Addendum Stationary Noise Impact Study

6-14 Dietz Avenue, Waterloo, Ontario

JJ-00522-NIS1

March 5, 2026, Reference No. JJ-00522-ADD

Brent Paradis
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Dear Mr. Paradis:

Re: Stationary Noise Impact Study
6-14 Dietz Avenue North, Waterloo, Ontario

1. Introduction

JJ Acoustic Engineering Ltd. (JJAE) was retained to complete an addendum to our Road Traffic and Stationary Noise Impact Study reference number JJ-00522 6-14 Dietz Avenue North Noise Impact study dated February 7th, 2024, for a 12-storey condominium building located 6-14 Dietz Avenue North in Waterloo, Ontario (Site). This letter is an addendum to the Study to comment about the noise impact from the Site mechanical equipment to the neighboring buildings and self-contamination. All information about the Site and the remaining information about the traffic and stationary noise impacts can be found in the JJAE Study referenced above.

The Study was prepared consistent with Ontario Ministry of the Environment, Conservation and Park (MOECP) NPC 300, "Environmental Noise Guideline, Stationary and Transportation Sources– Approval and Planning" dated August 2013, The Regional Municipality of Waterloo Noise Policy Implementation Guideline dated October 22, 2019, and City of Waterloo Terms of Reference (TOR).

This Study has determined that the potential environmental noise impact from onsite stationary noise is significant. The proposed development will need the following: a requirement for a silencer for the parking exhaust fan.

The following attachments were included with this Study:

- Attachment A – Site Plan
- Attachment B – Stationary Noise Impact Figures
- Attachment C – Stationary Noise Impact Source Table
- Attachment D – Owners Statement
- Attachment E – Consultant's Declaration

1.1 Stationary Noise Impact Sound Level Criteria

The general criteria for stationary noise sources are defined by NPC 300. The criteria defined in Table C-5 and C-6, "Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA) Outdoor Points of Reception" and "Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq, dBA) Plane of Window of Noise Sensitive Spaces" are used to evaluate the noise impact at the proposed development.

The criteria for a Class 1 area have been summarized below:

Receiver Category	**Time Period**	**Stationary Noise Criteria**
Outdoor Living Area (OLA)	Day = 7:00 to 23:00	Leq = 50 dBA
Plane of Window (POW)	Day = 7:00 to 23:00	Leq = 50 dBA
	Night = 23:00 to 7:00	Leq = 45 dBA

1.2 Modelling Methodology

The stationary noise impact was evaluated using the CADNA A acoustic modelling software that is based on the ISO 9613-2 standard. The data for all potential stationary noise sources was summarized in Attachment D.

JJAE used the following assumptions in our Cadna A model:

- **Ground Absorption**: Default ground absorption coefficient of 0.7 was used.
- **Temperature**: 10℃
- **Humidity**: 70%
- **Building Reflection Coefficient**: Absorption Coefficient Alpha of 0.37 (Reflection Loss of 2dB, Structured Façade) was used.
- **Time-Weighted Adjustment:** where sources operate non-continuously JJAE has provided operating times and as shown in Sections 4 and 5.
- **Tonality**: A 5 dbA tonal penalty was applied to all tonal sources, where applicable. JJAE has provided a (T) for sources identified as tonal in Sections 4 and 5.
- **Reflection Order**: A maximum reflection order of 1 was used to evaluate indirect noise impact.
- **Quasi-steady Impulse:** A 10 dbA tonal penalty was applied to all quasi-steady impulsive sources, where applicable. JJAE has provided a (Q) for sources identified as quasi-steady impulsive in Sections 3

2. Noise Impact Summary – From Site to Environment

2.1 Noise Impact from the Onsite Generator to the Environment

JJAE modelled the noise impact of the emergency generator as shown in Figure 1. The MOECP's noise criteria for the periodic testing of emergency generators is to be no more than 5 dB above the quietest ambient sound level during the operation time. Normally, the testing occurs during the daytime period. The minimum daytime criterion is 55 dB Leq at the point of reception. It is assumed that the emergency generator is periodically tested during the daytime hours only.

The results of our modelling have been summarized below and illustrated on Attachment B - Figure 1.

- Onsite Generator (Steady)

Points Of Reception	Worst Case Emergency Sound Level (dBA)	Emergency Noise Limit (dBA)	Limits met
WCPOR1	50	55	Yes
POR 1	34	55	Yes
POR 2	45	55	Yes
POR 3	40	55	Yes
POR 4	38	55	Yes
POR 5	53	55	Yes
POR 6	34	55	Yes
POR 7	35	55	Yes
POR 8	36	55	Yes
OLA #1	<30	55	Yes
OLA #2	<30	55	Yes
OLA #3	<30	55	Yes
OLA #4	<30	55	Yes
OLA #5	32	55	Yes

OLA #6	<30	55	Yes

From the previous table it can be seen that all points of reception meet emergency noise limits.

3. Noise Impact Summary – From Site to Environment

JJAE has identified several onsite stationary noise sources:

- Onsite Large Heat Pump (60 minutes during the daytime, 30 minutes during the nighttime)
- Onsite Small Heat Pump (60 minutes during the daytime, 30 minutes during the nighttime)
- Onsite RTU-1 (Steady)
- Parking Garage Exhaust (GE) (60 minutes during the daytime, 40 during the nighttime)

A summary of the noise sources used in our modelling is provided in Attachment C.

JJAE modelled the noise impact from all significant noise sources located onsite. The results are summarized in the following table and illustrated in Attachment B - Figure 2a.

Points of Reception	Worst Case Daytime Sound Level (dBA)	Daytime Noise Limit (dBA)	Worst Case Nighttime Sound Level (dBA)	Nighttime Noise Limit (dBA)	Limits met
WCPOR	61	50	60	45	No
POR #1	40	50	38	45	Yes
POR #2	41	50	38	45	Yes
POR #3	38	50	35	45	Yes
POR #4	35	50	32	45	Yes
POR #5	48	50	45	45	Yes
POR #6	<30	50	<30	45	Yes
POR #7	<30	50	<30	45	Yes
POR #8	33	50	30	45	Yes
OLA #1	34	50	N/A	N/A	Yes
OLA #2	35	50	N/A	N/A	Yes
OLA #3	30	50	N/A	N/A	Yes
OLA #4	<30	50	N/A	N/A	Yes
OLA #5	46	50	N/A	N/A	Yes
OLA #6	41	50	N/A	N/A	Yes

It can be seen from the previous table that all the Worst-case point of reception are above noise impact limits. As such JJAE has designed a silencer for the parking garage exhaust.

	Insertion Losses							
Silencer	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
Silencer	9	12	13	15	16	15	14	12

The noise impact with the silencer is summarized in the following table and illustrated in Attachment B - Figure 2b.

Points of Reception	Worst Case Daytime Sound Level (dBA)	Daytime Noise Limit (dBA)	Worst Case Nighttime Sound Level (dBA)	Nighttime Noise Limit (dBA)	Limits met
WCPOR	47	50	45	45	Yes
POR #1	30	50	27	45	Yes
POR #2	39	50	36	45	Yes
POR #3	38	50	35	45	Yes
POR #4	35	50	32	45	Yes
POR #5	48	50	45	45	Yes
POR #6	<30	50	<30	45	Yes
POR #7	<30	50	<30	45	Yes
POR #8	33	50	30	45	Yes
OLA #1	32	50	N/A	N/A	Yes
OLA #2	<30	50	N/A	N/A	Yes
OLA #3	30	50	N/A	N/A	Yes
OLA #4	<30	50	N/A	N/A	Yes
OLA #5	32	50	N/A	N/A	Yes
OLA #6	<30	50	N/A	N/A	Yes

It can be seen in the previous table that with the silencer installed all points of reception are below noise limits.

4. Recommendations

The stationary noise impacts from the Site were evaluated and the sound level predictions were determined to be above the onsite noise impact limit. JJAE has designed a silencer for the parking garage exhaust fan.

	Insertion Losses							
Silencer	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
Silencer	9	12	13	15	16	15	14	12

With the silencer the predicted noise impact would be below noise limit.

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5. Conclusions

The results of this Study indicate that the potential environmental impact from stationary noise sources are significant. Mitigation measures will be required, including a silencer for the parking garage exhaust fan. With the mitigation measure discussed in Section 4, there will be minimal noise impact from the Site to the neighboring buildings and to itself.

