58 dBA
Angle1 Angle2 Alpha ReflEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeg
- - - - -
- - - - - 90 0.00 68.57 0.00 -2.99 0.00 0.00 0.00 65.58
- - - - -

Segment Leg : 65.58 dBA

Total Leg All Segments: 65.58 dBA

TOTAL Leg FROM ALL SOURCES (DAY): 73.18  
(NIGHT): 65.58

STANSON 5.0 NORMAL REPORT Date: 19-12-2018 10:45:52  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT  
Filename: r13.te Time Period: Day/Night 16/8 hours  
Description: Indoor Receiver 13

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

- - - - -
Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 80 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) : 35000
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: Earl Armstrong (day/night)

- - - - -
Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 2 / 2
House density : 60 %
Surface : 2 (Reflective ground surface)
Receiver source distance : 79.47 / 79.47 m
Receiver height : 2.90 / 0.00 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

- - - - -
Car traffic volume : 6477/1563 veh/TimePeriod *
Medium truck volume : 515/45 veh/TimePeriod *
Heavy truck volume : 368/32 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

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

24 hr Traffic Volume (AADT or SADT) : 8000
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: Ralph Hennes (day/night)

-- Angle1 Angle2 :	8.00 deg	72.00 deg
Wood depth :	0	(No woods.)
No of house rows :	2 / 2	
House density :	95 %	
Surface :	89.59 / 89.59 m	(Absorptive ground surface)
Receiver source distance :	2.90 / 0.00 m	
Receiver height :	0.00	(Flat/gentle slope; no barrier)
Topography :	0.00	
Reference angle :	0.00	

Results segment # 1: Earl Armstrong (day)

Source height = 1.50 m

ROAD (0.00 + 63.89 + 0.00) = 63.89 dBA
Angle1 Angle2 Alpha RefLieg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeg

ROAD (0.00 + 29.32 + 0.00) = 29.32 dBA
Angle1 Angle2 Alpha RefLieg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeg

ROAD (0.00 + 29.32 + 0.00) = 29.32 dBA
Angle1 Angle2 Alpha RefLieg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeg

Segment Leg : 63.89 dBA
-------------------------

Results segment # 2: Ralph Hennes (day)

Source height = 1.50 m

ROAD (0.00 + 37.29 + 0.00) = 37.29 dBA
Angle1 Angle2 Alpha RefLieg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj
SubLeg

TOTAL Leg FROM ALL SOURCES (DAY) : 63.90
(NIGHT) : 56.30
37.29

Segment Leg : 37.29 dBA
-------------------------

Total Leg All Segments: 63.90 dBA



Results segment # 1: Earl Armstrong (night)	
Source height = 1.50 m	
ROAD (0.00 + 56.61 + 0.00) = 56.61 dBA	
Angle1 Angle2 Alpha RefLiqg P.Adj D.Adj	
SubLiqg	
---	
-90 90 0.00 68.57 0.00 -6.91	
56.61	
---	
Segment Leg : 56.61 dBA	
Results segment # 2: Ralph Hennes (night)	
Source height = 1.50 m	
ROAD (0.00 + 41.20 + 0.00) = 41.20 dBA	
Angle1 Angle2 Alpha RefLiqg P.Adj D.Adj	
SubLiqg	
---	
-80 90 0.00 58.16 0.00 -5.72	
41.20	
---	
Segment Leg : 41.20 dBA	

Results segment # 1: Earl Armstrong (night)  
Source height = 1.50 m  
ROAD (0.00 + 56.61 + 0.00) = 56.61 dBA  
Angle1 Angle2 Alpha RefLg P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj  
Sulbieq

STAMSON 5.0 NORMAL REPORT Date: 07-11-2018 13:52:49  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r1.8.te Description: Indoor Receiver 18 Time Period: Day/Night 16/8 hours

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

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

24 hr Traffic Volume (AADT or SADT) :	8000
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: Ralph Hennes (day/night)	
Angle1 Angle2 :	0.00 deg 44.00 deg
Wood depth :	0 / 0 (No woods.)
No of house rows :	0 / 0
Surface :	1 (Absorptive ground surface)
Receiver source distance :	26.81 / 26.81 m
Receiver height :	1.50 / 4.50 m
Topography :	1 (Flat/gentle slope; no barrier)
Reference angle :	0.00
Results segment # 1: Ralph Hennes (day)	
Source height = 1.50 m	-----
ROAD (0.00 + 55.15 + 0.00) = 55.15 dBA	-----
Angle1 Angle2 Alpha RefEq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj	-----
SubLdg	-----
0 44 0.66 65.75 0.00 -4.19 -6.41 0.00 0.00 0.00	-----
55.15	-----

Segment Leq : 55.15 dBA

Total Leq All Segments: 55.15 dBA

Results segment # 1: Ralph Hennes (night)

Source height = 1.50 m

ROAD (0.00 + 47.83 + 0.00) = 47.83 dBA  
Angle1 Angle2 Alpha ReflEq P,Adj D,Adj F,Adj W,Adj H,Adj B,Adj  
SubLeg

- - -	0	44	0.57	58.16	0.00	-3.96	-6.37	0.00	0.00	0.00
- - -	47.83									

Segment Leq : 47.83 dBA

Total Leq All Segments: 47.83 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.15  
(NIGHT) : 47.83

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix A : Noise Level Calculations  
November 15, 2018

**A.2 OUTDOOR RECEIVER STAMSON REPORT**

STAMSON 5.0 NORMAL REPORT Date: 07-11-2018 13:57:24  
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: RO1.te Time Period: Day/Night 16/8 hours

Description: Outdoor Receiver 1 - Outdoor Amenity Area

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

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

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

24 hr Traffic Volume (AADT or SADT) :	8000
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: Ralph Hennes (day/night)

Angle1 Angle2 :	-73.00 deg	66.00 deg
Wood depth :	0	(No woods.)
No of house rows :	2	/ 2
House density :	95 %	
Surface :	1	(Absorptive ground surface)
Receiver source distance :	56.74 / 55.74 m	
Receiver height :	1.50 / 1.50 m	
Topography :	1	(Flat/gentle slope; no barrier)
Reference angle :	0.00	

Results segment # 1: Ralph Hennes (day)

Source height = 1.50 m

ROAD (0.00 + 43.28 + 0.00) :	43.28	dBA							
Angle1 Angle2 Alpha RefLeq :	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj			
SubLeq :									
-73	66	0.66	65.75	0.00	-9.59	-1.91	0.00	-10.98	0.00
43.28									

Segment L<sub>eq</sub> : 43.28 dBA

Total Leg All Segments: 43.28 dBA

Results segment # 1: Ralph Hennes (night)

Source height = 1.50 m

ROAD (0.00 + 35.68 + 0.00) :	35.68	dBA							
Angle1 Angle2 Alpha RefLeq :	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj			
SubLeq :									
-73	66	0.66	58.16	0.00	-9.59	-1.91	0.00	-10.98	0.00
35.68									

Segment L<sub>eq</sub> : 35.68 dBA

Total Leg All Segments: 35.68 dBA

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix B : Floor Plans and AIF Calculations  
November 15, 2018

**Appendix B : FLOOR PLANS AND AIF CALCULATIONS**

## Town Block 4 - Exterior

### Ground floor foyer - Wall 1

Sample Calculation: 68.98  
61.3

DAY TIME	NIGHT TIME
----------	------------

Table 1.1

Wall 1 dBA:	68.98	dBA	61.3	dBA
-------------	-------	-----	------	-----

Table 1.2

Total # of Components:	3	3
------------------------	---	---

Table 1.3

Equation:	=59.14-45+10*LOG(5)+2	=51.84-40+10*LOG(5)+2
AIF:	31	28

Table 1.4

Exposure Angle:	0-90
Adjustement:	0

Table 1.5

Equation:	$= AIF + Adjustment$
Required AIF:	31

Table 2.1

Floor Area:	77 ft
Wall Area:	30 ft
Door Area:	0 ft
Window Area:	0 ft

Table 2.2

Wall % of Floor Area:	39	%
Wall % of Door Area:	0	%
Window % of Floor Area:	0	%

Table 2.3

Wall Component:	EW1	
Window Component:	-	
Door Component:	-	

## Richcraft Block 221 - Terrace Block 1 -3

Source: Road Traffic

Predicted free-field day time sound level: 73.5 dBA  
 Predicted free-field night time sound level: 65.91 dBA

Table 1.1 - Sound level at building façade

	Day (Living Area)				Night (Bedroom)			
	Wall 1	Wall 2	Wall 3	Wall 4	Wall 1	Wall 2	Wall 3	Wall 4
Source 1	73.5	73.5	73.5	73.5	65.91	65.91	65.91	65.91
Shielding Correction	0	-3	-15	-3	0	-3	-15	-3
Resultant Sound Level	73.5	70.5	58.5	70.5	65.91	62.91	50.91	62.91

Table 1.2 - Number of Components

Room	Wall 1			Wall 2			Wall 3			Wall 4			Total Number of Components
	Window	Wall	Door										
North West Exterior Quadrant - Basement Floor - Bedroom 2	1	1											2
North West Exterior Quadrant - Basement Floor - Master Bedroom		1		1	1								3
North West Exterior Quadrant - Basement Floor - Ensuite				1	1								2
North West Exterior Quadrant - Main Floor - Upper Level Entry					1	1							2
North West Exterior Quadrant - Floor 1 - Main Room	1	1		1	1								4
North West Exterior Quadrant - Floor 2 - Main Room	1	1		1	1								4
North West Exterior Quadrant - Floor 3 - Bedroom 3	1	1											2
North West Exterior Quadrant - Floor 3 - Master bedroom		1		1	1								3
North West Exterior Quadrant - Floor 3 - Bedroom 2				1	1								2
West Interior Quadrant - Basement Floor - Bedroom 2				1	1								2
West Interior Quadrant - Basement Floor - Master Bedroom					1	1							2
West Interior Quadrant - Floor 1 - Upper Level Entry						1	1						2
West Interior Quadrant - Floor 1 - Main Room				1	1								2
West Interior Quadrant - Floor 2 - Main Room				1	1								2
West Interior Quadrant - Floor 3 - Bedroom 2				1	1								2
West Interior Quadrant - Floor 3 - Master Bedroom				1	1								2
South West Exterior Quadrant - Basement Floor - Bedroom 2				1	1								2
South West Exterior Quadrant - Basement Floor - Master Bedroom					1		1	1					3
South West Exterior Quadrant - Basement Floor - Ensuite							1	1					2
South West Exterior Quadrant - Floor 1 - Upper Level Entry								1	1				2
South West Exterior Quadrant - Floor 1 - Main Room				1	1		1	1					4
South West Exterior Quadrant - Floor 2 - Main Room				1	1		1	1					4
South West Exterior Quadrant - Floor 3 - Bedroom 3				1	1								2
South West Exterior Quadrant - Floor 3 - Master bedroom					1		1	1					3
South West Exterior Quadrant - Floor 3 - Bedroom 2							1	1					2

Note: Ignore if sound level below 55 dBA

\* Component AIF exceeds required value by 10 or more and has been ignored as a component

Table 1.3 - AIF

	Wall 1	Wall 2	Wall 3	Wall 4
North West Exterior Quadrant - Basement Floor - Bedroom 2	34			
North West Exterior Quadrant - Basement Floor - Master Bedroom	35	32		
North West Exterior Quadrant - Basement Floor - Ensuite		31		
North West Exterior Quadrant - Main Floor - Upper Level Entry		31		
North West Exterior Quadrant - Floor 1 Main Room	37	34		
North West Exterior Quadrant - Floor 2 Main Room	37	34		
North West Exterior Quadrant - Floor 3 Bedroom 3	34			
North West Exterior Quadrant - Floor 3 Master bedroom	35	32		
North West Exterior Quadrant - Floor 3 Bedroom 2		31		
West Interior Quadrant - Basement Floor - Bedroom 2		31		
West Interior Quadrant - Basement Floor - Master Bedroom		31		
West Interior Quadrant - Floor 1 - Upper Level Entry		31		
West Interior Quadrant - Floor 1 - Main Room		31		
West Interior Quadrant - Floor 2 - Main Room		31		
West Interior Quadrant - Floor 3 - Bedroom 2		31		
West Interior Quadrant - Floor 3 - Master Bedroom		31		
South West Exterior Quadrant - Basement Floor - Bedroom 2		31		
South West Exterior Quadrant - Basement Floor - Master Bedroom		32	20	
South West Exterior Quadrant - Basement Floor - Ensuite			19	
South West Exterior Quadrant - Floor 1 - Upper Level Entry			19	
South West Exterior Quadrant - Floor 1 - Main Room		34	22	
South West Exterior Quadrant - Floor 2 - Main Room		34	22	
South West Exterior Quadrant - Floor 3 - Bedroom 3		31		
South West Exterior Quadrant - Floor 3 - Master bedroom		32	20	
South West Exterior Quadrant - Floor 3 - Bedroom 2			19	

Note: Max AIF selected between Day and Night

Table 1.4 - Adjustment for Geometry

	Wall 1	Wall 2	Wall 3	Wall 4
Exposure Angle	0-90	0-90	0-90	0-90
Adjustment	0	3	0	3

Table 1.5 - Required AIF

	Wall 1	Wall 2	Wall 3	Wall 4
North West Exterior Quadrant - Basement Floor - Bedroom 2	34			
North West Exterior Quadrant - Basement Floor - Master Bedroom	35	35		
North West Exterior Quadrant - Basement Floor - Ensuite		34		
North West Exterior Quadrant - Main Floor - Upper Level Entry		34		
North West Exterior Quadrant - Floor 1 Main Room	37	37		
North West Exterior Quadrant - Floor 2 Main Room	37	37		
North West Exterior Quadrant - Floor 3 Bedroom 3	34			
North West Exterior Quadrant - Floor 3 Master bedroom	35	35		
North West Exterior Quadrant - Floor 3 Bedroom 2		34		
West Interior Quadrant - Basement Floor - Bedroom 2		34		
West Interior Quadrant - Basement Floor - Master Bedroom		34		
West Interior Quadrant - Floor 1 - Upper Level Entry		34		
West Interior Quadrant - Floor 1 - Main Room		34		
West Interior Quadrant - Floor 2 - Main Room		34		
West Interior Quadrant - Floor 3 - Bedroom 2		34		
West Interior Quadrant - Floor 3 - Master Bedroom		34		
South West Exterior Quadrant - Basement Floor - Bedroom 2		34		
South West Exterior Quadrant - Basement Floor - Master Bedroom		35	23	
South West Exterior Quadrant - Basement Floor - Ensuite			22	
South West Exterior Quadrant - Floor 1 - Upper Level Entry			22	
South West Exterior Quadrant - Floor 1 - Main Room		37	25	
South West Exterior Quadrant - Floor 2 - Main Room		37	25	
South West Exterior Quadrant - Floor 3 - Bedroom 3		34		
South West Exterior Quadrant - Floor 3 - Master bedroom		35	23	
South West Exterior Quadrant - Floor 3 - Bedroom 2			22	

Table 2.1 - Component Area (ft<sup>2</sup>)