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

Written by: Reviewed by:

Mar. 5, 2026



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ATTACHMENT A

6-14 DIETZ AVE MULTI-RES

6-14 DIETZ AVE. N., WATERLOO, ON
ISSUED FOR PERMIT/TENDER / 2025.11.28



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INTERIOR DESIGN
DORA CAR DESIGN

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ID2.4C LEVEL 3 AMENITY PCP
ID2.5 LEVELS 4-10 RCP
ID2.5B LEVEL 11 RCP
ID2.6 LEVEL 12 RCP
ID2.7 MECHANICAL PENTHOUSE RCP
ID3.01 PARKING LEVEL ELEVATOR LOBBY ELEVATIONS
ID3.02 LEVEL 1 MAIN LOBBY ELEVATIONS
ID3.03 LEVEL 1 MAIL ROOM ELEVATIONS
ID3.04 AMENITY - FITNESS ROOM ELEVATIONS
ID3.05 AMENITY - FITNESS ROOM MILLWORK DETAILS
ID3.06 AMENITY - WASHROOM (LEVEL 2 & 3) ELEVATIONS
ID3.07 AMENITY - SOCIAL LOUNGE ELEVATIONS & MILLWORK DETAILS
ID3.08 AMENITY - SOCIAL LOUNGE BAR ELEVATIONS & MILLWORK DETAILS
ID3.09 AMENITY - SOCIAL LOUNGE BAR AREA ELEVATIONS & MILLWORK DETAILS
ID3.10 TYPICAL SUITE LEVEL ELEVATOR LOBBY & CORRIDOR ELEVATIONS
ID3.11 SUITE ENTRY MILLWORK DETAILS
ID3.12 CEILING TYPE DETAILS
ID4.01 SUITE 1A-1B
ID4.02 SUITE 1C-1D-1E
ID4.03 SUITE 1F-2A
ID4.04 SUITE 2B-2C
ID4.05 SUITE 2D-2E
ID4.06 SUITE 2F-2G
ID4.07 SUITE 2H-2I
ID4.08 SUITE 3AA-3A
ID4.09 SUITE 3B-3C
ID4.10 TOWNHOUSE 01
ID4.11 TOWNHOUSE 02
ID4.12 TOWNHOUSE 03
ID5.01-06 SUITE KITCHEN CABINETRY
ID5.10-12 SUITE KITCHEN ISLANDS
ID5.20-21 SUITE BATHROOM VANITY
ID5.30 SUITE BATH & SHOWER ELEVATIONS

SHORING
RWH ENGINEERING

SH1 NOTES
SH2 KEY PLAN
SH3 PLAN AND ELEVATION (NORTH WALL)
SH4 PLAN AND ELEVATION (EAST WALL)
SH5 PLAN AND ELEVATION (SOUTH WALL)
SH6 PLAN AND ELEVATION (WEST WALL)
SH7 SECTIONS
SH8 SECTIONS
SH9 SECTIONS
SH10 SECTIONS
SH11 SECTIONS

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ISSUED FOR PERMIT & TENDER	2025.08.05
ISSUED FOR SITE PLAN APPLICATION (#4)	2025.09.05
ISSUED FOR SITE PLAN APPLICATION (#5)	2025.10.07
ISSUED FOR PERMIT & TENDER	2025.11.28

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ARCHITECT'S SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
MATTHEW BOLEN
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7197

2025.11.28

PROJECT NAME

6-14 DIETZ AVE MULTI-RES
6-14 DIETZ AVE. N., WATERLOO, ON

CLIENT

2334825 ONTARIO LTD.

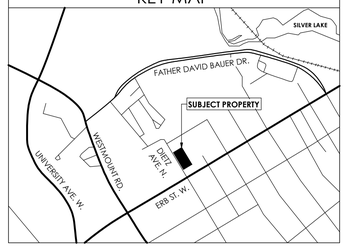
DRAWING TITLE

COVER PAGE

PROJECT NUMBER
24064

SHEET SIZE
24x36

KEY MAP



SWEPT PATH ANALYSIS



LSU - Light Single Unit Truck	
Overall Length	6.400m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.300m

NOTES

1. LEGAL DESCRIPTION: PART OF LOT 9, MUNICIPAL COMPLIED PLAN OF SUBDIVISION OF LOT 23, GERMAN COMPANY TRACT
2. INFORMATION REGARDING SITE FEATURES BASED ON J.D. BARNES LTD. SURVEYING; DATED: 2025.01.09
3. SITE GRADING INFORMATION FROM J.D. BARNES LTD. SURVEYING; DATED: 2025.01.09
4. FOR SITE GRADING, SERVICING AND STORM WATER MANAGEMENT DETAILS, REFER TO DRAWINGS PREPARED BY MTE CONSULTANTS INC.
5. ALL ROADS AND ISLANDS SHALL HAVE 150mm CURBS UNLESS OTHERWISE NOTED.
6. CURB RADII SHALL BE 0.5m UNLESS OTHERWISE NOTED.
7. STANDARD PARKING STALL DIMENSION SHALL BE 2.80m x 5.50m.
8. BARRIER-FREE PARKING STALL DIMENSION SHALL BE 3.70m x 5.50m (TYPE A) OR 2.4m x 5.5m (TYPE B) AND SHALL MEET ALL CITY OF WATERLOO REQUIREMENTS.
9. BICYCLE PARKING SPACES ARE 0.6m WIDE x 2.0m LONG WITH 1.75m MINIMUM ACCESS AISLE WIDTH.
10. ALL OUTDOOR LIGHTING SHALL BE FULL CUT-OFF AND HAVE NO GLARE. TREE PROTECTION FENCHING SHALL BE ERECTED AROUND ALL EXISTING LANDSCAPED AREAS AND SHOULD REMAIN ON SITE FOR THE DURATION OF CONSTRUCTION.
11. SIGNAGE (BUILDING, PYLON OR OTHERWISE) NOT APPROVED VIA THE SITE PLAN PROCESS.
12. GARBAGE & RECYCLING STORAGE TO BE LOCATED INTERNALLY.
13. ALL FINAL LOT DIMENSIONS ARE TO BE PREPARED BY THE PROJECTS SURVERYOR. ALL DIMENSIONS ARE SUBJECT TO APPROVAL OF THE MUNICIPAL AUTHORITY.
14. SNOW TO BE PICKED UP AND TAKEN OFF-SITE FOR DISPOSAL.

ZONING DATA CHART

6-14 DIETZ AVE. NORTH
WATERLOO, ON N2L 2J2

PROPOSED SITE PLAN

PREPARED BY MCCALLUM SATHER ARCHITECTS
SEPTEMBER 8, 2025

ZONING COMPLIANCE CHART
CURRENT ZONING: (H)RMU-40 C262

USE	MULTI-RESIDENTIAL DEVELOPMENT		
	RMU-40	SITE SPECIFIC C262	PROVIDED
MINIMUM LOT AREA	---		2,534.6 m²
LOT FRONTAGE	20.0m (MIN.)	56.0m	67.06m
PARKING	0.8/UNIT 100 SPACES	0.8/UNIT (INCL. 10% VISITOR) = 100	STANDARD: 93 VISITOR:13 TOTAL: 106
BARRIER-FREE PARKING	2 TYPE A, 2 TYPE B TOTAL: 4 SPACES		2 TYPE A, 2 TYPE B TOTAL: 4 SPACES
BIKE PARKING	74 TYPE A; 8 TYPE B TOTAL: 82 SPACES		76 TYPE A; 8 TYPE B TOTAL: 84 SPACES

	RMU-40	SITE SPECIFIC C262	PROVIDED
STREET LINE SETBACK (MIN.)	5.0m	5.0m	5.0m
SIDE YARD SETBACK (MIN.)	3.0m	3.0m	3.02m (NORTH SIDE) 9.60m (SOUTH SIDE)
REAR YARD SETBACK (MIN.)	7.5m	2.1m	2.30m
TOWER SETBACKS (MIN.)	INT. LOT LINE = 11m 1 SIDE REDUCED TO 6M IF COMBINED SETBACK = 22m	NORTH = 3.0m SOUTH = 9.6m BUILDING (REAR) = 7.5m BALCONY (REAR) = 5.7m	NORTH = 3.02m SOUTH = 9.60m BUILDING (REAR) = 8.71m BALCONY (REAR) = 6.81m
TOWER LENGTH & FOOTPRINT (MAX.)	LENGTH = 40m FOOTPRINT = 1,000m²	LENGTH = 54.5m FOOTPRINT = 1,092 m²	LENGTH = 54.46m FOOTPRINT = 1,091.1 m²
TOWER STEPBACK ABOVE PODIUM	3.0m	3.0m	3.0m
LANDSCAPED SPACE (MIN.)	21%	21%	**21% (533.5 m²)** INCLUDES: SOD = 166.1m²(31%) PLANT BEDS & OTHER GROUND COVER = 367.4m²(69%)

	RMU-40	SITE SPECIFIC C262	PROVIDED
MIN. 1ST STOREY HEIGHT	4.0m	3.2m FOR MAX. 25% OF 1ST STOREY	**3.2m***
MIN. PODIUM HEIGHT	10.5m	8.0m	8.3m
MAX. PODIUM STOREYS	4 STOREYS (14.8m)	4 STOREYS (14.8m)	2 STOREYS (8.3m)
MAX. BUILDING HEIGHT	40.0m 12 STOREYS	40.0m 12 STOREYS	40.0m 12 STOREYS
MAX. DENSITY (BEDS/ HA)	900 BEDS/HA*	900 BEDS/HA*	800 BEDS/HA
AMENITY AREA (MIN.)	3 m² / 1ST BED + 2 m² /ADD. BED 1-BED = 48 m² 1-BED+D = 120 m² 2-BED = 250 m² 2-BED+D = 40 m² 3-BED = 70 m² TOTAL = 528 m² (30% INTERIOR 158m²)	3 m² / 1ST BED + 2 m² / ADD. BED 1-BED = 48 m² 1-BED+D = 120 m² 2-BED = 250 m² 2-BED+D = 40 m² 3-BED = 70 m² TOTAL = 528 m² (30% INTERIOR 158m²)	BALCONY/TERRACE = 2,048.9m² INTERIOR = 286.4 m² (54% OF REQUIRED) TOTAL = 2,335.3m²

NOTE(S): 1. ALL STRUCTURED PARKING TO BE EV READY
2. LANDSCAPE CALCULATION EXCLUDES BIKE PARKING, TRANSFORMER PAD, TOWNHOUSE PATIO, RETAINING WALLS, CONCRETE WALKWAYS; REFER TO SITE DETAILS PAGE FOR SITE AREAS PLAN
* VARIANCE REQUIRED

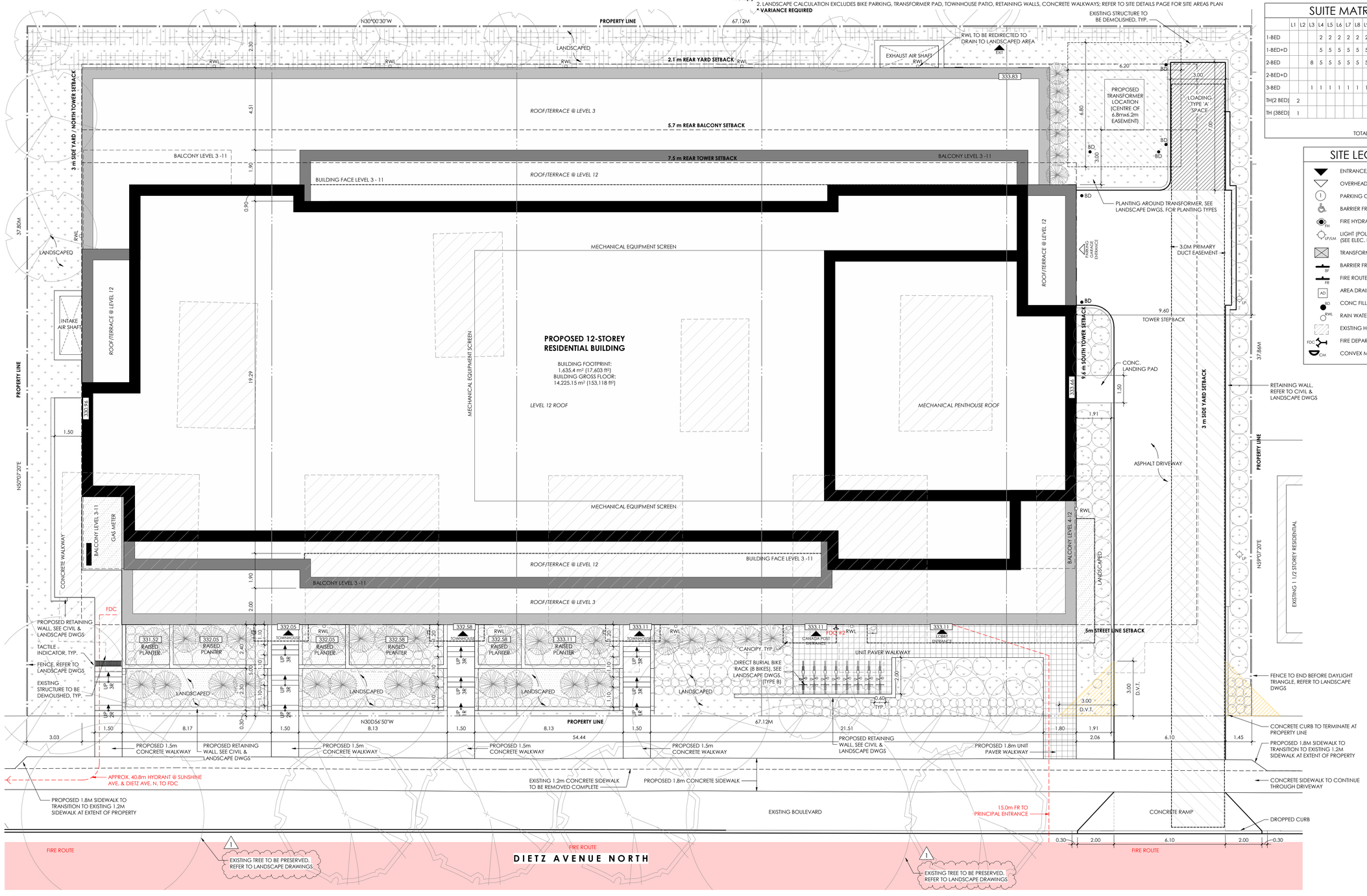
SUITE MATRIX

	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	TOTAL
1-BED				2	2	2	2	2	2	2			16 (13%)
1-BED+D				5	5	5	5	5	5	5			40 (32%)
2-BED				8	5	5	5	5	5	5			48 (39%)
2-BED+D											7	7	(5%)
3-BED			1	1	1	1	1	1	1	1	1	1	10 (8%)
TH(2 BED)	2												2 (2%)
TH (3BED)	1												1 (1%)
													124

TOTAL # OF BEDS = **203**

SITE LEGEND

- ENTRANCE/EXIT
- OVERHEAD DOOR
- PARKING COUNT
- BARRIER FREE PARKING
- FIRE HYDRANT
- LIGHT (POLE/MOUNT) (SEE ELEC. DWGS)
- TRANSFORMER
- BARRIER FREE SIGNAGE
- FIRE ROUTE SIGNAGE
- AREA DRAIN
- CONC FILLED STEEL BOLLARD
- RAIN WATER LEADER
- EXISTING HOUSE TO BE REMOVED
- FIRE DEPARTMENT CONNECTION
- CONVEX MIRROR



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ISSUED FOR PERMIT & TENDER	2025.11.28

NO.	REVISION DESCRIPTION	DATE
1	SITE PLAN REVISIONS SPA#5	2025.11.03

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7197
2025.11.28

PROJECT NAME

6-14 DIETZ AVE MULTI-RES

6-14 DIETZ AVE. N., WATERLOO, ON

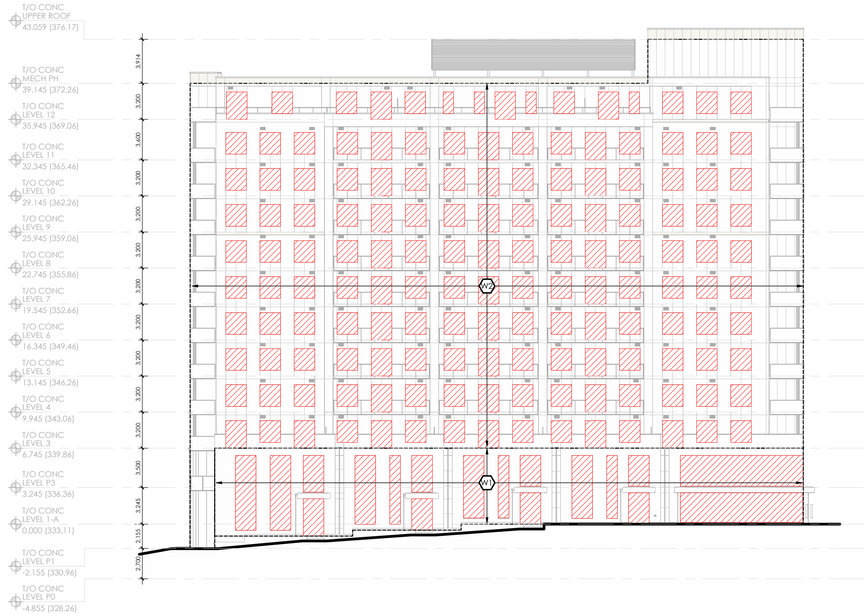
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DRAWING TITLE

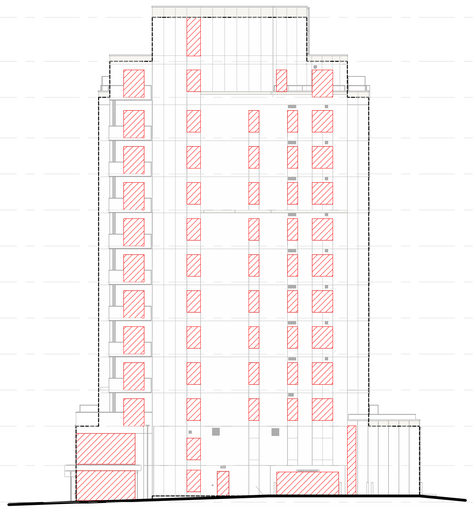
SITE PLAN - AERIAL

PROJECT NUMBER	DRAWING NUMBER
24064	A0.1
SCALE: As indicated	
SHEET SIZE: 24x36	



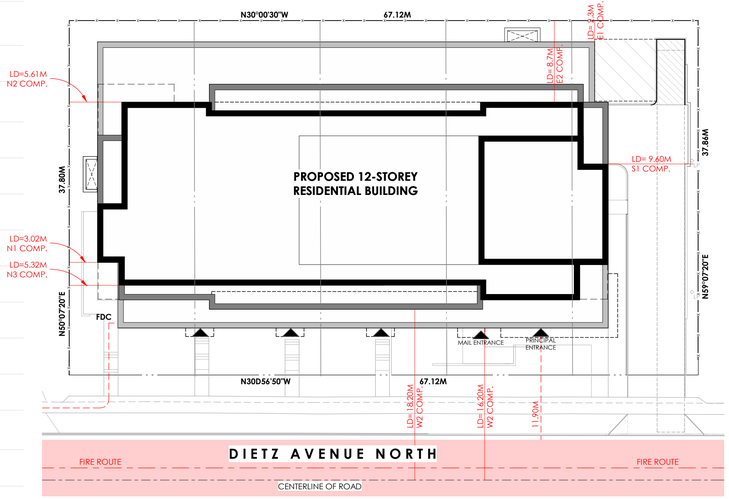
1 A1.5 **SPATIAL SEPARATION ELEVATION - WEST**