Room	Wall 1			Wall 2			Wall 3			Wall 4			Room Floor Area
	Window	Wall	Door										
North West Exterior Quadrant - Basement Floor - Bedroom 2	9	12											111
North West Exterior Quadrant - Basement Floor - Master Bedroom		24		18	10								156
North West Exterior Quadrant - Basement Floor - Ensuite				6	8								66
North West Exterior Quadrant - Main Floor - Upper Level Entry					6	15							59
North West Exterior Quadrant - Floor 1 Main Room	20	135		53	143								386
North West Exterior Quadrant - Floor 2 Main Room	20	196		80	157								455
North West Exterior Quadrant - Floor 3 Bedroom 3	21	64											90
North West Exterior Quadrant - Floor 3 Master bedroom		93		42	73								146
North West Exterior Quadrant - Floor 3 Bedroom 2				35	63								97
West Interior Quadrant - Basement Floor - Bedroom 2				6	45								117
West Interior Quadrant - Basement Floor - Master Bedroom				18	89								141
West Interior Quadrant - Floor 1 - Upper Level Entry					6	15							59
West Interior Quadrant - Floor 1 - Main Room				53	111								321
West Interior Quadrant - Floor 2 - Main Room				80	126								430
West Interior Quadrant - Floor 3 - Bedroom 2				35	45								120
West Interior Quadrant - Floor 3 - Master Bedroom				42	57								178
South West Exterior Quadrant - Basement Floor - Bedroom 2				9	12								111
South West Exterior Quadrant - Basement Floor - Master Bedroom					24		18	10					156
South West Exterior Quadrant - Basement Floor - Ensuite							6	8					66
South West Exterior Quadrant - Floor 1 - Upper Level Entry								6	15				59
South West Exterior Quadrant - Floor 1 - Main Room				20	135		53	143					386
South West Exterior Quadrant - Floor 2 - Main Room				20	196		80	157					455
South West Exterior Quadrant - Floor 3 - Bedroom 3				21	64								90
South West Exterior Quadrant - Floor 3 - Master bedroom					93		42	73					146
South West Exterior Quadrant - Floor 3 - Bedroom 2							35	63					97

Note: Susan D. Smith Architect Layout

Table 2.2 - Component Percentages per Room Floor Area (%)

Room	Wall 1			Wall 2			Wall 3			Wall 4		
	Window	Wall	Door									
North West Exterior Quadrant - Basement Floor - Bedroom 2	8%	11%										
North West Exterior Quadrant - Basement Floor - Master Bedroom		15%		12%	6%							
North West Exterior Quadrant - Basement Floor - Ensuite				9%	12%							
North West Exterior Quadrant - Main Floor - Upper Level Entry					10%	25%						
North West Exterior Quadrant - Floor 1 Main Room	5%	35%		14%	37%							
North West Exterior Quadrant - Floor 2 Main Room	4%	43%		18%	35%							
North West Exterior Quadrant - Floor 3 Bedroom 3	23%	71%										
North West Exterior Quadrant - Floor 3 Master bedroom		64%		29%	50%							
North West Exterior Quadrant - Floor 3 Bedroom 2				36%	65%							
West Interior Quadrant - Basement Floor - Bedroom 2				5%	38%							
West Interior Quadrant - Basement Floor - Master Bedroom				13%	63%							
West Interior Quadrant - Floor 1 - Upper Level Entry					10%	25%						
West Interior Quadrant - Floor 1 - Main Room				17%	35%							
West Interior Quadrant - Floor 2 - Main Room				19%	29%							
West Interior Quadrant - Floor 3 - Bedroom 2				29%	38%							
West Interior Quadrant - Floor 3 - Master Bedroom				24%	32%							
South West Exterior Quadrant - Basement Floor - Bedroom 2				8%	11%							
South West Exterior Quadrant - Basement Floor - Master Bedroom					15%		12%	6%				
South West Exterior Quadrant - Basement Floor - Ensuite							9%	12%				
South West Exterior Quadrant - Floor 1 - Upper Level Entry								10%	25%			
South West Exterior Quadrant - Floor 1 - Main Room				5%	35%		14%	37%				
South West Exterior Quadrant - Floor 2 - Main Room				4%	43%		18%	35%				
South West Exterior Quadrant - Floor 3 - Bedroom 3				23%	71%							
South West Exterior Quadrant - Floor 3 - Master bedroom					64%		29%	50%				
South West Exterior Quadrant - Floor 3 - Bedroom 2							36%	65%				

Table 2.3 - Component Selection

Room	Wall 1			Wall 2			Wall 3			Wall 4		
	Window	Wall	Door	Window	Wall	Door	Window	Wall	Door	Window	Wall	Door
North West Exterior Quadrant - Basement Floor - Bedroom 2	2 (15) 2	EW1										
North West Exterior Quadrant - Basement Floor - Master Bedroom		EW1		2 (28) 2	EW1							
North West Exterior Quadrant - Basement Floor - Ensuite				2 (18) 2	EW1							
North West Exterior Quadrant - Main Floor - Upper Level Entry					EW1	D3-sd						
North West Exterior Quadrant - Floor 1 Main Room	2 (18) 2	EW2		2 (50) 2	EW2							
North West Exterior Quadrant - Floor 2 Main Room	2 (15) 2	EW2		2 (63) 2	EW2							
North West Exterior Quadrant - Floor 3 Bedroom 3	2 (42) 2	EW2										
North West Exterior Quadrant - Floor 3 Master bedroom		EW2		2 (63) 2	EW2							
North West Exterior Quadrant - Floor 3 Bedroom 2				2 (63) 2	EW2							
West Interior Quadrant - Basement Floor - Bedroom 2				2 (6) 2	EW1							
West Interior Quadrant - Basement Floor - Master Bedroom				2 (22) 2	EW2							
West Interior Quadrant - Floor 1 - Upper Level Entry					EW1	D3-sd						
West Interior Quadrant - Floor 1 - Main Room				2 (35) 2	EW1							
West Interior Quadrant - Floor 2 - Main Room				2 (35) 2	EW1							
West Interior Quadrant - Floor 3 - Bedroom 2				2 (50) 2	EW1							
West Interior Quadrant - Floor 3 - Master Bedroom				2 (42) 2	EW1							
South West Exterior Quadrant - Basement Floor - Bedroom 2				2 (15) 2	EW1							
South West Exterior Quadrant - Basement Floor - Master Bedroom					EW1		2 (6) 2	EW1				
South West Exterior Quadrant - Basement Floor - Ensuite							2 (6) 2	EW1				
South West Exterior Quadrant - Floor 1 - Upper Level Entry								EW1	D1			
South West Exterior Quadrant - Floor 1 - Main Room				2 (13) 2	EW2		2 (6) 2	EW1				
South West Exterior Quadrant - Floor 2 - Main Room				2 (18) 2	EW2		2 (6) 2	EW1				
South West Exterior Quadrant - Floor 3 - Bedroom 3				2 (42) 2	EW2							
South West Exterior Quadrant - Floor 3 - Master bedroom					EW2		2 (6) 2	EW1				
South West Exterior Quadrant - Floor 3 - Bedroom 2							2 (6) 2	EW1				

Note 1: Use Tables 7.2 - 7.4, "Topic 7, Environmental Noise Assessment in Land Use Planning Manual"

Note 2: Windows are based on 2 mm glass thickness (Double Glaze Windows)

## Richcraft Block 221 - Town Block 4 - Northwest Exterior

Source: Road Traffic

Predicted free-field day time sound level: 68.89 dBA

Predicted free-field night time sound level: 61.3 dBA

Table 1.1 - Sound level at building façade

	Day (Living Area)				Night (Bedroom)			
	Wall 1	Wall 2	Wall 3	Wall 4	Wall 1	Wall 2	Wall 3	Wall 4
Source 1	68.89	68.89	68.89	68.89	61.3	61.3	61.3	61.3
Shielding Correction	0	-3	-15	-3	0	-3	-15	-3
Resultant Sound Level	68.89	65.89	53.89	65.89	61.3	58.3	46.3	58.3

Table 1.2 - Number of Components

Room	Wall 1			Wall 2			Wall 3			Wall 4			Total Number of Components
	Window	Wall	Door										
Foyer - ground floor		1			1	1							3
Bathroom - ground floor		1			1	1							3
Den - ground floor	1	1											2
Kitchen - main floor				1	1								2
Great room - main floor	1	1			1	1							4
Master bedroom - upper floor				1	1								2
Bedroom 2 - upper floor		1		1	1								3
Bedroom 3 - upper floor	1	1											2

Note: Ignore if sound level below 55 dBA

\* Component AIF exceeds required value by 10 or more and has been ignored as a component

Table 1.3 - AIF

	Wall 1	Wall 2	Wall 3	Wall 4
Foyer - ground floor	31	28		
Bathroom - ground floor	31	28		
Den - ground floor	29			
Kitchen - main floor		26		
Great room - main floor	32	29		
Master bedroom - upper floor		26		
Bedroom 2 - upper floor	31	28		
Bedroom 3 - upper floor	29			

Note: Max AIF selected between Day and Night

Table 1.4 - Adjustment for Geometry

	Wall 1	Wall 2	Wall 3	Wall 4
Exposure Angle	0-90	0-90	0-90	0-90
Adjustment	0	3		

Table 1.5 - Required AIF

	Wall 1	Wall 2	Wall 3	Wall 4
Foyer - ground floor	31	31		
Bathroom - ground floor	31	31		
Den - ground floor	32			
Kitchen - main floor		29		
Great room - main floor	32	32		
Master bedroom - upper floor		29		
Bedroom 2 - upper floor	31	31		
Bedroom 3 - upper floor	29			

Table 2.1 - Component Area (ft<sup>2</sup>)

Room	Wall 1			Wall 2			Wall 3			Wall 4			Room Floor Area
	Window	Wall	Door										
Foyer - ground floor		30			11	23							77
Bathroom - ground floor		43.2		8	16								27
Den - ground floor	12	79											122
Kitchen - main floor				26	65								166
Great room - main floor	20	199			39	18							217
Master bedroom - upper floor				33	55								127
Bedroom 2 - upper floor		89		27	46								101
Bedroom 3 - upper floor	20	65											91

Note: Susan D. Smith Architect Layout

Table 2.2 - Component Percentages per Room Floor Area (%)

Room	Wall 1			Wall 2			Wall 3			Wall 4			Room Floor Area
	Window	Wall	Door										
Foyer - ground floor		39			14	30							
Bathroom - ground floor		160		30	59								
Den - ground floor	10	65											
Kitchen - main floor				16	39								
Great room - main floor	9	92			18	8							
Master bedroom - upper floor				26	43								
Bedroom 2 - upper floor		88		27	46								
Bedroom 3 - upper floor	22	71											

Table 2.3 - Component Selection

Room	Wall 1			Wall 2			Wall 3			Wall 4			Room Floor Area
	Window	Wall	Door	Window	Wall	Door	Window	Wall	Door	Window	Wall	Door	
Foyer - ground floor		EW1			EW1	D5							
Bathroom - ground floor		EW2		2 (22) 2	EW1								
Den - ground floor	2 (13) 2	EW1											
Kitchen - main floor				2 (6) 2	EW1								
Great room - main floor	2 (13) 2	EW2			EW1	D3							
Master bedroom - upper floor				2 (18) 2	EW1								
Bedroom 2 - upper floor		EW1		2 (28) 2	EW1								
Bedroom 3 - upper floor	2 (15) 2	EW1											

Note 1: Use Tables 7.2 - 7.4, "Topic 7, Environmental Noise Assessment in Land Use Planning Manual"

Note 2: Windows are based on 2 mm glass thickness (Double Glaze Windows)

## Richcraft Block 221 - Town Block 4 - South Interior and southwest Exterior unit

Source: Road Traffic

Predicted free-field day time sound level: 68.89 dBA

Predicted free-field night time sound level: 61.3 dBA

Table 1.1 - Sound level at building façade

	Day (Living Area)				Night (Bedroom)			
	Wall 1	Wall 2	Wall 3	Wall 4	Wall 1	Wall 2	Wall 3	Wall 4
Source 1	68.89	68.89	68.89	68.89	61.3	61.3	61.3	61.3
Shielding Correction	0	-3	-15	-3	0	-3	-15	-3
Resultant Sound Level	68.89	65.89	53.89	65.89	61.3	58.3	46.3	58.3

Table 1.2 - Number of Components

Room	Wall 1			Wall 2			Wall 3			Wall 4			Total Number of Components
	Window	Wall	Door										
Foyer - ground floor					1	1							2
Bathroom - ground floor					1	1							2
Kitchen - main floor				1	1								2
Great room - main floor					1	1							2
Master bedroom - upper floor				1	1								2
Bedroom 2 - upper floor				1	1								2

Note: Ignore if sound level below 55 dBA

\* Component AIF exceeds required value by 10 or more and has been ignored as a component

Table 1.3 - AIF

	Wall 1	Wall 2	Wall 3	Wall 4
Foyer - ground floor		26		
Bathroom - ground floor		26		
Kitchen - main floor		26		
Great room - main floor		26		
Master bedroom - upper floor		26		
Bedroom 2 - upper floor		26		

Note: Max AIF selected between Day and Night

Table 1.4 - Adjustment for Geometry

	Wall 1	Wall 2	Wall 3	Wall 4
Exposure Angle	0-90	0-90	0-90	0-90
Adjustment	3			

Table 1.5 - Required AIF

	Wall 1	Wall 2	Wall 3	Wall 4
Foyer - ground floor		29		
Bathroom - ground floor		29		
Kitchen - main floor		29		
Great room - main floor		29		
Master bedroom - upper floor		29		
Bedroom 2 - upper floor		29		

Table 2.1 - Component Area (ft<sup>2</sup>)

Room	Wall 1			Wall 2			Wall 3			Wall 4			Room Floor Area
	Window	Wall	Door										
Foyer - ground floor					11	23							77
Bathroom - ground floor				8	16								27
Kitchen - main floor				26	65								166
Great room - main floor					39	18							217
Master bedroom - upper floor				33	55								127
Bedroom 2 - upper floor				27	46								101

Note: Susan D. Smith Architect Layout

Table 2.2 - Component Percentages per Room Floor Area (%)