1 : 250



2 A1.5 **SPATIAL SEPARATION ELEVATION - SOUTH**

1 : 250

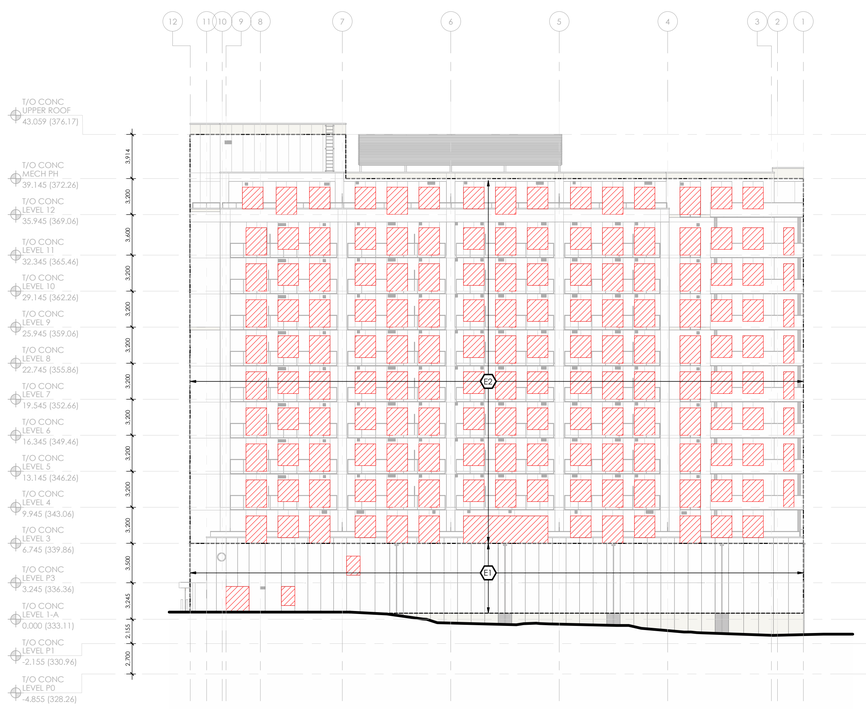


5 A1.5 **OBC - SITE PLAN**

1 : 300

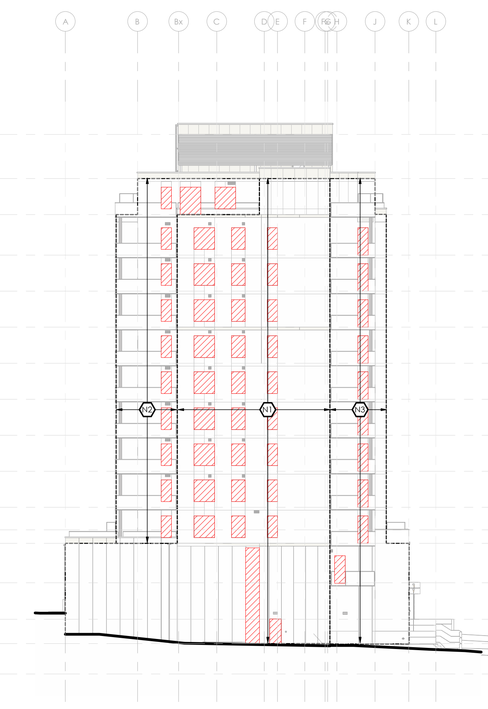
FIRE COMPARTMENT ANALYSIS

Fire Comp.	Occupancy (A2,C,D, F3)	Area of EBF (m²)	L.D. (m)	Permitted U.O.'s (%)	Area of U.O.'s(m²)	Area of U.O.'s (%)	FRR (HR)	Table 3.2.3.1....	Type of Construction Req'd	Type of Cladding Req'd	Sprinkler Protected Opening
WEST ELEVATION COMPARTMENTS											
W-1	A2/C	370.59	16.20	100.00	175.66	47.40	---	D	NON COMB.	NON COMB.	NO
W-2	C	1,837.60	18.20	100.00	554.33	30.17	---	D	NON COMB.	NON COMB.	NO
SOUTH ELEVATION COMPARTMENT											
S-1	A2/C/F3	1,014.49	9.60	100.00	194.01	19.12	---	D	NON COMB.	NON COMB.	NO
EAST ELEVATION COMPARTMENTS											
E-1	F3	337.67	2.30	21.20	8.56	2.54	1.0	D	NON COMB.	NON COMB.	NO
E-2	A2/C	1,818.71	8.70	94.60	624.90	34.36	---	D	NON COMB.	NON COMB.	NO
NORTH ELEVATION COMPARTMENTS											
N-1	C/F3	625.11	2.30	22.16	81.33	13.01	1.0	D	NON COMB.	NON COMB.	NO
N-2	C	192.98	5.61	18.41	25.61	13.27	1.0	D	NON COMB.	NON COMB.	NO
N-3	C	221.68	5.32	17.45	22.29	10.06	1.0	D	NON COMB.	NON COMB.	NO



3 A1.5 **SPATIAL SEPARATION ELEVATION - EAST**

1 : 250



4 A1.5 **SPATIAL SEPARATION ELEVATION - NORTH**

1 : 250

LEGEND

EXPOSED BUILDING FACE

UNPROTECTED OPENINGS

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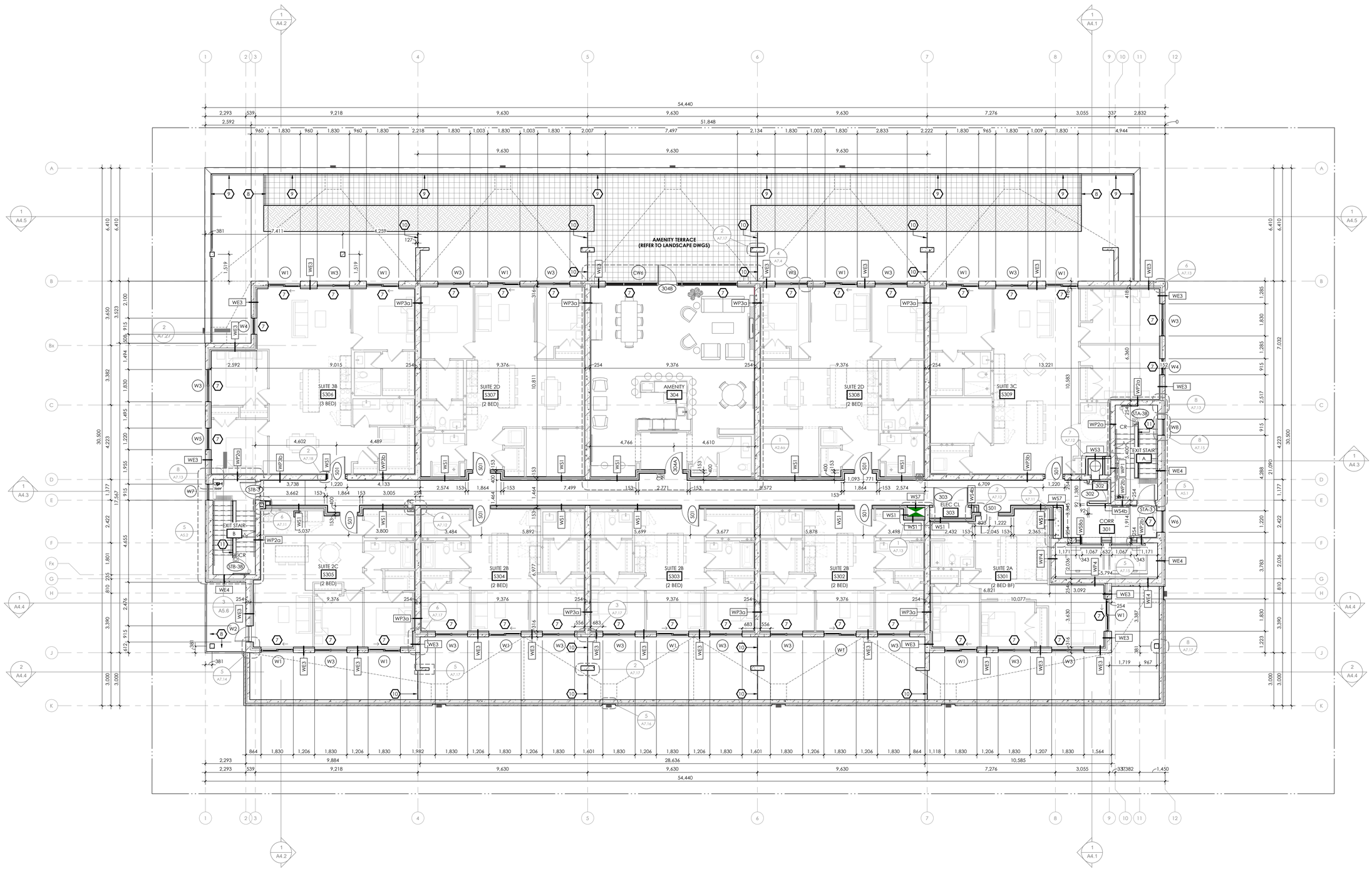
CLIENT