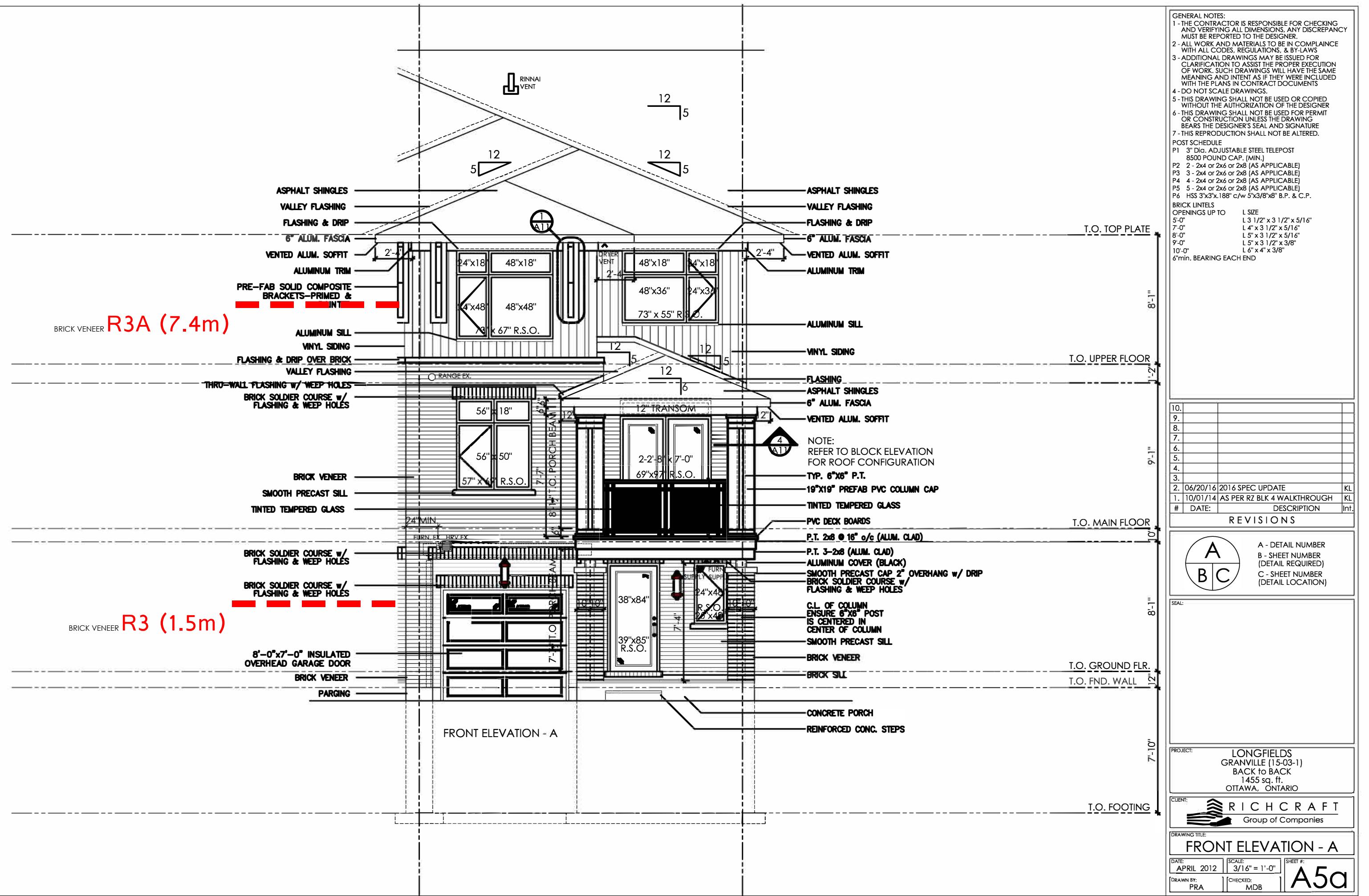
Room	Wall 1			Wall 2			Wall 3			Wall 4		
	Window	Wall	Door									
Foyer - ground floor					14	30						
Bathroom - ground floor				30	59							
Kitchen - main floor				16	39							
Great room - main floor					18	8						
Master bedroom - upper floor				26	43							
Bedroom 2 - upper floor				27	46							

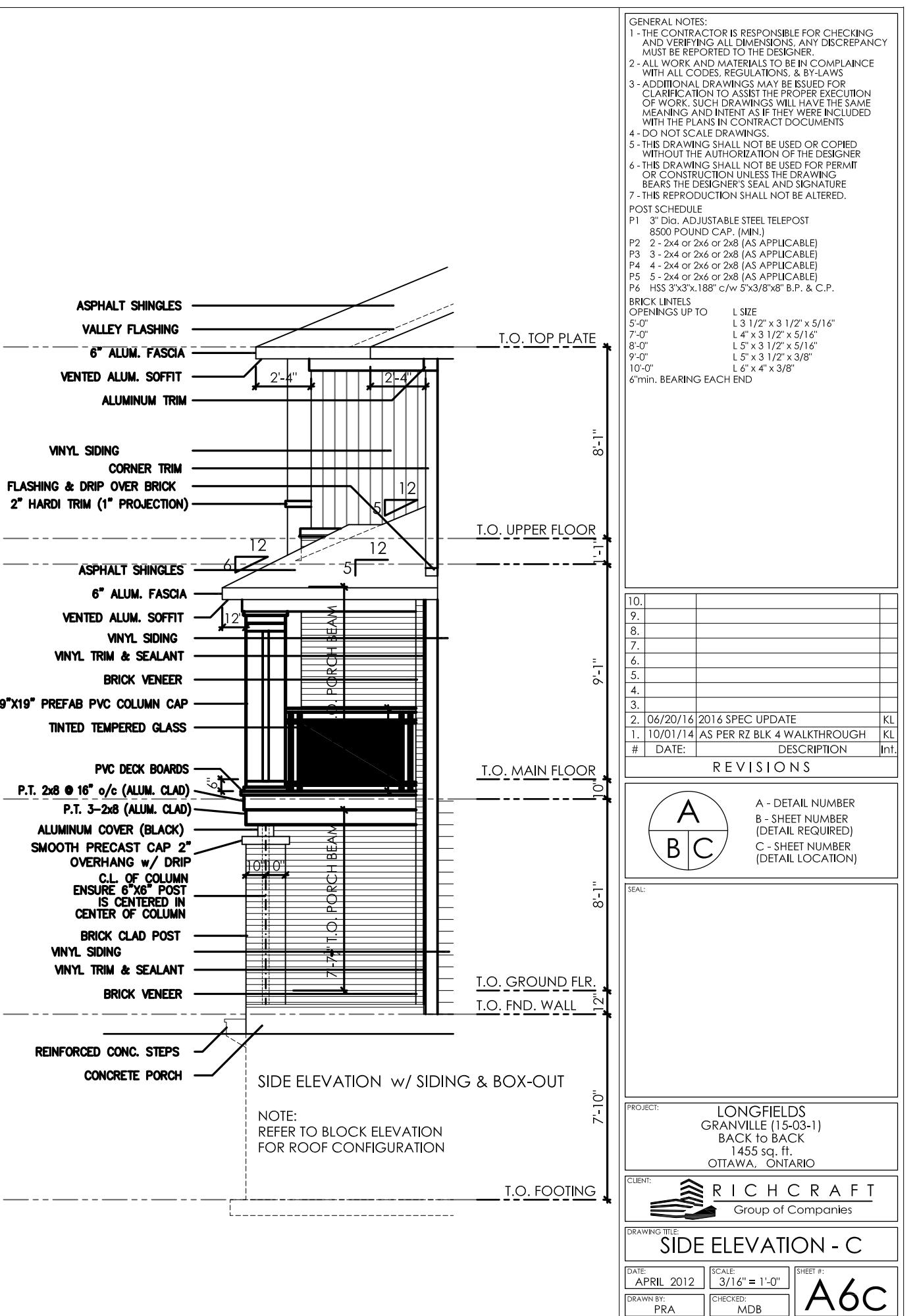
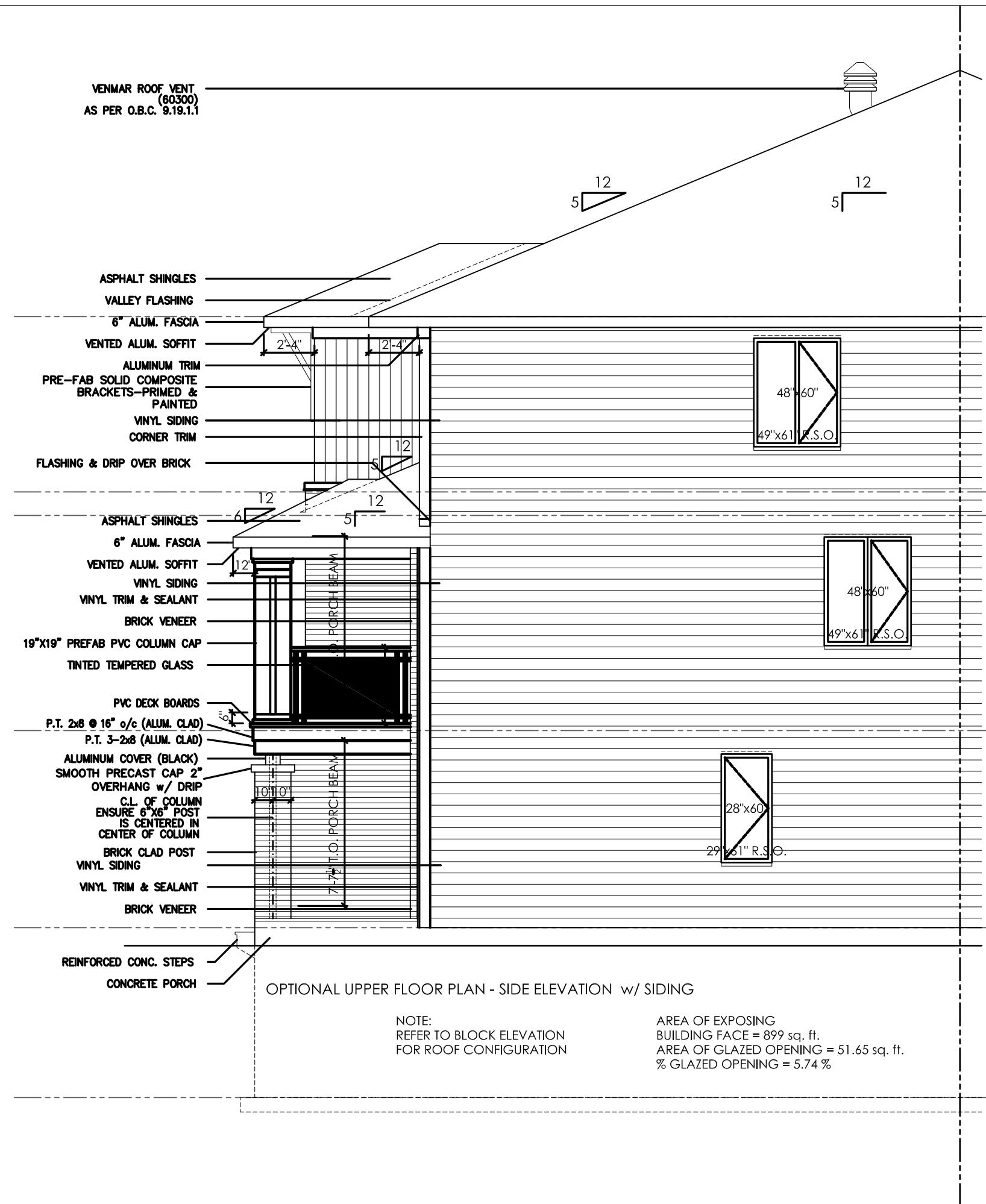
Table 2.3 - Component Selection

Room	Wall 1			Wall 2			Wall 3			Wall 4		
	Window	Wall	Door	Window	Wall	Door	Window	Wall	Door	Window	Wall	Door
Foyer - ground floor					EW1	D4						
Bathroom - ground floor				2 (18) 2	EW1							
Kitchen - main floor				2 (6) 2	EW1							
Great room - main floor					EW1	D2						
Master bedroom - upper floor				2 (18) 2	EW1							
Bedroom 2 - upper floor				2 (28) 2	EW1							

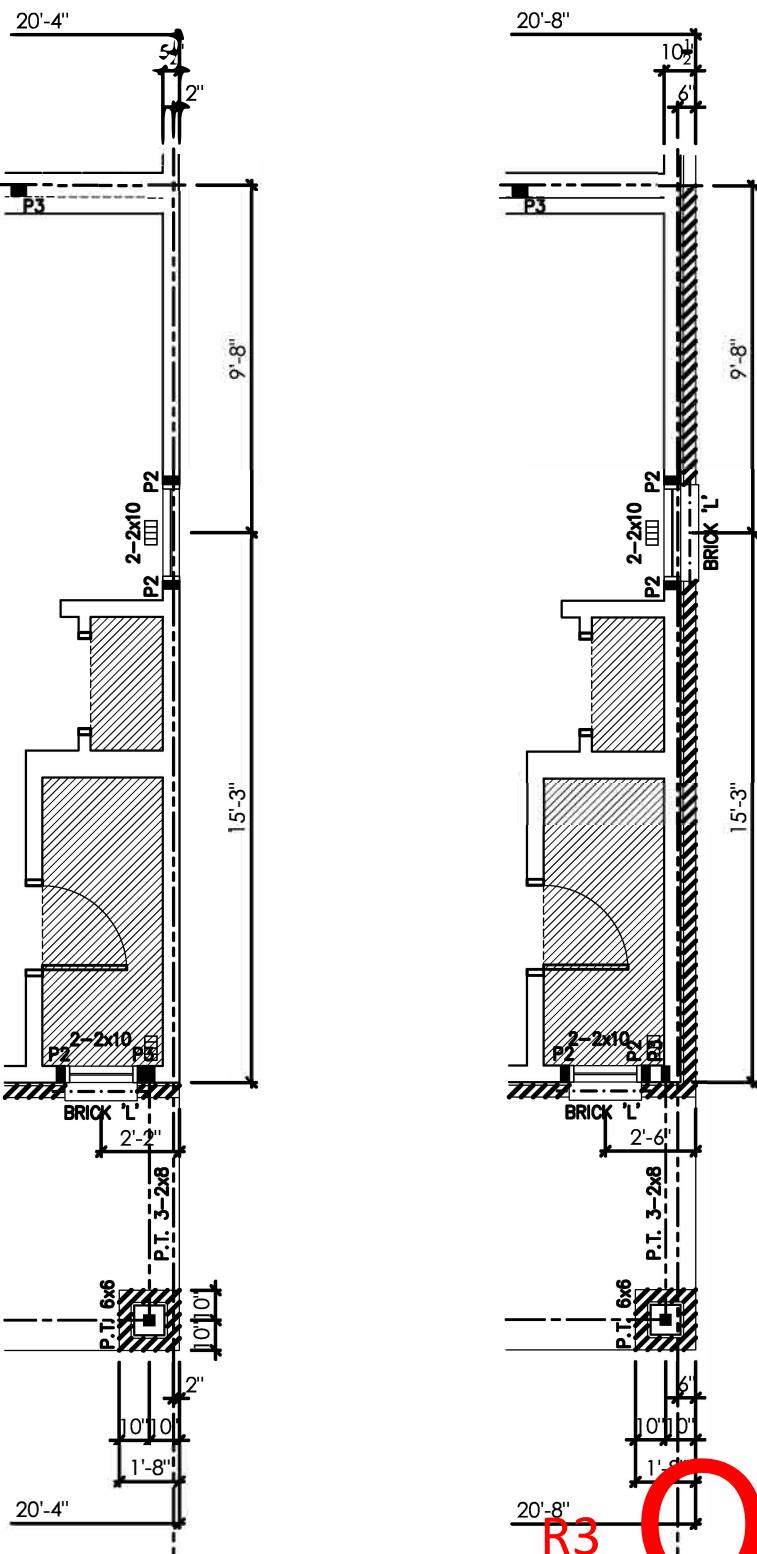
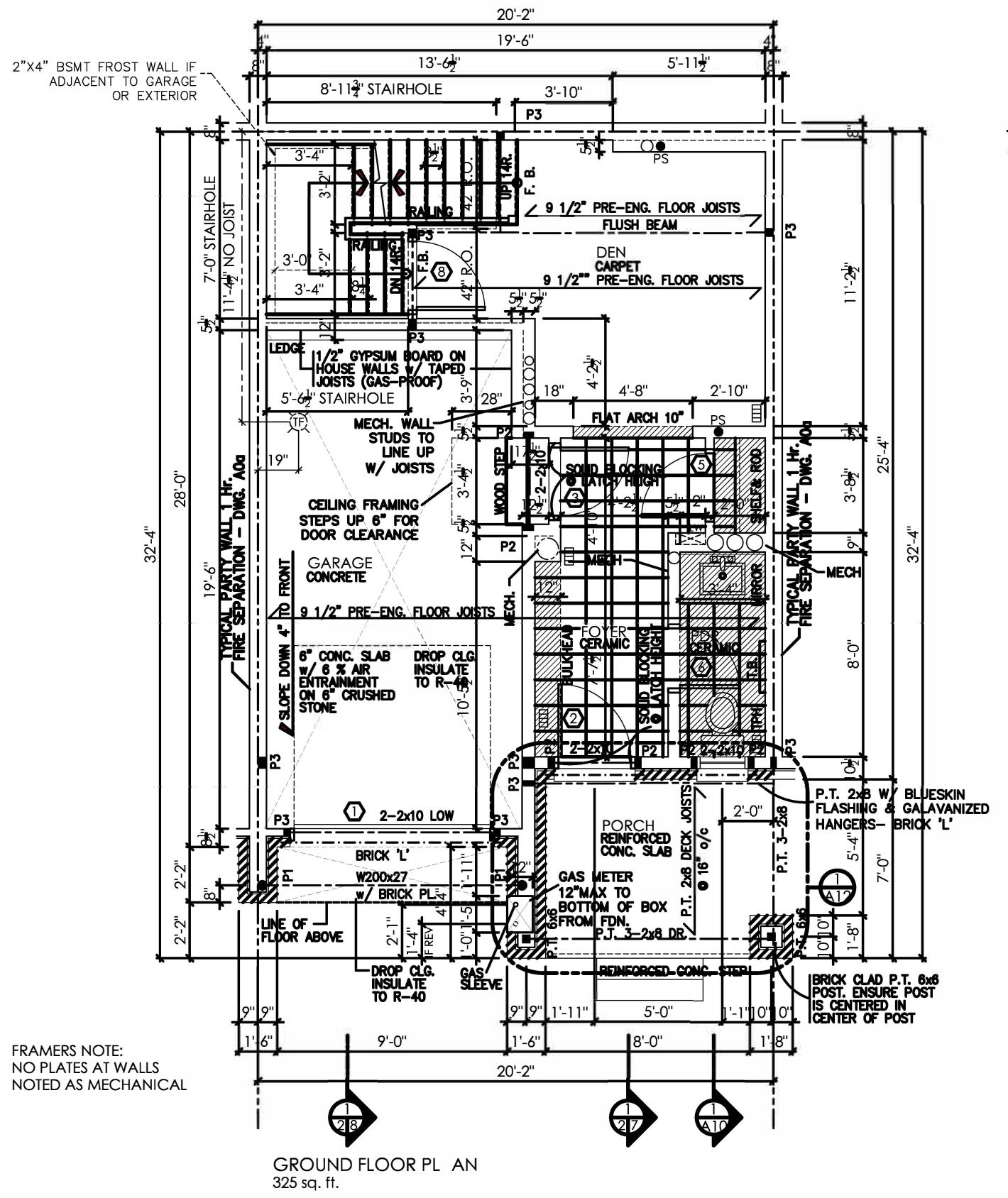
Note 1: Use Tables 7.2 - 7.4, "Topic 7, Environmental Noise Assessment in Land Use Planning Manual"

Note 2: Windows are based on 2 mm glass thickness (Double Glaze Windows)



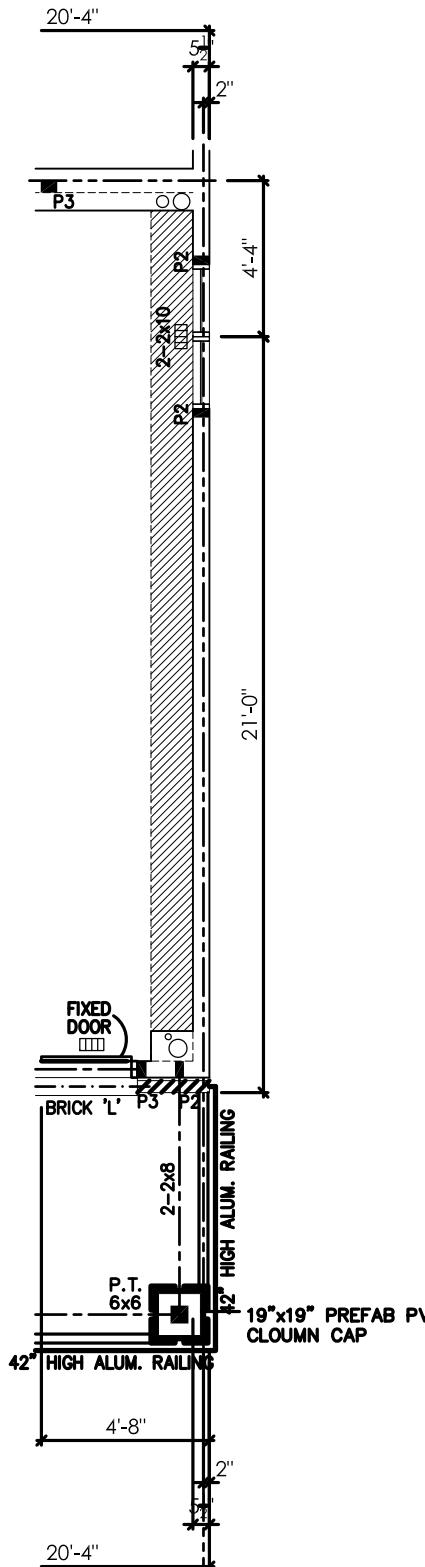
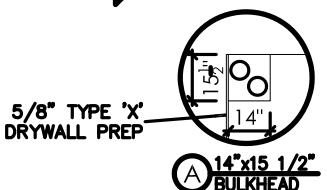
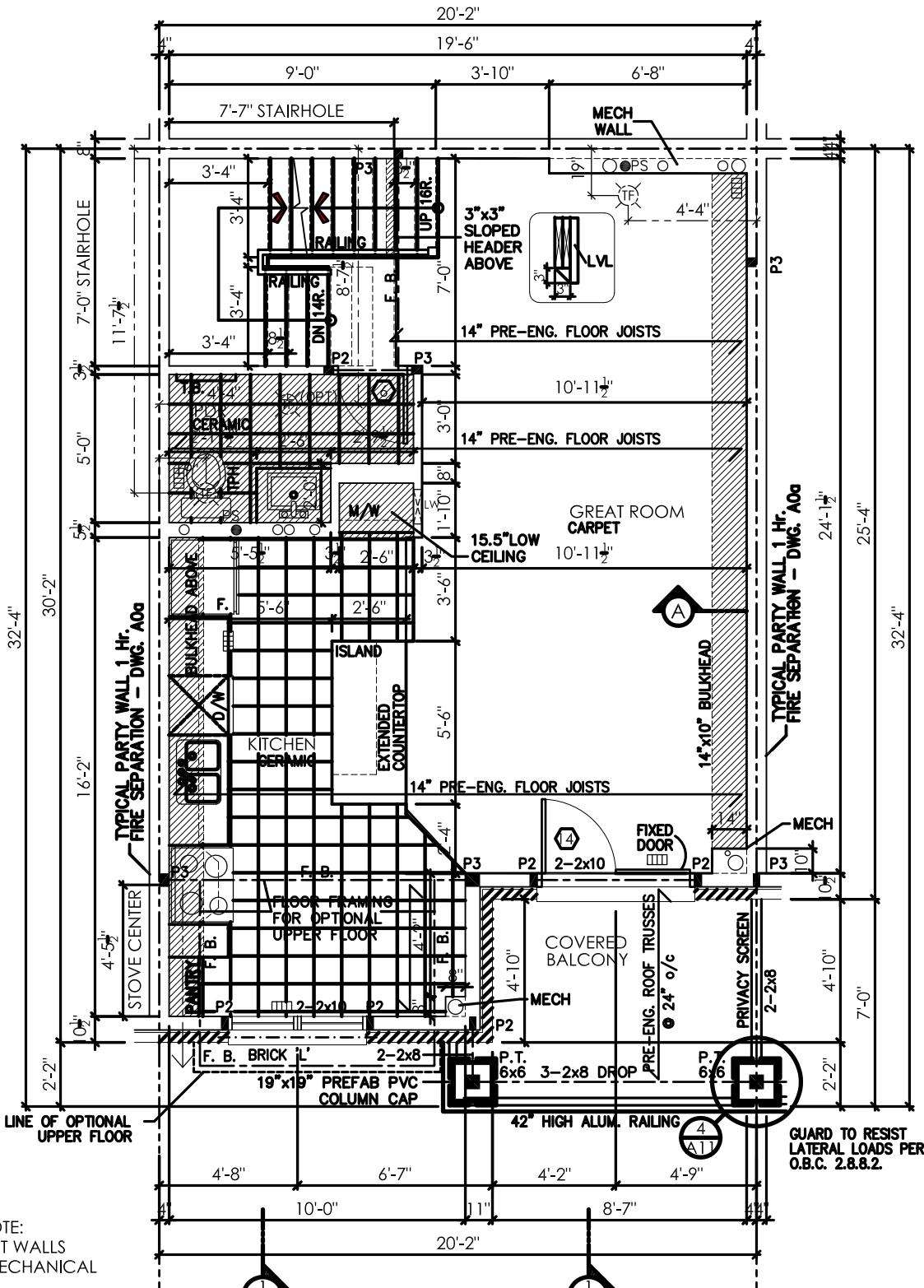




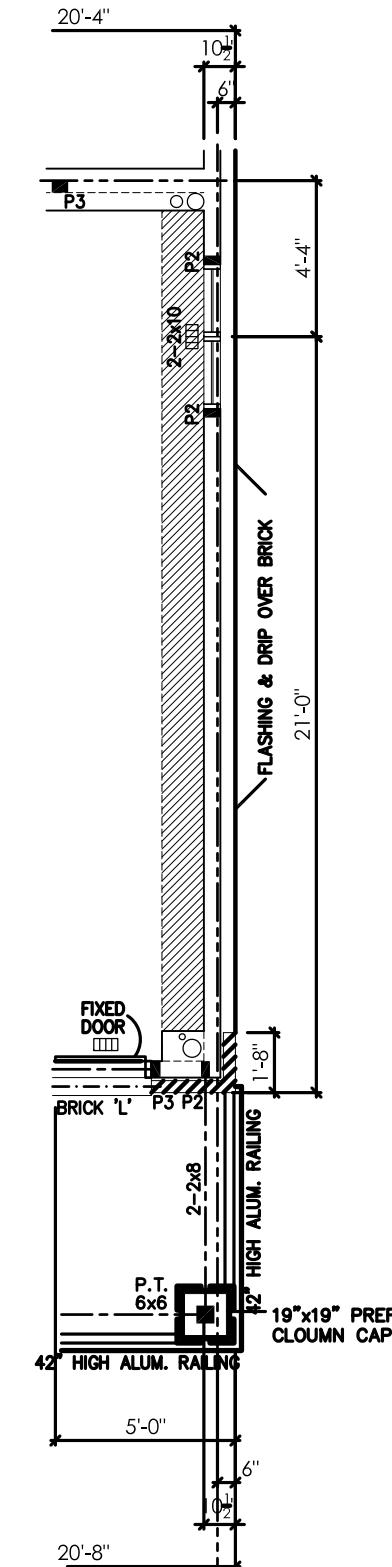


**NOTES:**  
ALL WOOD POST LOCATIONS TO BE BLOCKED SOLID, THRU FLOOR STRUCTURE ON TO A SIMILAR POST BELOW OR ON TO A STEEL / WOOD BEAM OR ON TO THE CONC. FOUNDATION WALL. JOIST AND TRUSS LAYOUT AS PER MANUFACTURERS ENGINEERED DESIGN. FLUSH BEAMS, (F.B.) AND FLUSH LINTELS, (F.L.) AS PER FLOOR SYSTEM SUPPLIERS PLANS. REFER TO BLOCK PLANS FOR BRICK CONDITIONS.

10.					
9.					
8.					
7.					
6.					
5.					
4.					
3.					
2.	06/01/16 2016 SPEC UPDATE	KL			
1.	10/01/14 AS PER RZ BLK 4 WALKTHROUGH	KL			
# DATE:	DESCRIPTION	Int.			
<b>REVISIONS</b>					
<table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> </table>			A	B	C
A	B	C			
A - DETAIL NUMBER					
B - SHEET NUMBER (DETAIL REQUIRED)					
C - SHEET NUMBER (DETAIL LOCATION)					
SEAL:					
PROJECT: LONGFIELDS GRANVILLE (15-03-1)					
CLIENT: RICH CRAFT Group of Companies					
DRAWING TITLE: GROUND FLOOR PLAN					
DRAWN BY: PRA	SCALE: 3/16" = 1'-0"	sheet #: A2			
CHECKED: MDB					



END UNIT - SIDING



END UNIT - BRICK

**GENERAL NOTES:**

- THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS, ANY DISCREPANCY MUST BE REPORTED TO THE DESIGNER.
- ALL WORK AND MATERIALS TO BE IN COMPLAINE WITH ALL CODES, REGULATIONS, & BY-LAWS
- ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST THE PROPER EXECUTION OF WORK, SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE PLANS IN CONTRACT DOCUMENTS
- DO NOT SCALE DRAWINGS.
- THIS DRAWING SHALL NOT BE USED OR COPIED WITHOUT THE AUTHORIZATION OF THE DESIGNER
- THIS DRAWING SHALL NOT BE USED FOR PERMIT OR CONSTRUCTION UNLESS THE DRAWING BEARS THE DESIGNER'S SEAL AND SIGNATURE
- THIS REPRODUCTION SHALL NOT BE ALTERED.

**POST SCHEDULE**

P1	3" Dia. ADJUSTABLE STEEL TELEPOST
P2	8500 POUND CAP. (M.N.)
P3	2 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)
P4	3 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)
P5	4 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)
P6	5 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)
P7	6 HSS 3"x3"x1.88" c/w 5"x3/8"x8" B.P. & C.P.