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DRAWING TITLE

SPATIAL SEPARATION ELEVATIONS

PROJECT NUMBER	DRAWING NUMBER
24064	A1.5
SCALE: As indicated	
SHEET SIZE: 24x36	



KEYNOTES

1. 914W x 1220D SINGLE AND DOUBLE TIER STEEL FRAMED WIRE MESH STORAGE LOCKERS, SWING DOORS SHALL BE EQUIPPED WITH PADLOCK LUGS, DOOR STRIKES AND A PAIR OF HINGES, TOTAL OF 124 LOCKERS. REFER TO PROJECT MANUAL.
2. SUPPLY AND INSTALL WALL MOUNTED BICYCLE RACKS. REFER TO PROJECT MANUAL.
3. WALL MOUNTED BARRIER FREE PARKING SIGN. REFER TO SITE DETAILS.
4. CONTRACTOR TO SUPPLY AND INSTALL FREE STANDING SURFACE MOUNTED BICYCLE PUMP (MODEL: GP-V1 BY GREENSPOK OR APPROVED ALTERNATE).
5. CONTRACTOR TO SUPPLY AND INSTALL WALL MOUNTED BICYCLE REPAIR STATION (MODEL: RP-V4 BY GREENSPOKE OR APPROVED ALTERNATE)
6. REAR LOADED MAILBOXES AS PER CANADA POST REQUIREMENTS. REFER TO PROJECT MANUAL AND INTERIOR ELEVATIONS.
7. SUPPLY AND INSTALL MANUAL ROLL DOWN BLINDS WHERE INDICATED ON PLAN. REFER TO PROJECT MANUAL.
8. PREFINISHED ALUMINUM BALCONY GUARDS WITH 6mm TEMPERED GLASS. SURFACE MOUNTED TO BALCONY/ CONCRETE CURB. REFER TO TYPICAL DETAILS.
9. PREFINISHED ALUMINUM BALCONY GUARDS WITH 6mm TEMPERED GLASS. FACE MOUNTED TO BALCONY/ CONCRETE CURB. REFER TO TYPICAL DETAILS.
10. PREFINISHED ALUMINUM PRIVACY SCREEN WITH OBSCURED TEMPERED GLASS. REFER TO TYPICAL DETAILS.
11. SUPPLY AND INSTALL STEEL FRAMED PARTITION AND DOOR WITH STEEL MESH INFILL PANEL. PARTITION AND DOOR TO BE INSTALLED BETWEEN PARKING LEVEL P3 AND LEVEL 3.

LEGEND

WE1 — WALL TYPE : SEE CONSTRUCTION ASSEMBLY SCHEDULES A1.9-A1.11

SUITE LAYOUTS : REFER TO DRAWINGS A2.21-A2.36

D- — DOOR TAG : SEE DOOR AND FRAME SCHEDULE ON A6.1

W1 — WINDOW TAG : SEE WINDOW AND SCREEN SCHEDULES ON A6.2-A6.3

100.00 — ELEVATION TAG

AP	ANNUNCIATOR PANEL - SEE ELEC. DWGS.	FHV	FIRE HOSE VALVE	SF	STEPPED FOOTING - SEE STRUCT. DWGS
AD	AREA DRAIN - SEE CIVIL DWGS.	FP	FIRE ALARM ANNOUNCIATOR PANEL	SP	SUMP PIT - SEE MECH. DWGS
BD	BOLLARD	FC	FIRE EXTINGUISHER CABINET	STP	STANDPIPE - SEE MECH. DWGS
CB	CATCH BASIN - SEE MECH. DWGS	HP	HIGH POINT	TD	TRENCH DRAIN - SEE MECH. DWGS
CM	CONVEX MIRROR (SEE PLAN)	PB	BARRIER FREE PUSH BUTTON - SEE ELEC. DWGS.	WH	WATER HEATER - SEE MECH. DWGS.
CP	COMMUNICATIONS PANEL - SEE ELEC. DWGS	RA	ROOF ANCHOR		
CR	CARD READER - SEE ELEC. DWGS	RD	ROOF DRAIN - SEE MECH. DWGS		
EV	ELECTRIC VEHICLE SHARGING STATION 'READY'	RS	ROOF SCUPPER - SEE MECH. DWGS		
FD	FLOOR DRAIN - SEE MECH. DWGS.	RWL	RAIN-WATER LEADER - SEE MECH. DWGS.		
FDC	FIRE DEPARTMENT CONNECTION	RTU	ROOF TOP UNIT - SEE MECH. DWGS.		