**BRICK LINTELS**

OPENINGS UP TO L SIZE

5'-0"	L 3 1/2" x 3 1/2" x 5/16"
7'-0"	L 4" x 3 1/2" x 5/16"
8'-0"	L 5" x 3 1/2" x 5/16"
9'-0"	L 5" x 3 1/2" x 3/8"
10'-0"	L 6" x 4" x 3/8"

6'min. BEARING EACH END

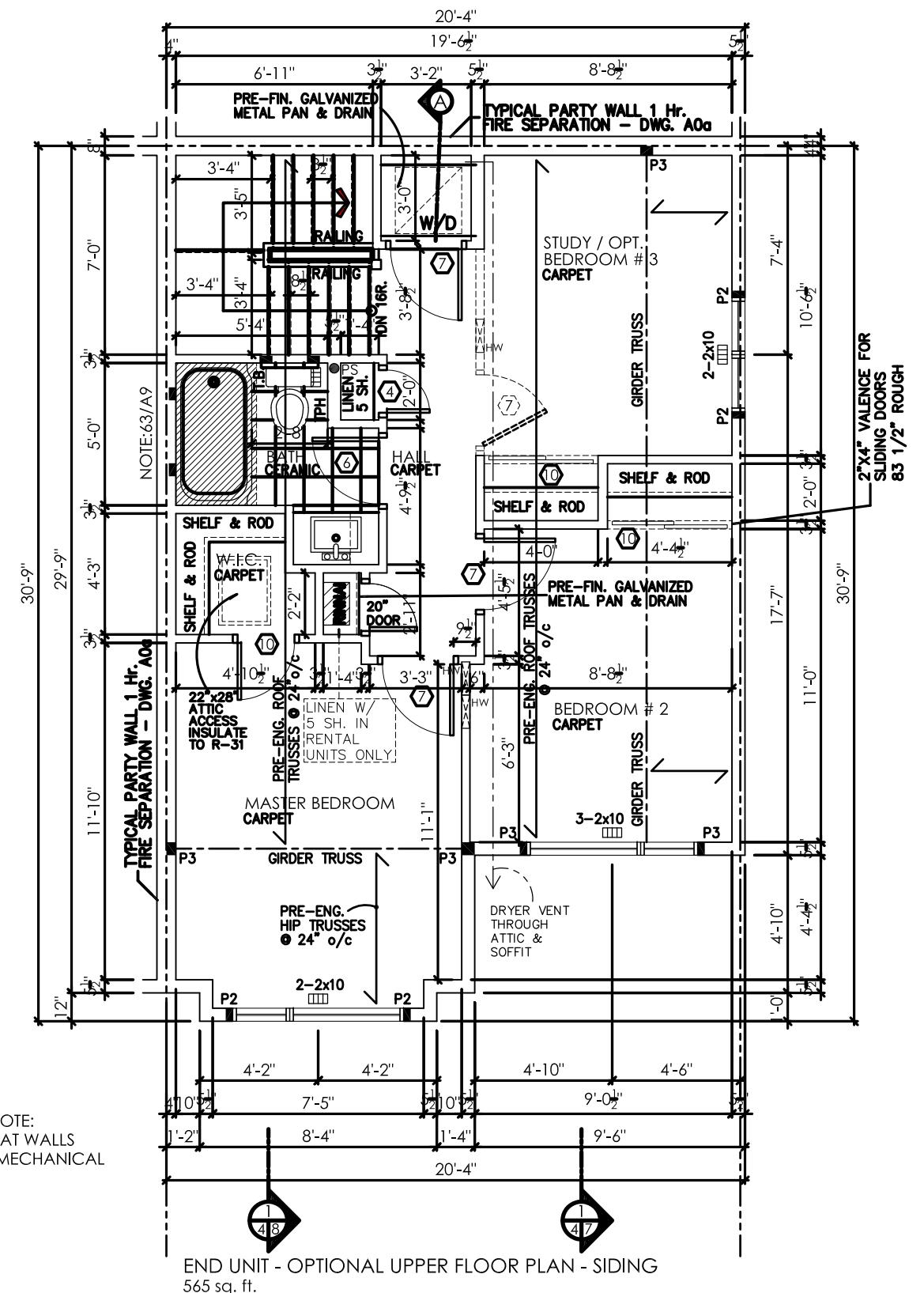
10.	
9.	
8.	
7.	
6.	
5.	
4.	
3.	
2.	06/20/16 2016 SPEC UPDATE
1.	11/13/15 PWD ENTRANCE RE-LOCATED(MC)
#	DATE:
	DESCRIPTION

A - DETAIL NUMBER  
B - SHEET NUMBER (DETAIL REQUIRED)  
C - SHEET NUMBER (DETAIL LOCATION)

SEAL:	

PROJECT: LONGFIELDS  
GRANVILLE (1.5-03-1)  
BACK to BACK  
1455 sq. ft.  
OTTAWA, ONTARIO

CIENT:	RICH CRAFT
	Group of Companies
DRAWING TITLE:	MAIN FLOOR PLAN
DATE:	APRIL 2012
SCALE:	3/16" = 1'-0"
SHEET #:	
DRAWN BY:	PRA
CHECKED:	MDB
	A3



**NOTES:**  
ALL WOOD POST LOCATIONS TO BE BLOCKED SOLID, THRU FLOOR STRUCTURE ON TO A SIMILAR POST BELOW OR ON TO A STEEL / WOOD BEAM OR ON TO THE CONC. FOUNDATION WALL. JOIST AND TRUSS LAYOUT AS PER MANUFACTURERS ENGINEERED DESIGN. FLUSH BEAMS, (F.B.) AND FLUSH LINTELS, (F.L.) AS PER FLOOR SYSTEM SUPPLIERS PLANS. REFER TO BLOCK PLANS FOR BRICK CONDITIONS.

GENERAL NOTES:		
1 - THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS. ANY DISCREPANCY MUST BE REPORTED TO THE DESIGNER.		
2 - ALL WORK AND MATERIALS TO BE IN COMPLIANCE WITH ALL CODES, REGULATIONS, & BY-LAWS		
3 - ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST THE PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE PLANS IN CONTRACT DOCUMENTS		
4 - DO NOT SCALE DRAWINGS.		
5 - THIS DRAWING SHALL NOT BE USED OR COPIED WITHOUT THE AUTHORIZATION OF THE DESIGNER		
6 - THIS DRAWING SHALL NOT BE USED FOR PERMIT OR CONSTRUCTION UNLESS THE DRAWING BEARS THE DESIGNER'S SEAL AND SIGNATURE		
7 - THIS REPRODUCTION SHALL NOT BE ALTERED.		
POST SCHEDULE		
P1	3" Dia. ADJUSTABLE STEEL TELEPOST	8500 POUND CAP. (MIN.)
P2	2 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)	
P3	3 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)	
P4	4 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)	
P5	5 - 2x4 or 2x6 or 2x8 (AS APPLICABLE)	
P6	HSS 3"x3"x.188" c/w 5"x3"8"x8" B.P. & C.P.	
BRICK LINTELS		
OPENINGS UP TO L SIZE		
5'-0"	L 3 1/2" x 3 1/2" x 5/16"	
7'-0"	L 4" x 3 1/2" x 5/16"	
8'-0"	L 5" x 3 1/2" x 5/16"	
9'-0"	L 5" x 3 1/2" x 3/8"	
10'-0"	L 6" x 4" x 3/8"	
6' min. BEARING EACH END		
REVISIONS		
10.		
9.		
8.		
7.		
6.		
5.		
4.		
3.		
2.	06/20/16	2016 SPEC UPDATE
1.	10/01/14	AS PER RZ BLK 4 WALKTHROUGH
#	DATE:	DESCRIPTION
A - DETAIL NUMBER		
B - SHEET NUMBER (DETAIL REQUIRED)		
C - SHEET NUMBER (DETAIL LOCATION)		
SEAL:		
PROJECT: LONGFIELDS GRANVILLE (15-03-1) BACK to BACK 1455 sq. ft. OTTAWA, ONTARIO		
CLIENT: RICH CRAFT Group of Companies		
DRAWING TITLE: OPTIONAL UPPER FLOOR PLAN		
DRAWN BY: PRA	SCALE: 3/16" = 1'-0"	sheet #: A4b
DATE: APRIL 2012		
DRAWN BY: PRA	CHECKED: MDB	

# BACK to BACK TERRACE HOMES

DRAWING LIST	
A-0	O.B.C. MATRIX, DRAWING LIST
SP-1	SITE PLAN
A-1	2 BEDROOM UNIT - FLOOR PLANS, DOOR SCHEDULE, WALL / FLOOR ASSEMBLIES
A-2	2 BEDROOM UNIT - ELEVATIONS, SECTIONS
A-3	3 BEDROOM UNIT - FLOOR PLANS, DOOR SCHEDULE, WALL / FLOOR ASSEMBLIES
A-4	3 BEDROOM UNIT - ELEVATIONS, SECTIONS
A-5	NOTES & DETAILS
B1/4-1	BLOCKS 1&4 - FOUNDATION PLAN & ELEVATIONS
B1/4-2	BLOCK 1&4 - LOWER & UPPER UNIT FLOOR PLANS
B3/5-1	BLOCKS 3&5 - FOUNDATION PLAN & ELEVATIONS
B3/5-2	BLOCK 3&5 - LOWER & UPPER UNIT FLOOR PLANS
B2-1	BLOCK 2 - FOUNDATION PLAN & ELEVATIONS
B2-2	BLOCK 2 - LOWER & UPPER UNIT FLOOR PLANS
B6-1	BLOCK 6 - FOUNDATION PLAN & ELEVATIONS
B6-2	BLOCK 6 - LOWER & UPPER UNIT FLOOR PLANS
AB-1	ACCESSORY BUILDING - FLOOR PLANS & NOTES
AB-2	ACCESSORY BUILDING - ELEVATIONS & SECTIONS

Name of Practice:  
M. DAVID BLAKELY ARCHITECT INC.  
2200 Prince of Wales Dr, Suite 101  
Ottawa, Ontario, K2E 6Z9

Name of Project:  
Back to Back Terrace Homes  
Trailsedge 12 Unit Block - Blocks 1, 2, 3, 4 & 5

Location:  
Ottawa, Ontario

Date: Feb. 15, 2018.

Ontario Building Code Matrix Part 9 Housing and Small Buildings			Building Code Reference
9.00	Building Code Version:	O. Reg. 332/12	Last Amendment O. Reg. 191/14
9.01	Project Type:	<input checked="" type="checkbox"/> New <input type="checkbox"/> Addition <input type="checkbox"/> Renovation <input type="checkbox"/> Change of Use <input type="checkbox"/> Addition and renovation Description: 'C' RESIDENTIAL (Stacked Row Houses)	[A] 1.1.2.
9.02	Major Occupancy Classification:	Occupancy 2 STOREY, GROUP C Use Stacked Row Houses	9.10.2.
9.03	Superimposed Major Occupancies:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Description: n/a	9.10.2.3.
9.04	Building Area (m²)	Description: Main Building Existing 0.00m² New 342.3m² Total 342.3m² Total: 0.00m² 342.3m² 342.3m²	[A] 1.4.1.2.
9.05	Gross Area (m²)	Description: Main Building Existing 0.00m² New 1.374.6m² Total 1.374.6m² Total: 0.00m² 1.374.6m² 1.374.6m²	[A] 1.4.1.2.
9.06	Mezzanine Area (m²)	Description: Existing 0.00m² New 0.00m² Total 0.00m² Total: 0.00m² 0.00m² 0.00m²	9.10.4.1.
9.07	Building Height	3 Storeys above grade 4.01 (m) above grade 2 Storeys below grade	[A] 1.4.1.2. & 9.10.4.
9.08	Number of Streets/Firefighter Access	2_ Street(s)	9.10.20.
9.09	Sprinkler System	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required <input type="checkbox"/> Proposed <input type="checkbox"/> Entire building <input type="checkbox"/> Selected compartments <input type="checkbox"/> In lieu of roof rating <input checked="" type="checkbox"/> None	9.10.8.2.4.
9.10	Fire Alarm System	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required <input type="checkbox"/> Proposed <input type="checkbox"/> Single stage <input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Two stage	9.10.18.
9.11	Water Service/Supply is Adequate	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
9.12	Construction type:	Restriction: <input checked="" type="checkbox"/> Combustible permitted <input type="checkbox"/> Non-combustible required Actual: <input checked="" type="checkbox"/> Combustible <input type="checkbox"/> Non-Combustible <input type="checkbox"/> Combination Heavy Timber Construction: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	9.10.6.
9.13	Post-Disaster Building	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	[A] 1.1.2.2.(2)
9.14	Occupant Load	Floor Level/ Area Occupancy Type Based On Occupant Load (Persons) Basement C 12 Ground C 0 Second C 0 Third C 16 Total C 28	3.1.17.

9.15	Barrier-free Design:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Explanation 9.5.2.1.(2)	9.5.2.																																										
9.16	Hazardous Substances:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Explanation	9.10.1.3.																																										
9.17	Required Fire Resistance Ratings	<table border="1"> <thead> <tr> <th>Horizontal Assembly Rating (H)</th> <th>Rating (H)</th> <th>Listed Design No. or Description (SB-2) or (S8-3)</th> <th>Non-combustible in lieu of rating<sup>2</sup></th> </tr> </thead> <tbody> <tr> <td>Floors over basement</td> <td>1</td> <td>TMJ/FCA 60-01 (WARNOCK HERSEY) or NORDIC/FCA 60-02 (INTERTEK ENGINEERING) F.R.R. (S8-2)</td> <td><input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A</td> </tr> <tr> <td>Mezzanine</td> <td>n/a</td> <td></td> <td><input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A</td> </tr> <tr> <td>Roof</td> <td>0</td> <td></td> <td><input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A</td> </tr> </tbody> </table>	Horizontal Assembly Rating (H)	Rating (H)	Listed Design No. or Description (SB-2) or (S8-3)	Non-combustible in lieu of rating <sup>2</sup>	Floors over basement	1	TMJ/FCA 60-01 (WARNOCK HERSEY) or NORDIC/FCA 60-02 (INTERTEK ENGINEERING) F.R.R. (S8-2)	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A	Mezzanine	n/a		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A	Roof	0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A	9.10.8. 9.10.9. 3.2.1.4. 3.2.2.20. - .83																											
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9.18	Spatial Separation	* SEE BLOCK ELEVATIONS		9.10.14.. 9.10.15..																																										
9.19	Plumbing Fixture Requirements	Ratio: Male: Female = 50:50 Except as noted otherwise Floor Level/ Area Occupant O.s.c. Fixtures Required Fixtures Provided	9.31. & 3.7.4. Building 28 3.7.4. 3 32																																											
9.20	Energy Efficiency	<table border="1"> <thead> <tr> <th>Category:</th> <th>SB-10 Prescriptive (Div.4)</th> <th>SB-10 Performance (Div.2)</th> <th>SB-10 Performance (Div.2)</th> </tr> </thead> <tbody> <tr> <td>Non-Residential Compliance Option:</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Residential Compliance Option:</td> <td><input checked="" type="checkbox"/> SB-12 Prescriptive Compliance Packages <input type="checkbox"/> SB-12 Performance Compliance <input type="checkbox"/> SB-12 Other: Energy Star for New Homes <input type="checkbox"/> EnerGuide for New Homes</td> <td></td> <td></td> </tr> <tr> <td>Climatic Zone:</td> <td>Project Design Conditions Zone 1 (1500 degree days)</td> <td></td> <td></td> </tr> <tr> <td>Penetration:</td> <td>Gross Above Grade Wall Area (m²)</td> <td>Gross Below Grade Wall Area (m²)</td> <td>Penetration Ratio</td> </tr> <tr> <td>Vertical (W+D)</td> <td>Grade Wall or Fenestration Area (m²)</td> <td>Roof Area (m²)</td> <td>See Calculations on Drawings A1 &amp; A3 &lt;17%</td> </tr> <tr> <td>Skylights:</td> <td>Natural Gas Oil Electricity</td> <td>Propane Solid Fuel</td> <td>&gt; 90% AFUE &lt; 75% &lt; 90% AFUE</td> </tr> <tr> <td>Space Heating Fuel</td> <td></td> <td></td> <td>Earth energy</td> </tr> <tr> <td>Heating Equipment Efficiency:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other Conditions:</td> <td><input type="checkbox"/> ICF Basement <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> Walk-out Basement <input type="checkbox"/> Slab-on-Ground <input type="checkbox"/> Log/ Post &amp; Beam <input type="checkbox"/> Blow-in Insulation <input type="checkbox"/> Heavy Timber Construction: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Above Grade Wall <input type="checkbox"/> Spray-applied Foam <input type="checkbox"/> Water Heat Recovery Unit <input type="checkbox"/> Insulation Above Grade Wall</td> <td></td> </tr> <tr> <td>Compliance Package:</td> <td>A-1</td> <td></td> <td>Provided</td> </tr> </tbody> </table>	Category:	SB-10 Prescriptive (Div.4)	SB-10 Performance (Div.2)	SB-10 Performance (Div.2)	Non-Residential Compliance Option:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residential Compliance Option:	<input checked="" type="checkbox"/> SB-12 Prescriptive Compliance Packages <input type="checkbox"/> SB-12 Performance Compliance <input type="checkbox"/> SB-12 Other: Energy Star for New Homes <input type="checkbox"/> EnerGuide for New Homes			Climatic Zone:	Project Design Conditions Zone 1 (1500 degree days)			Penetration:	Gross Above Grade Wall Area (m²)	Gross Below Grade Wall Area (m²)	Penetration Ratio	Vertical (W+D)	Grade Wall or Fenestration Area (m²)	Roof Area (m²)	See Calculations on Drawings A1 & A3 <17%	Skylights:	Natural Gas Oil Electricity	Propane Solid Fuel	> 90% AFUE < 75% < 90% AFUE	Space Heating Fuel			Earth energy	Heating Equipment Efficiency:				Other Conditions:	<input type="checkbox"/> ICF Basement <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> Walk-out Basement <input type="checkbox"/> Slab-on-Ground <input type="checkbox"/> Log/ Post & Beam <input type="checkbox"/> Blow-in Insulation <input type="checkbox"/> Heavy Timber Construction: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Above Grade Wall <input type="checkbox"/> Spray-applied Foam <input type="checkbox"/> Water Heat Recovery Unit <input type="checkbox"/> Insulation Above Grade Wall		Compliance Package:	A-1		Provided	12.2.1.
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Compliance Package:	A-1		Provided																																											
9.21	Notes:	9.10.9.1.13 SEPARATION OF SUITES- 1 HR SG TABLE 8.1 WALL TYPE-W13a - STC-57 W8 - BETWEEN SUITE AND STAIR - SG TABLE 8.1 - WALL TYPE W8a																																												

ENERGY EFFICIENT DESIGN	
SB-12 - 3.1.1.2.A	PACKAGE - A1
REQUIRED:	PROVIDED:
CEILING WITH ATTIC - R-60	R-60
CEILING WITHOUT ATTIC SPACE - R-31	R-31
EXPOSED FLOOR - R-31 Min.	R-31
WALLS ABOVE GRADE - R-22	R-22
BASEMENT WALLS - R-12 + R-10ci (6)	R-12+R-10ci
WINDOWS & SLIDING GLASS DOORS - U = 1.8 Max	1.8
FURNACE - Min AFUE = 96 %	96 %
HRV - Min EFFICIENCY = 75 %	75 %
HOT WATER HEATER - Min EFFICIENCY = 0.8	0.83
DWH - Min EFFICIENCY = 42 %	42 %



M. David Blakely  
Architect Inc.  
2200 Prince of Wales Dr., Suite 101  
Ottawa, Ontario K2E 6Z9  
Phone (613) 226-8811 Fax (613) 226-7942

GENERAL NOTES:  
1. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS, ANY DISCREPANCY MUST BE REPORTED TO M. DAVID BLAKELY ARCHITECT INC.  
2. ALL WORK AND MATERIALS TO BE IN COMPLIANCE WITH ALL CODES, REGULATIONS, AND STANDARDS.  
3. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST THE PROPER EXECUTION OF THE DRAWINGS. THESE WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE PLANS IN ONE DOCUMENT.  
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POST SCHEDULE  
P1 - 3 DIA. ADJUSTABLE STEEL TELEPOST  
P2 - 2'-2"X4 OR 8" (AS APPLICABLE)  
P3 - 2'-2"X4 OR 8" (AS APPLICABLE)  
P4 - 4'-2"X4 OR 8" (AS APPLICABLE)  
P5 - 5'-2"X4 OR 8" (AS APPLICABLE)  
P6 - 6'-2"X4 OR 8" (AS APPLICABLE)  
P7 - 7'-2"X4 OR 8" (AS APPLICABLE)  
P8 - 8'-2"X4 OR 8" (AS APPLICABLE)  
P9 - 9'-2"X4 OR 8" (AS APPLICABLE)  
P10 - 10'-2"X4 OR 8" (AS APPLICABLE)

OPENING UP TO ANGLE SIZE  
5'-0" L 3 1/2"X3 1/2"X5/16"  
7'-0" L 3 1/2"X3 1/2"X5/16"  
8'-0" L 5X3 1/2"X5/16"  
9'-0" L 5X3 1/2"X3/8"  
10'-0" L 6X3 1/2"X3/8"

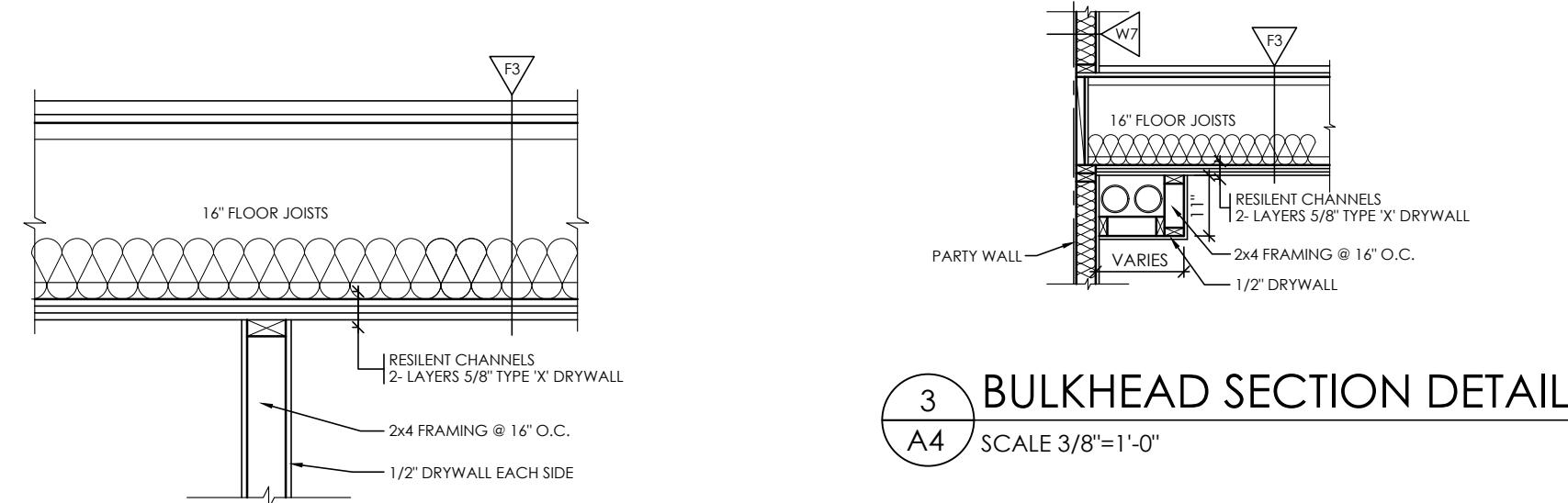
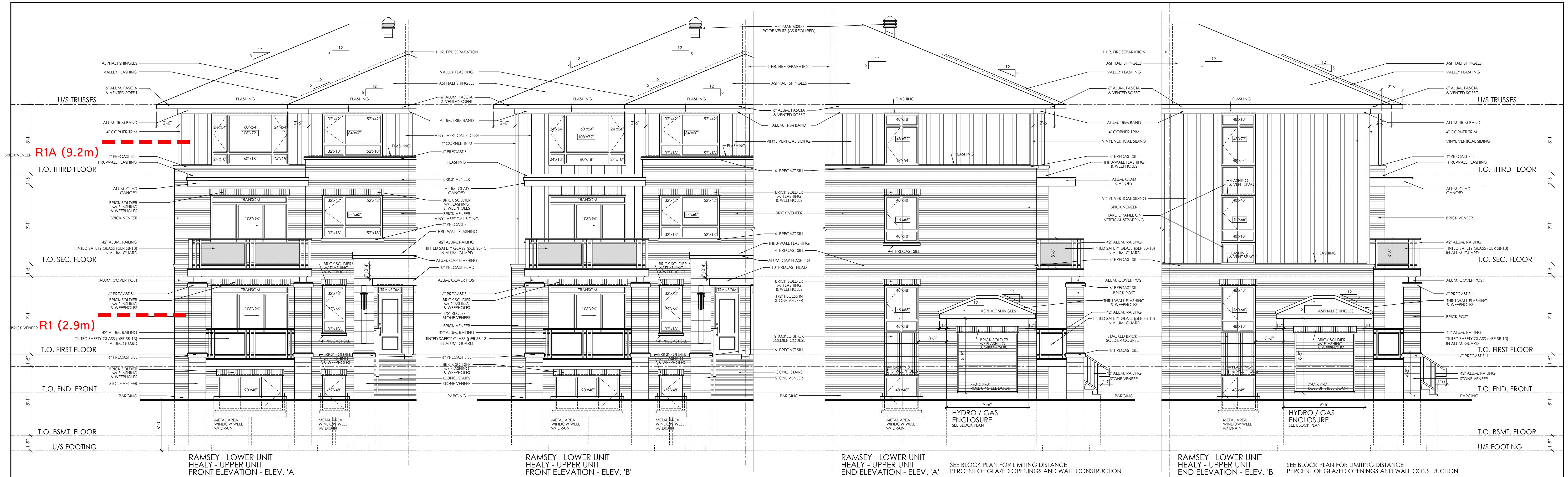
BICK LINTEL SCHEDULE

STRUCTURAL ENGINEER:  
**CIMA**  
STRUCTURAL ENGINEER  
240 Carling Avenue  
Suite 110  
Ottawa, Ont. K2B 2G8



ARCHITECT SEAL:  
M. DAVID BLAKELY  
LICENCE 3658

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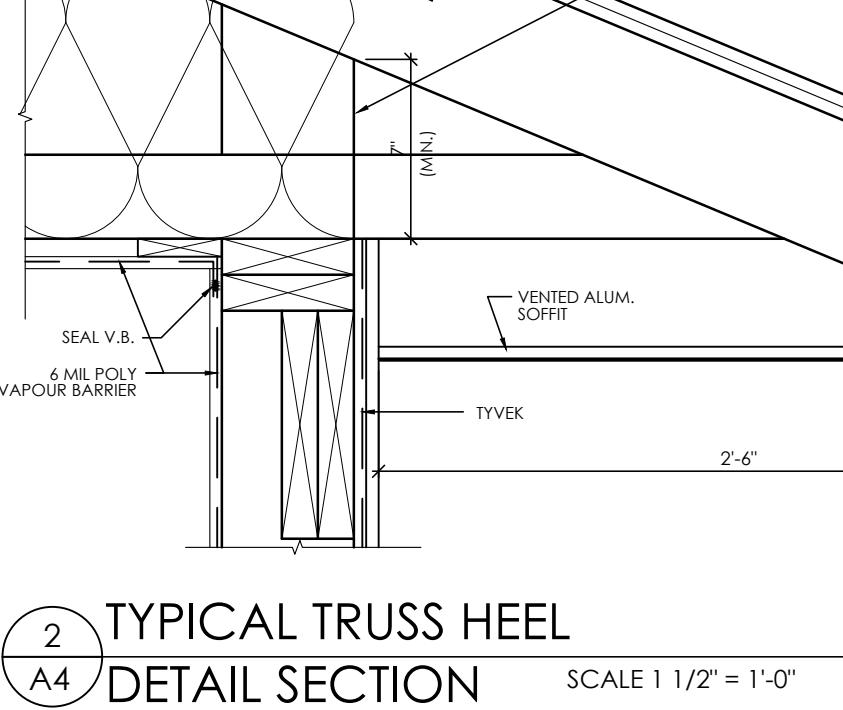


1 PARTITION WALL (NON LOAD BEARING)  
SECTION DETAIL  
SCALE 3/4"=1'-0"

3 BULKHEAD SECTION DETAIL  
A4 SCALE 3/8"=1'-0"



2 TYPICAL TRUSS HEEL  
DETAIL SECTION  
SCALE 1 1/2"= 1'-0"



4 PLUMBING STACK DETAILS  
A4 SCALE 3/4"=1"-0"

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2200 Prince of Wales Dr., Suite 101  
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POST SCHEDULE  
P1 - 3" DIA. ADJUSTABLE STEEL TELEPOLE  
8500 POUND CAP. (MIN.)  
P2 - 2'-2"X4" OR 8" (AS APPLICABLE)  
P3 - 2'-2"X4" OR 8" (AS APPLICABLE)  
P4 - 4'-2"X4" OR 8" (AS APPLICABLE)  
P5 - 5'-2"X4" OR 8" (AS APPLICABLE)  
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P7 - 6'-2"X4" OR 8" (AS APPLICABLE)  
P8 - 6'-2"X4" OR 8" (AS APPLICABLE)

OPENING

UP TO

L 3 1/2"X3 1/2"X5/16"  
7'-0"  
8'-0"  
9'-0"  
10'-0"