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6-14 DIETZ AVE MULTI-RES

6-14 DIETZ AVE. N., WATERLOO, ON

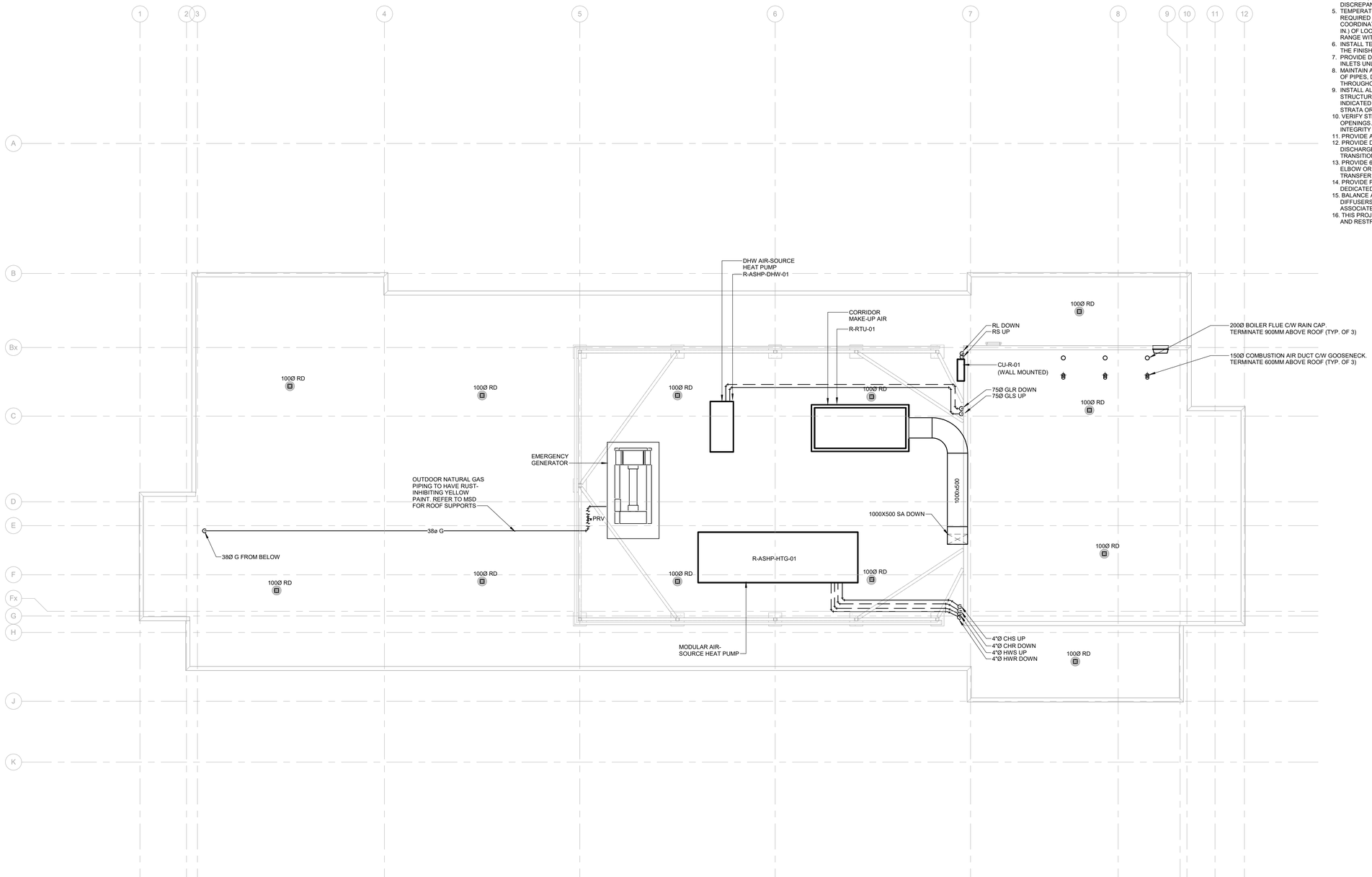
CLIENT

2334825 ONTARIO LTD.

DRAWING TITLE

LEVEL 3 FLOOR PLAN

PROJECT NUMBER	DRAWING NUMBER
24064	A2.6
SCALE: As indicated	
SHEET SIZE: 24x36	



HVAC NOTES

1. PROVIDE MINIMUM 19 MM (3/4 IN.) HWS/HWR AND CHS/CHR BRANCH PIPES SERVING TERMINAL DEVICES AND/OR EQUIPMENT UNLESS INDICATED OTHERWISE.
2. PROVIDE TYPE CV-1 CONTROL VALVES UNLESS INDICATED OTHERWISE.
3. PROVIDE ALL DUCTWORK DOWNSTREAM OF TERMINAL EQUIPMENT (I.E. FAN COILS, HEAT PUMPS, V.A.V. BOXES AND FAN POWERED BOXES) EQUAL TO THE EQUIPMENT OUTLET SIZE (MINIMUM) OR LARGER AS INDICATED. WHERE OUTLET SIZES ARE ODD SIZES, INCREASE THE DUCT SIZE UP TO THE NEAREST EVEN SIZE ((I.E. PROVIDE 356 MM (14 IN.) FOR 318 MM (12.5 IN.) OR 330 MM (13 IN.) OUTLET). PROVIDE TRANSITION DUCTS AS REQUIRED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS. REQUEST CLARIFICATION FOR ANY DIFFUSER OR GRILLE WITH MORE THAN A 600 MM (24 IN.) DISCREPANCY IN LOCATION.
5. TEMPERATURE SENSORS ARE LOCATED TO AID IN PRICING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN (REFER TO SPECIFICATIONS). COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 1000 MM (40 IN.) OF LOCATION SHOWN. REVIEW ALL RELOCATIONS OUTSIDE OF THIS RANGE WITH THE CONSULTANT.
6. INSTALL TEMPERATURE SENSORS AT NOMINALLY 1200 MM (48 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
7. PROVIDE DIFFUSER DUCT RUN-OUTS THE SAME SIZE AS THE DIFFUSER INLETS UNLESS INDICATED OTHERWISE.
8. MAINTAIN A MINIMUM OF 2400 MM (96 IN.) CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC. THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
9. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
10. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
11. PROVIDE ALL OPEN ENDED DUCTWORK COMPLETE WITH WIRE MESH.
12. PROVIDE DISCHARGE DUCTWORK FOR EXHAUST FANS EQUAL TO THE DISCHARGE OF THE FAN AS A MINIMUM OR LARGER AS INDICATED. TRANSITION AS REQUIRED FOR LARGER DUCTS.
13. PROVIDE 600X400X1200 (WXHXL) INTERNAL ACOUSTIC INSULATED ELBOW OR STRAIGHT TRANSFER DUCTS UNLESS INDICATED OTHERWISE. TRANSFER AIR DUCTS IN LIEU OF SILENCERS ARE NOT PERMITTED.
14. PROVIDE POWER FOR ON-FLOOR CONTROL DEVICES FROM THE DEDICATED EMERGENCY POWER CIRCUIT(S) IN ROOMS "XXX ".
15. BALANCE AIR FLOW RATES EQUALLY BETWEEN ALL INTERIOR DIFFUSERS BASED ON THE MAXIMUM AIR FLOW RATE SHOWN FOR THE ASSOCIATED TERMINAL DEVICE (VAV, FAN COIL, ETC.).
16. THIS PROJECT HAS SEISMIC REQUIREMENTS, PROVIDE SEISMIC BRACING AND RESTRAINTS AS REQUIRED.

Smith + Andersen
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TRUE NORTH | PROJECT NORTH

NO.	REVISION DESCRIPTION	DATE
1	ISSUED FOR 50% CD	2025.03.28
2	ISSUED FOR 75% CD	2025.05.09
3	ISSUED FOR 90% CD	2025.07.04
4	ISSUED FOR PERMIT & TENDER	2025.11.27

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LICENSED PROFESSIONAL ENGINEER
S.A. McCALLUM
100076117
24480.000
M.001
PROVINCE OF ONTARIO

PROJECT NAME

6-14 DIETZ AVE MULTI-RES

6-14 DIETZ AVE. N., WATERLOO, ON

CLIENT

2334825 ONTARIO LTD.

DRAWING TITLE

ROOF PLAN - MECHANICAL

PROJECT NUMBER	DRAWING NUMBER
24480.001	M4.7
SCALE: 1 : 100	
SHEET SIZE: 24x36	

ATTACHMENT B



20.0 <= ... < 30.0
30.0 <= ... < 40.0
40.0 <= ... < 45.0
45.0 <= ... < 50.0
50.0 <= ... < 55.0
55.0 <= ... < 60.0
60.0 <= ... < 65.0
65.0 <= ... < 70.0
70.0 <= ... < 75.0
75.0 <= ...

Point Source
Area Source
Building
Receiver
Building Evaluation

STATIONARY NOISE IMPACT STUDY
6-14 DIETZ AVENUE NORTH, WATERLOO, ONTARIO

Figure 1 - Stationary Noise Impact from Emergency Sources to the Neighboring Buildings and to the Site

Receiver
Name: WCPOR1
ID: EMG_
X: 17537663.07 m
Y: 4812152.83 m
Z: 34.00 m

Point Source, ISO 9613, Name: "Generator", ID: "EMG_Generator"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1	17537673.52	4812155.92	38.50	0	DEN	A	98.5	0.0	0.0	0.0	0.0	32.4	0.0	-0.0	0.0	0.0	16.0	0.0	0.0	50.0

Emergency Sources

Name	ID	Level Lr		Height	Coordinates		
		Day	Night		X	Y	Z
		(dBA)	(dBA)	(m)	(m)	(m)	(m)
OLA #1	OLA1	37.6	37.6	1.50	17537689.44	4812164.02	10.50
OLA #2	OLA2	35.3	35.3	1.50	17537699.51	4812202.74	4.50
OLA #3	OLA3	34.3	34.3	1.50	17537600.17	4812189.22	1.50
OLA #4	OLA4	24.2	24.2	1.50	17537581.54	4812048.28	1.50
OLA #5	OLA5	29.2	29.2	2.00	17537704.13	4812126.98	2.00
OLA #6	OLA6	33.0	33.0	1.50	17537736.71	4812131.95	1.50
WCPOR1	EMG_	50.0	50.0	34.00	17537663.07	4812152.83	34.00



20.0 <= ... < 30.0
30.0 <= ... < 40.0
40.0 <= ... < 45.0
45.0 <= ... < 50.0
50.0 <= ... < 55.0
55.0 <= ... < 60.0
60.0 <= ... < 65.0
65.0 <= ... < 70.0
70.0 <= ... < 75.0
75.0 <= ...

Point Source
Area Source
Building
Receiver
Building Evaluation

STATIONARY NOISE IMPACT STUDY
6-14 DIETZ AVENUE NORTH, WATERLOO, ONTARIO

Figure 2a - Stationary Noise Impact from Site to the Neighboring Buildings without Mitigation.

Receiver
Name: OLA #1
ID: OLA1
X: 17537689.44 m
Y: 4812164.02 m
Z: 10.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
1	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	41.9	0.1	0.0	0.0	0.0	19.8	0.0	0.0	31.0
1	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	41.9	0.1	0.0	0.0	0.0	19.8	0.0	0.0	28.0

Point Source, ISO 9613, Name: "RTU-1", ID: "Site_RTU"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
3	17537681.13	4812148.90	36.50	0	DEN	A	76.0	0.0	0.0	0.0	0.0	40.9	0.2	0.0	0.0	0.0	19.5	0.0	0.0	15.4

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
10	17537705.28	4812140.33	0.10	0	D	A	82.8	-0.6	0.0	0.0	0.0	40.6	0.2	2.4	0.0	0.0	11.3	0.0	0.0	27.7
10	17537705.28	4812140.33	0.10	0	N	A	82.8	-0.6	-1.8	0.0	0.0	40.6	0.2	2.4	0.0	0.0	11.3	0.0	0.0	26.0
23	17537705.86	4812139.98	0.10	0	D	A	82.8	-0.6	0.0	0.0	0.0	40.8	0.2	2.4	0.0	0.0	10.8	0.0	0.0	28.0
23	17537705.86	4812139.98	0.10	0	N	A	82.8	-0.6	-1.8	0.0	0.0	40.8	0.2	2.4	0.0	0.0	10.8	0.0	0.0	26.3

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
27	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	40.9	0.1	0.0	0.0	0.0	18.6	0.0	0.0	22.3
27	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	40.9	0.1	0.0	0.0	0.0	18.6	0.0	0.0	19.3

Receiver
Name: OLA #2
ID: OLA2
X: 17537699.51 m
Y: 4812202.74 m
Z: 4.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
14	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	47.6	0.3	0.1	0.0	0.0	17.8	0.0	0.0	27.1
14	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	47.6	0.3	0.1	0.0	0.0	17.8	0.0	0.0	24.1

Point Source, ISO 9613, Name: "RTU-1", ID: "Site_RTU"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
31	17537681.13	4812148.90	36.50	0	DEN	A	76.0	0.0	0.0	0.0	0.0	47.3	0.5	0.1	0.0	0.0	17.8	0.0	0.0	10.3