ANGLE SIZE

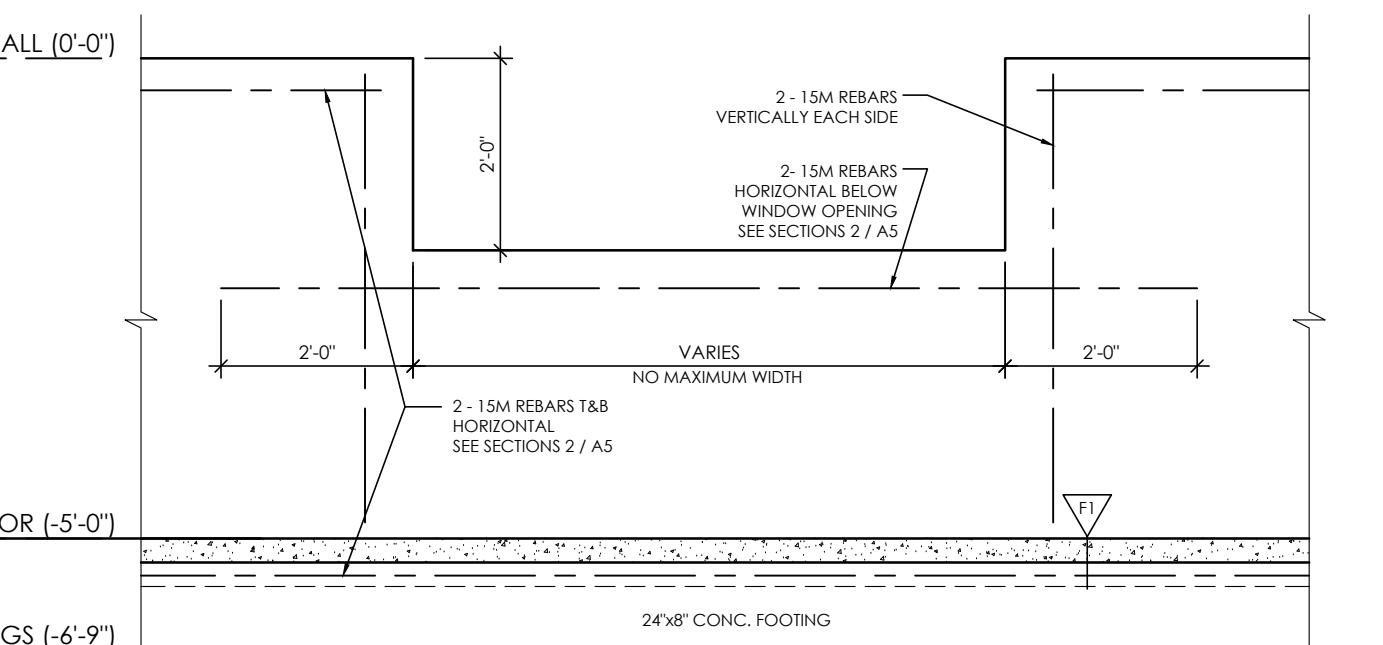
5"-0"

L 4 1/2"X3 1/2"X5/16"  
7'-0"  
8'-0"  
9'-0"  
10'-0"

L 5 1/2"X3 1/2"X5/16"  
7'-0"  
8'-0"  
9'-0"  
10'-0"

L 5 1/2"X3 1/2"X3/8"  
L 6"X4 3/8"

5 WINDOW CHECK DETAIL  
A4 SCALE 1/2"= 1'-0"

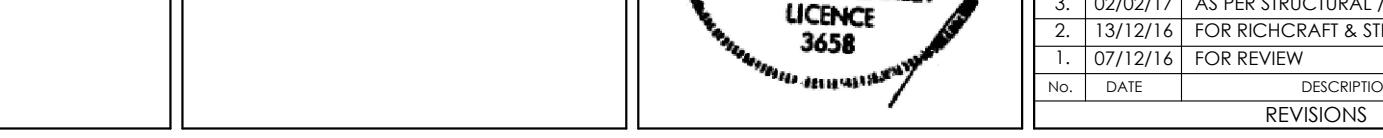
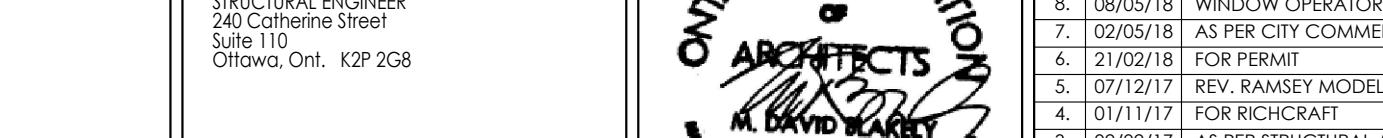
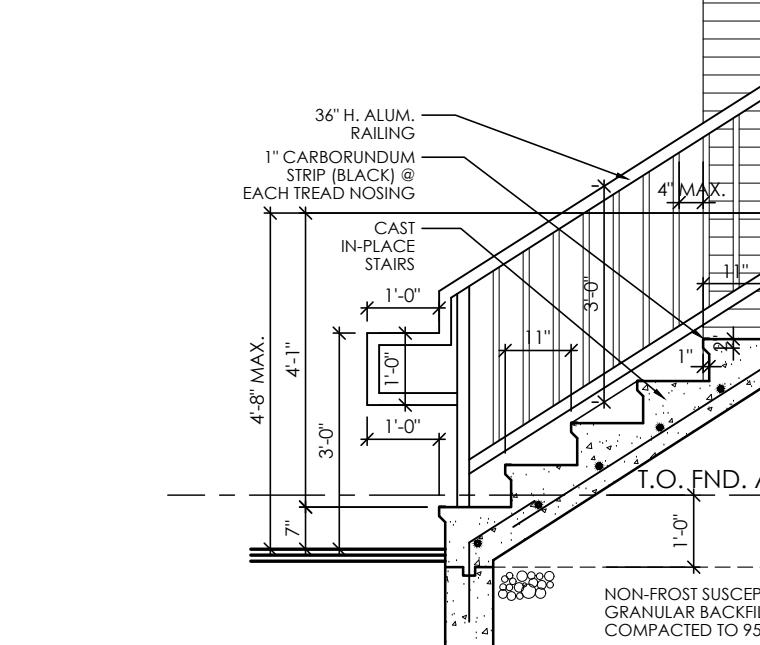
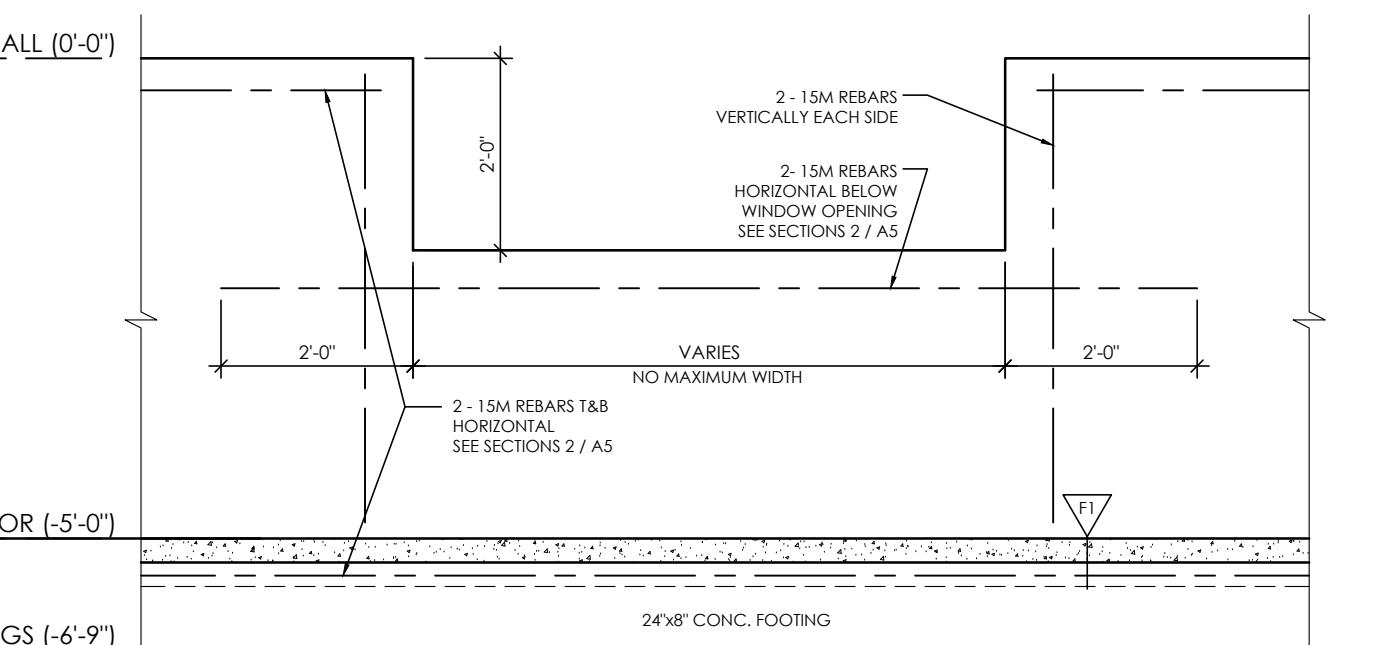


6 BSMT. WINDOW JAMB DETAIL  
at CONC. FND. WALL  
A4 SCALE 1"= 1'-0"

7 BSMT. WINDOW JAMB DETAIL  
w/ BRICK ABV. CONC., SCALE 1"= 1'-0"

8 BSMT. WINDOW SILL DETAIL  
A4 SCALE 1"= 1'-0"

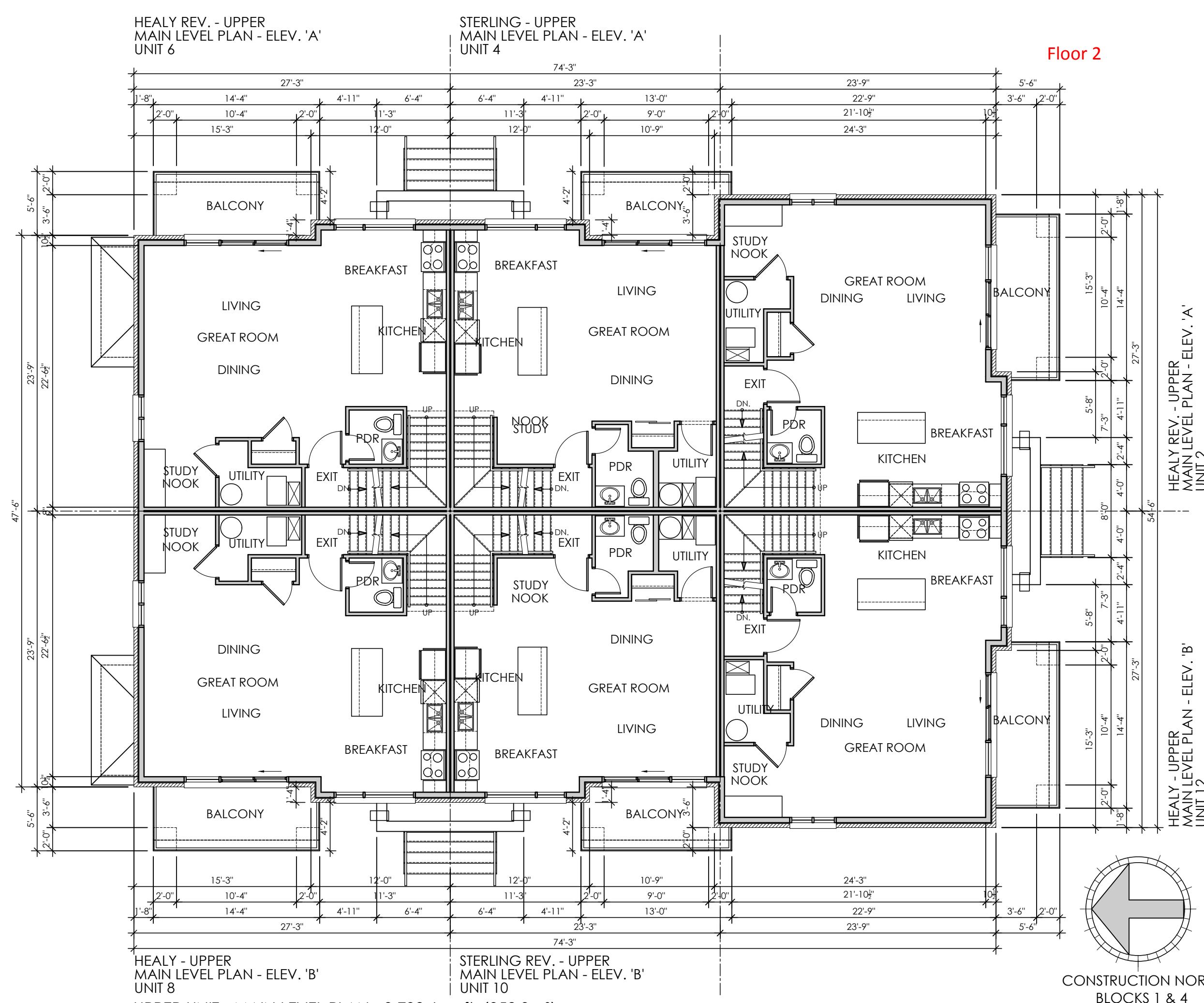
9 FRONT PORCH SLAB SECTION  
A4 SCALE 3/8"=1"-0"



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POST SCHEDULE  
 P1 - 3" DIA. ADJUSTABLE STEEL TELEPOST 8500 POUND CAP. [MIN.]  
 P2 - 3" X 3" C/W 5X18" B. & CAP PL. [APPLICABLE]  
 P3 - 3-1/2" X 4" OR 8" [AS APPLICABLE]  
 P4 - 4-1/2" X 6" OR 8" [AS APPLICABLE]  
 P5 - 4-1/2" X 8" [AS APPLICABLE]  
 P6 - HSS 3" X 3" X 1-1/8" C/W 5X18" B. & CAP PL.  
 BRICK LINTEL SCHEDULE  
 OPENING UP TO ANGLE SIZE  
 7'-0" L3 1/2" X 1/2" X 5/16"  
 8'-0" L4 3/8" X 1/2" X 5/16"  
 9'-0" L5 3/8" X 1/2" X 3/8"  
 10'-0" L6 4x3 5/8"

Floor 2

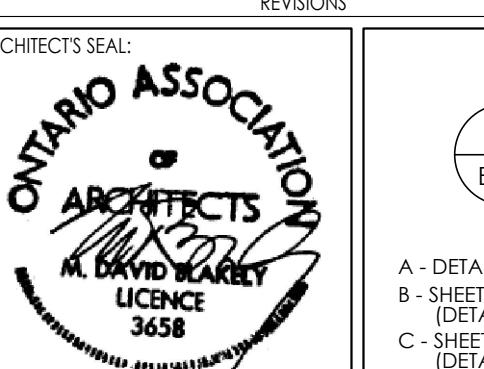


HEALY REV. - UPPER MAIN LEVEL PLAN - ELEV. 'A' UNIT 6  
 EVEREST REV. - LOWER MAIN LEVEL PLAN - ELEV. 'A' UNIT 3  
 STERLING REV. - UPPER MAIN LEVEL PLAN - ELEV. 'A' UNIT 4  
 RAMSEY REV. - LOWER MAIN LEVEL PLAN - ELEV. 'A' UNIT 5  
 RAMSEY REV. - LOWER MAIN LEVEL PLAN - ELEV. 'B' UNIT 7  
 EVEREST REV. - LOWER MAIN LEVEL PLAN - ELEV. 'B' UNIT 9  
 RAMSEY LOWER MAIN LEVEL PLAN - ELEV. 'A' UNIT 11  
 RAMSEY LOWER MAIN LEVEL PLAN - ELEV. 'B' UNIT 11  
 LOWER UNIT - LOWER LEVEL PLAN - 3,636.8 sq.ft. (337.8m²)

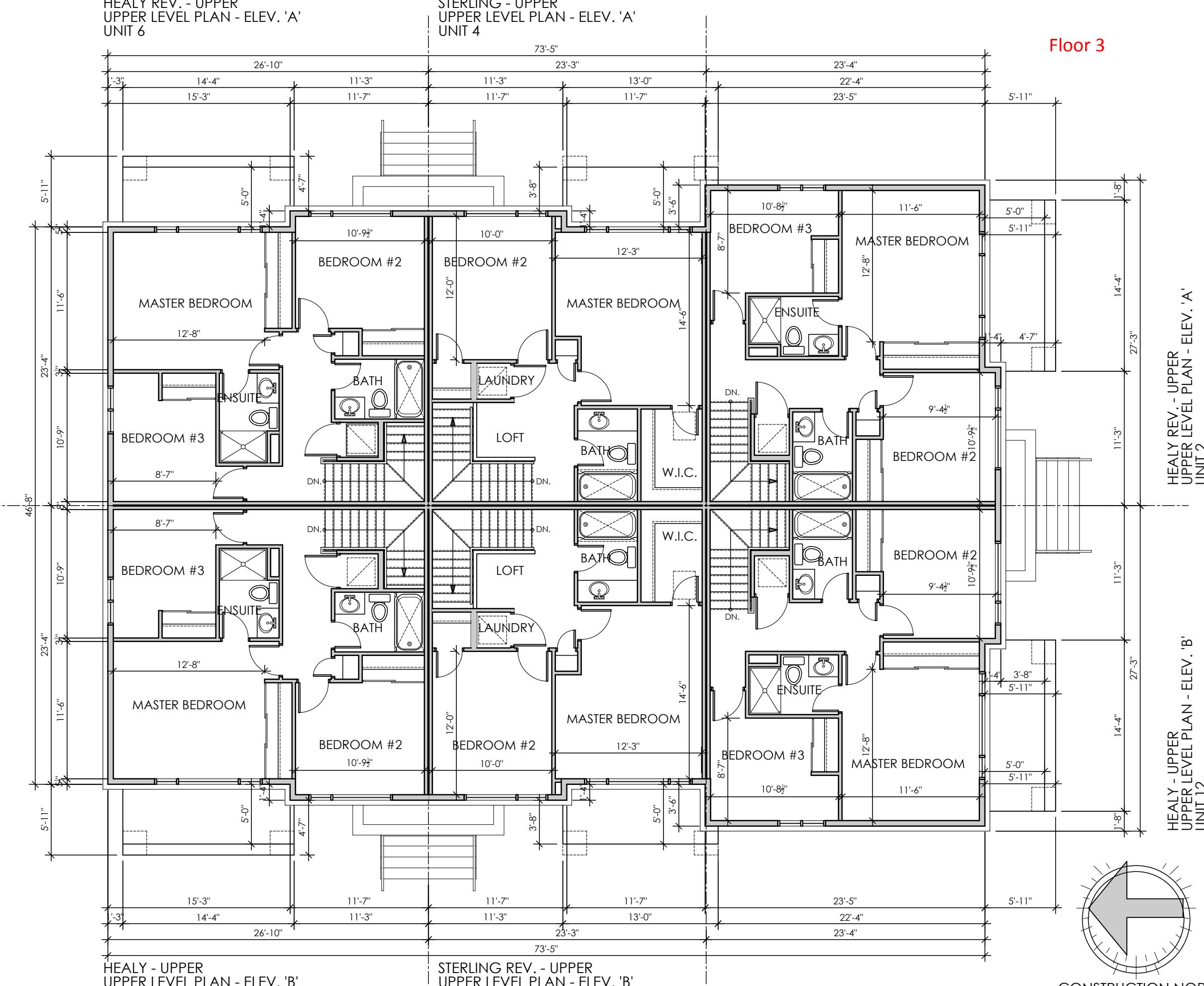
HEALY REV. - UPPER MAIN LEVEL PLAN - ELEV. 'A' UNIT 2  
 EVEREST REV. - LOWER MAIN LEVEL PLAN - ELEV. 'B' UNIT 8  
 STERLING REV. - UPPER MAIN LEVEL PLAN - ELEV. 'B' UNIT 10  
 RAMSEY LOWER MAIN LEVEL PLAN - ELEV. 'A' UNIT 1  
 RAMSEY LOWER MAIN LEVEL PLAN - ELEV. 'B' UNIT 1  
 LOWER UNIT - MAIN LEVEL PLAN - 3,792.6 sq.ft. (352.3m²)

CONSTRUCTION NORTH BLOCKS 1 & 4  
 CONSTRUCTION NORTH BLOCKS 1 & 12

10.	
9.	
8.	
7.	
6.	
5.	
4.	
3.	
2.	21/02/18 FOR PERMIT
1.	15/02/18 FOR REVIEW
	NO. DATE DESCRIPTION
	REVISIONS

ARCHITECT'S SEAL:  
  
 A - DETAIL NUMBER  
 B - SHEET NUMBER  
 C - SECTION NUMBER (DETAIL LOCATION)

Floor 3

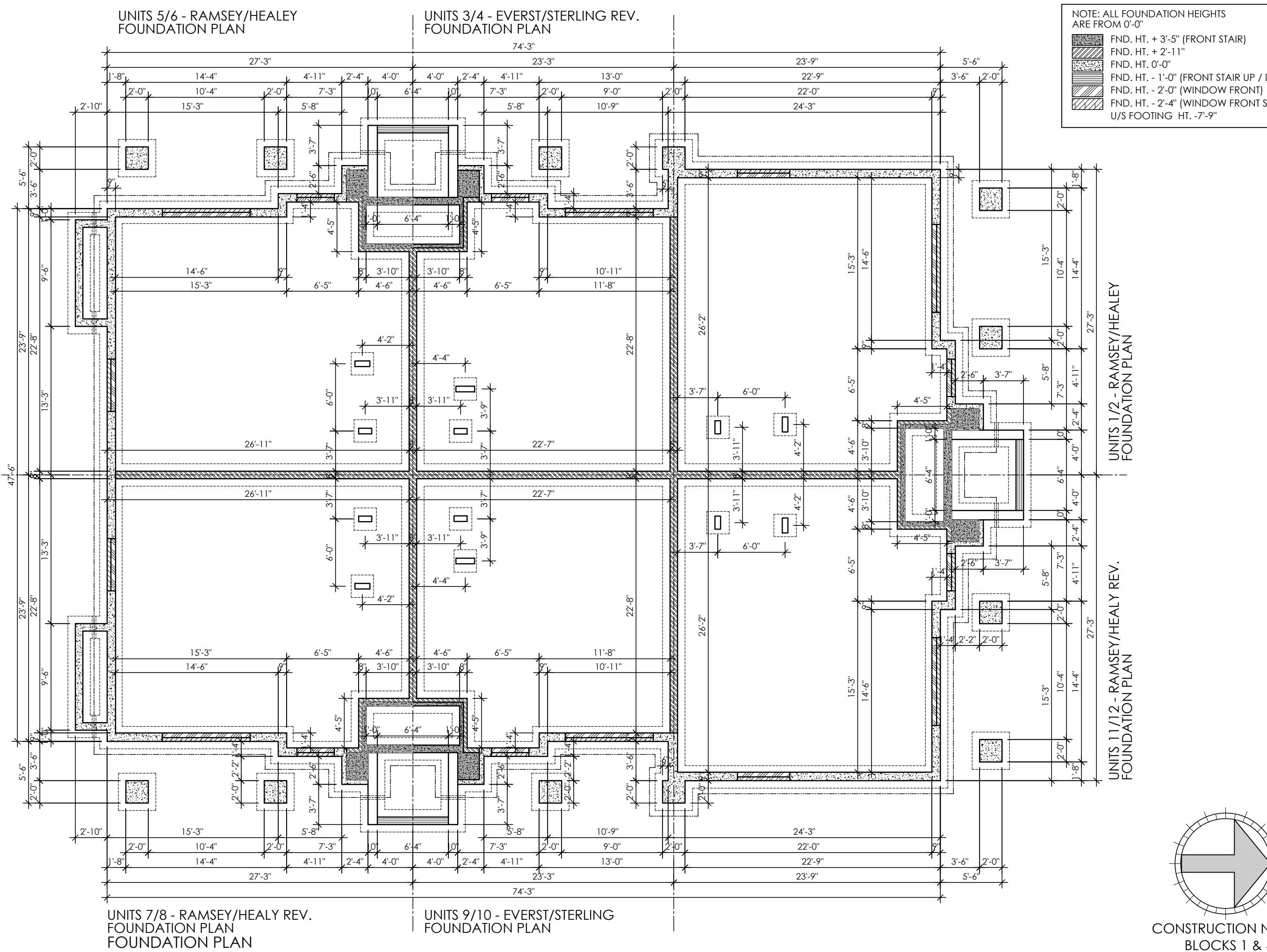


HEALY REV. - UPPER UPPER LEVEL PLAN - ELEV. 'A' UNIT 6  
 EVEREST REV. - LOWER LOWER LEVEL PLAN - ELEV. 'A' UNIT 3  
 STERLING REV. - UPPER UPPER LEVEL PLAN - ELEV. 'A' UNIT 4  
 RAMSEY REV. - LOWER LOWER LEVEL PLAN - ELEV. 'A' UNIT 5  
 RAMSEY LOWER LOWER LEVEL PLAN - ELEV. 'B' UNIT 7  
 EVEREST REV. - LOWER LOWER LEVEL PLAN - ELEV. 'B' UNIT 9  
 RAMSEY LOWER LOWER LEVEL PLAN - ELEV. 'A' UNIT 11  
 RAMSEY LOWER LOWER LEVEL PLAN - ELEV. 'B' UNIT 11  
 LOWER UNIT - MAIN LEVEL PLAN - 3,684.6 sq.ft. (342.3m²)

HEALY REV. - UPPER UPPER LEVEL PLAN - ELEV. 'A' UNIT 2  
 EVEREST REV. - LOWER LOWER LEVEL PLAN - ELEV. 'B' UNIT 8  
 STERLING REV. - UPPER UPPER LEVEL PLAN - ELEV. 'B' UNIT 10  
 RAMSEY LOWER LOWER LEVEL PLAN - ELEV. 'A' UNIT 1  
 RAMSEY LOWER LOWER LEVEL PLAN - ELEV. 'B' UNIT 1  
 LOWER UNIT - UPPER LEVEL PLAN - 3,682.3 sq.ft. (342.1m²)

CONSTRUCTION NORTH BLOCKS 1 & 4  
 CONSTRUCTION NORTH BLOCKS 1 & 12

PROJECT: TERRACE BACK TO BACK TRAILSEDGE WEST OTTAWA, ONTARIO  
 CLIENT: RICHCRAFT Group Of Companies  
 DRAWING TITLE: BLOCKS 1 & 4 LOWER UNIT FLOOR PLANS, UPPER UNIT FLOOR PLANS  
 DATE: DEC., 2016. SCALE: 1/8" = 1'-0" SHEET NO.: B1/4-2  
 DRAWN BY: SBM CHECKED: MDB



CONSTRUCTION NORTH  
BLOCKS 1 & 4



SOUTH ELEVATION - BLOCKS 1 & 4

BLOCK 1

LIMITING DISTANCE = 3.91m  
AREA OF EXPOSED BUILDING FACE (AREA 'A') = 433 sq.ft. (40.2m<sup>2</sup>)  
MAXIMUM PERMITTED U.P.O. = 55% (9.10.14.4)  
AREA OF U.P.O. = 39.0 sq.ft. (3.6m<sup>2</sup>)  
PERCENT OF U.P.O. = 8.9%

REQUIRED WALL CONSTRUCTION (9.10.14.5)

- 3/4 HOUR FIRE RESISTANCE RATING  
- COMBUSTIBLE CONSTRUCTION  
- COMBUSTIBLE CLADDING

BLOCK 4

LIMITING DISTANCE = 4.98m  
AREA OF EXPOSED BUILDING FACE (AREA 'A') = 433 sq.ft. (40.2m<sup>2</sup>)  
MAXIMUM PERMITTED U.P.O. = 50% (9.10.14.4)  
AREA OF U.P.O. = 39.0 sq.ft. (3.6m<sup>2</sup>)  
PERCENT OF U.P.O. = 8.9%

REQUIRED WALL CONSTRUCTION (9.10.14.5)

- 3/4 HOUR FIRE RESISTANCE RATING  
- COMBUSTIBLE CONSTRUCTION  
- COMBUSTIBLE CLADDING

HYDRO/GAS ENCLOSURE

LIMITING DISTANCE = 3.05m (BLOCK 1)  
AREA OF EXPOSED BUILDING FACE = 90.2 sq.ft. (8.4m<sup>2</sup>)  
MAXIMUM PERMITTED U.P.O. = 55% (9.10.14.4)  
AREA OF U.P.O. = 48.4 sq.ft. (4.5m<sup>2</sup>)  
PERCENT OF U.P.O. = 54%

LIMITING DISTANCE = 4.12m (BLOCK 4)  
AREA OF EXPOSED BUILDING FACE = 90.2 sq.ft. (8.4m<sup>2</sup>)  
MAXIMUM PERMITTED U.P.O. = 56% (9.10.14.4)  
AREA OF U.P.O. = 48.4 sq.ft. (4.5m<sup>2</sup>)  
PERCENT OF U.P.O. = 54%

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix C : Noise Warning Clauses  
November 15, 2018

**Appendix C : NOISE WARNING CLAUSES**

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix C : Noise Warning Clauses  
November 15, 2018

**WARNING CLAUSES**

The following warning clauses may be used individually or in combination:

**Generic Indoor:**

Indoor environment -  $L_{eq}(16)$  greater than 55 dBA and less than or equal to 65 dBA or ( $L_{eq}(8)$ ) greater than 50dBA and less than or equal to 60 dBA

To help address the need for sound attenuation this development has been designed so as to provide an indoor environment that is within provincial guidelines. Measures for sound attenuation include:

- the provision for adding central air conditioning at the occupant's discretion.

Installation of central air conditioning will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City of Ottawa and the Ministry of the Environment Conservation and Parks.

**Extensive Mitigation of Indoor Area:**

Indoor environment -  $L_{eq}(16)$  greater than 65 dBA or ( $L_{eq}(8)$ ) greater than 60dBA

To help address the need for sound attenuation this development has been designed so as to provide an indoor environment that is within provincial guidelines. Measures for sound attenuation include:

- multi-pane glass;
- exterior wall insulation;
- a forced central air conditioning system.

To ensure that provincial sound level limits are not exceeded, it is important to maintain these sound attenuation features.

This dwelling unit has been supplied with a forced central air conditioning system and other measures which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City of Ottawa and the Ministry of the Environment Conservation and Parks.

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix C : Noise Warning Clauses  
November 15, 2018

**Aircraft Noise:**

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

Source: City of Ottawa - Environmental Noise Control Guidelines, January 2016 and Ontario Ministry of the Environment, Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning Publication NPC-300, Queen's Printer for Ontario, 2013

**NOISE ASSESSMENT REPORT -  
801 RALPH HENNESSY AVENUE (BLOCK 221 RIVERSIDE SOUTH PHASE 8)**

Appendix D : Aircraft Noise Constraints Map  
November 15, 2018

**Appendix D : AIRCRAFT NOISE CONSTRAINTS MAP**

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