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
35	17537705.52	4812140.59	0.10	0	D	A	82.8	-12.5	0.0	0.0	0.0	46.9	0.3	3.8	0.0	0.0	0.1	0.0	0.0	19.2
35	17537705.52	4812140.59	0.10	0	N	A	82.8	-12.5	-1.8	0.0	0.0	46.9	0.3	3.8	0.0	0.0	0.1	0.0	0.0	17.5
36	17537705.53	4812140.21	0.10	0	D	A	82.8	-16.0	0.0	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	15.7
36	17537705.53	4812140.21	0.10	0	N	A	82.8	-16.0	-1.8	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	13.9
40	17537705.25	4812140.31	0.10	0	D	A	82.8	-1.1	0.0	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	30.6
40	17537705.25	4812140.31	0.10	0	N	A	82.8	-1.1	-1.8	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	28.8
46	17537705.61	4812139.85	0.10	0	D	A	82.8	-10.9	0.0	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	20.7
46	17537705.61	4812139.85	0.10	0	N	A	82.8	-10.9	-1.8	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	18.9
48	17537705.89	4812140.00	0.10	0	D	A	82.8	-1.1	0.0	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	30.5
48	17537705.89	4812140.00	0.10	0	N	A	82.8	-1.1	-1.8	0.0	0.0	47.0	0.3	3.8	0.0	0.0	0.1	0.0	0.0	28.7

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
49	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	47.0	0.2	0.5	0.0	0.0	13.1	0.0	0.0	21.1
49	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	47.0	0.2	0.5	0.0	0.0	13.1	0.0	0.0	18.1

Receiver
Name: OLA #3
ID: OLA3
X: 17537600.17 m
Y: 4812189.22 m
Z: 1.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	50.1	0.4	1.4	0.0	0.0	10.8	0.0	0.0	30.2
5	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	50.1	0.4	1.4	0.0	0.0	10.8	0.0	0.0	27.2

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
26	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	50.4	0.3	2.7	0.0	0.0	11.9	0.0	0.0	16.5
26	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	50.4	0.3	2.7	0.0	0.0	11.9	0.0	0.0	13.5

Receiver
Name: OLA #4
ID: OLA4
X: 17537581.54 m
Y: 4812048.28 m
Z: 1.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	54.0	0.6	1.7	0.0	0.0	17.2	0.0	0.0	19.4
4	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	54.0	0.6	1.7	0.0	0.0	17.2	0.0	0.0	16.4

Receiver
Name: OLA #5
ID: OLA5
X: 17537704.13 m
Y: 4812126.98 m
Z: 2.00 m

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
12	17537705.28	4812140.33	0.10	0	D	A	82.8	-0.6	0.0	0.0	0.0	33.6	0.1	1.7	0.0	0.0	8.7	0.0	0.0	38.1
12	17537705.28	4812140.33	0.10	0	N	A	82.8	-0.6	-1.8	0.0	0.0	33.6	0.1	1.7	0.0	0.0	8.7	0.0	0.0	36.3
33	17537706.01	4812139.79	0.10	0	D	A	82.8	-3.4	0.0	0.0	0.0	33.3	0.1	1.7	0.0	0.0	0.0	0.0	0.0	44.4
33	17537706.01	4812139.79	0.10	0	N	A	82.8	-3.4	-1.8	0.0	0.0	33.3	0.1	1.7	0.0	0.0	0.0	0.0	0.0	42.6
37	17537705.76	4812139.90	0.10	0	D	A	82.8	-9.2	0.0	0.0	0.0	33.4	0.1	1.7	0.0	0.0	4.7	0.0	0.0	33.9
37	17537705.76	4812139.90	0.10	0	N	A	82.8	-9.2	-1.8	0.0	0.0	33.4	0.1	1.7	0.0	0.0	4.7	0.0	0.0	32.1
39	17537705.65	4812140.33	0.10	0	D	A	82.8	-5.5	0.0	0.0	0.0	33.6	0.1	1.7	0.0	0.0	5.7	0.0	0.0	36.2
39	17537705.65	4812140.33	0.10	0	N	A	82.8	-5.5	-1.8	0.0	0.0	33.6	0.1	1.7	0.0	0.0	5.7	0.0	0.0	34.4

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
41	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	45.5	0.2	0.6	0.0	0.0	23.2	0.0	0.0	23.4
41	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	45.5	0.2	0.6	0.0	0.0	23.2	0.0	0.0	20.4

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
43	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	45.3	0.2	1.5	0.0	0.0	21.2	0.0	0.0	13.7
43	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	45.3	0.2	1.5	0.0	0.0	21.2	0.0	0.0	10.7

Receiver
Name: OLA #6
ID: OLA6
X: 17537736.71 m
Y: 4812131.95 m
Z: 1.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
15	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	48.6	0.3	1.3	0.0	0.0	17.1	0.0	0.0	25.6
15	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	48.6	0.3	1.3	0.0	0.0	17.1	0.0	0.0	22.6

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
17	17537705.86	4812139.98	0.10	0	D	A	82.8	-0.6	0.0	0.0	0.0	41.1	0.2	3.2	0.0	0.0	0.0	0.0	0.0	37.7
17	17537705.86	4812139.98	0.10	0	N	A	82.8	-0.6	-1.8	0.0	0.0	41.1	0.2	3.2	0.0	0.0	0.0	0.0	0.0	35.9
19	17537705.28	4812140.33	0.10	0	D	A	82.8	-0.6	0.0	0.0	0.0	41.3	0.2	3.2	0.0	0.0	0.0	0.0	0.0	37.5
19	17537705.28	4812140.33	0.10	0	N	A	82.8	-0.6	-1.8	0.0	0.0	41.3	0.2	3.2	0.0	0.0	0.0	0.0	0.0	35.7

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
21	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	48.2	0.2	2.4	0.0	0.0	12.0	0.0	0.0	19.1
21	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	48.2	0.2	2.4	0.0	0.0	12.0	0.0	0.0	16.0

Receiver
Name: WCPOR
ID: Site_
X: 17537703.41 m
Y: 4812143.31 m
Z: 1.50 m

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2	17537705.31	4812140.34	0.10	0	D	A	82.8	-1.1	0.0	0.0	0.0	22.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	58.5
2	17537705.31	4812140.34	0.10	0	N	A	82.8	-1.1	-1.8	0.0	0.0	22.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	56.8
6	17537705.07	4812140.12	0.10	0	D	A	82.8	-11.0	0.0	0.0	0.0	22.7	0.0	0.6	0.0	0.0	0.0	0.0	0.0	48.4
6	17537705.07	4812140.12	0.10	0	N	A	82.8	-11.0	-1.8	0.0	0.0	22.7	0.0	0.6	0.0	0.0	0.0	0.0	0.0	46.7
8	17537704.81	4812140.51	0.10	0	D	A	82.8	-18.7	0.0	0.0	0.0	21.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	41.9
8	17537704.81	4812140.51	0.10	0	N	A	82.8	-18.7	-1.8	0.0	0.0	21.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	40.1
18	17537705.86	4812139.98	0.10	0	D	A	82.8	-0.6	0.0	0.0	0.0	23.8	0.0	0.7	0.0	0.0	0.0	0.0	0.0	57.7
18	17537705.86	4812139.98	0.10	0	N	A	82.8	-0.6	-1.8	0.0	0.0	23.8	0.0	0.7	0.0	0.0	0.0	0.0	0.0	55.9

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
25	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	44.7	0.2	0.9	0.0	0.0	23.5	0.0	0.0	23.7
25	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	44.7	0.2	0.9	0.0	0.0	23.5	0.0	0.0	20.7

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
30	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	44.2	0.1	1.6	0.0	0.0	21.4	0.0	0.0	14.6
30	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	44.2	0.1	1.6	0.0	0.0	21.4	0.0	0.0	11.6

Receiver Output Without Mitigation

Name	ID	Level Lr		Height	Coordinates		
		Day	Night		X	Y	Z
		(dBA)	(dBA)	(m)	(m)	(m)	(m)
OLA #1	OLA1	34.3	32.0	1.50	17537689.44	4812164.02	10.50
OLA #2	OLA2	35.0	33.0	1.50	17537699.51	4812202.74	4.50
OLA #3	OLA3	30.4	27.4	1.50	17537600.17	4812189.22	1.50
OLA #4	OLA4	20.0	17.1	1.50	17537581.54	4812048.28	1.50
OLA #5	OLA5	46.1	44.3	2.00	17537704.13	4812126.98	2.00
OLA #6	OLA6	40.8	39.0	1.50	17537736.71	4812131.95	1.50
WCPOR	Site_	61.4	59.6	1.50	17537703.41	4812143.31	1.50



20.0 <= ... < 30.0
30.0 <= ... < 40.0
40.0 <= ... < 45.0
45.0 <= ... < 50.0
50.0 <= ... < 55.0
55.0 <= ... < 60.0
60.0 <= ... < 65.0
65.0 <= ... < 70.0
70.0 <= ... < 75.0
75.0 <= ...

Point Source
Area Source
Building
Receiver
Building Evaluation

STATIONARY NOISE IMPACT STUDY
6-14 DIETZ AVENUE NORTH, WATERLOO, ONTARIO

Figure 2b - Stationary Noise Impact from Site to the Neighboring Buildings with Mitigation.

Receiver
Name: OLA #1
ID: OLA1
X: 17537689.44 m
Y: 4812164.02 m
Z: 10.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	41.9	0.1	0.0	0.0	0.0	19.8	0.0	0.0	31.0
5	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	41.9	0.1	0.0	0.0	0.0	19.8	0.0	0.0	28.0

Point Source, ISO 9613, Name: "RTU-1", ID: "Site_RTU"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
11	17537681.13	4812148.90	36.50	0	DEN	A	76.0	0.0	0.0	0.0	0.0	40.9	0.2	0.0	0.0	0.0	19.5	0.0	0.0	15.4

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
17	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	40.9	0.1	0.0	0.0	0.0	18.6	0.0	0.0	22.3
17	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	40.9	0.1	0.0	0.0	0.0	18.6	0.0	0.0	19.3

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
20	17537705.28	4812140.33	0.10	0	D	A	68.3	-0.6	0.0	0.0	0.0	40.6	0.2	2.3	0.0	0.0	10.4	0.0	0.0	14.1
20	17537705.28	4812140.33	0.10	0	N	A	68.3	-0.6	-1.8	0.0	0.0	40.6	0.2	2.3	0.0	0.0	10.4	0.0	0.0	12.3
26	17537705.86	4812139.98	0.10	0	D	A	68.3	-0.6	0.0	0.0	0.0	40.8	0.2	2.3	0.0	0.0	9.9	0.0	0.0	14.4
26	17537705.86	4812139.98	0.10	0	N	A	68.3	-0.6	-1.8	0.0	0.0	40.8	0.2	2.3	0.0	0.0	9.9	0.0	0.0	12.7

Receiver
Name: OLA #2
ID: OLA2
X: 17537699.51 m
Y: 4812202.74 m
Z: 4.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	47.6	0.3	0.1	0.0	0.0	17.8	0.0	0.0	27.1
4	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	47.6	0.3	0.1	0.0	0.0	17.8	0.0	0.0	24.1

Point Source, ISO 9613, Name: "RTU-1", ID: "Site_RTU"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
10	17537681.13	4812148.90	36.50	0	DEN	A	76.0	0.0	0.0	0.0	0.0	47.3	0.5	0.1	0.0	0.0	17.8	0.0	0.0	10.3

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
12	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	47.0	0.2	0.5	0.0	0.0	13.1	0.0	0.0	21.1
12	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	47.0	0.2	0.5	0.0	0.0	13.1	0.0	0.0	18.1

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
25	17537705.25	4812140.31	0.10	0	D	A	68.3	-1.1	0.0	0.0	0.0	47.0	0.4	3.8	0.0	0.0	0.3	0.0	0.0	15.8
25	17537705.25	4812140.31	0.10	0	N	A	68.3	-1.1	-1.8	0.0	0.0	47.0	0.4	3.8	0.0	0.0	0.3	0.0	0.0	14.1
34	17537705.89	4812140.00	0.10	0	D	A	68.3	-1.1	0.0	0.0	0.0	47.0	0.4	3.8	0.0	0.0	0.3	0.0	0.0	15.7
34	17537705.89	4812140.00	0.10	0	N	A	68.3	-1.1	-1.8	0.0	0.0	47.0	0.4	3.8	0.0	0.0	0.3	0.0	0.0	14.0

Receiver
Name: OLA #3
ID: OLA3
X: 17537600.17 m
Y: 4812189.22 m
Z: 1.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	50.1	0.4	1.4	0.0	0.0	10.8	0.0	0.0	30.2
2	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	50.1	0.4	1.4	0.0	0.0	10.8	0.0	0.0	27.2

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
14	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	50.4	0.3	2.7	0.0	0.0	11.9	0.0	0.0	16.5
14	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	50.4	0.3	2.7	0.0	0.0	11.9	0.0	0.0	13.5

Receiver
Name: OLA #4
ID: OLA4
X: 17537581.54 m
Y: 4812048.28 m
Z: 1.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
39	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	54.0	0.6	1.7	0.0	0.0	17.2	0.0	0.0	19.4
39	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	54.0	0.6	1.7	0.0	0.0	17.2	0.0	0.0	16.4

Receiver
Name: OLA #5
ID: OLA5
X: 17537704.13 m
Y: 4812126.98 m
Z: 2.00 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
3	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	45.5	0.2	0.6	0.0	0.0	23.2	0.0	0.0	23.4
3	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	45.5	0.2	0.6	0.0	0.0	23.2	0.0	0.0	20.4

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
15	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	45.3	0.2	1.5	0.0	0.0	21.2	0.0	0.0	13.7
15	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	45.3	0.2	1.5	0.0	0.0	21.2	0.0	0.0	10.7

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
22	17537705.28	4812140.33	0.10	0	D	A	68.3	-0.6	0.0	0.0	0.0	33.6	0.1	1.8	0.0	0.0	8.2	0.0	0.0	24.0
22	17537705.28	4812140.33	0.10	0	N	A	68.3	-0.6	-1.8	0.0	0.0	33.6	0.1	1.8	0.0	0.0	8.2	0.0	0.0	22.2
28	17537706.01	4812139.79	0.10	0	D	A	68.3	-3.4	0.0	0.0	0.0	33.3	0.1	1.7	0.0	0.0	0.0	0.0	0.0	29.8
28	17537706.01	4812139.79	0.10	0	N	A	68.3	-3.4	-1.8	0.0	0.0	33.3	0.1	1.7	0.0	0.0	0.0	0.0	0.0	28.1
31	17537705.76	4812139.90	0.10	0	D	A	68.3	-9.2	0.0	0.0	0.0	33.4	0.1	1.7	0.0	0.0	4.7	0.0	0.0	19.3
31	17537705.76	4812139.90	0.10	0	N	A	68.3	-9.2	-1.8	0.0	0.0	33.4	0.1	1.7	0.0	0.0	4.7	0.0	0.0	17.6
36	17537705.65	4812140.33	0.10	0	D	A	68.3	-5.5	0.0	0.0	0.0	33.6	0.1	1.8	0.0	0.0	5.6	0.0	0.0	21.7
36	17537705.65	4812140.33	0.10	0	N	A	68.3	-5.5	-1.8	0.0	0.0	33.6	0.1	1.8	0.0	0.0	5.6	0.0	0.0	19.9

Receiver
Name: OLA #6
ID: OLA6
X: 17537736.71 m
Y: 4812131.95 m
Z: 1.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
6	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	48.6	0.3	1.3	0.0	0.0	17.1	0.0	0.0	25.6
6	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	48.6	0.3	1.3	0.0	0.0	17.1	0.0	0.0	22.6

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
23	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	48.2	0.2	2.4	0.0	0.0	12.0	0.0	0.0	19.1
23	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	48.2	0.2	2.4	0.0	0.0	12.0	0.0	0.0	16.0

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
30	17537705.86	4812139.98	0.10	0	D	A	68.3	-0.6	0.0	0.0	0.0	41.1	0.2	3.3	0.0	0.0	0.0	0.0	0.0	23.1
30	17537705.86	4812139.98	0.10	0	N	A	68.3	-0.6	-1.8	0.0	0.0	41.1	0.2	3.3	0.0	0.0	0.0	0.0	0.0	21.4
33	17537705.28	4812140.33	0.10	0	D	A	68.3	-0.6	0.0	0.0	0.0	41.3	0.2	3.3	0.0	0.0	0.0	0.0	0.0	22.9
33	17537705.28	4812140.33	0.10	0	N	A	68.3	-0.6	-1.8	0.0	0.0	41.3	0.2	3.3	0.0	0.0	0.0	0.0	0.0	21.2

Receiver
Name: WCPOR
ID: Site_
X: 17537703.41 m
Y: 4812143.31 m
Z: 1.50 m

Point Source, ISO 9613, Name: "Large Heat Pump", ID: "Site_Large_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
7	17537673.01	4812150.30	38.54	0	D	A	92.9	0.0	0.0	0.0	0.0	44.7	0.2	0.9	0.0	0.0	23.5	0.0	0.0	23.7
7	17537673.01	4812150.30	38.54	0	N	A	92.9	0.0	-3.0	0.0	0.0	44.7	0.2	0.9	0.0	0.0	23.5	0.0	0.0	20.7

Area Source, ISO 9613, Name: "GE", ID: "Site_Garage_Exhaust"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
13	17537705.31	4812140.34	0.10	0	D	A	68.3	-1.1	0.0	0.0	0.0	22.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	44.0
13	17537705.31	4812140.34	0.10	0	N	A	68.3	-1.1	-1.8	0.0	0.0	22.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	42.3
19	17537705.07	4812140.12	0.10	0	D	A	68.3	-11.0	0.0	0.0	0.0	22.7	0.0	0.6	0.0	0.0	0.0	0.0	0.0	33.9
19	17537705.07	4812140.12	0.10	0	N	A	68.3	-11.0	-1.8	0.0	0.0	22.7	0.0	0.6	0.0	0.0	0.0	0.0	0.0	32.2
21	17537704.81	4812140.51	0.10	0	D	A	68.3	-18.7	0.0	0.0	0.0	21.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	27.4
21	17537704.81	4812140.51	0.10	0	N	A	68.3	-18.7	-1.8	0.0	0.0	21.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	25.6
32	17537705.86	4812139.98	0.10	0	D	A	68.3	-0.6	0.0	0.0	0.0	23.8	0.0	0.7	0.0	0.0	0.0	0.0	0.0	43.2
32	17537705.86	4812139.98	0.10	0	N	A	68.3	-0.6	-1.8	0.0	0.0	23.8	0.0	0.7	0.0	0.0	0.0	0.0	0.0	41.4

Point Source, ISO 9613, Name: "Small Heat Pump", ID: "Site_Small_Heat_Pump"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	l/a	Optime	K0	Di	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
37	17537678.33	4812153.94	37.90	0	D	A	81.8	0.0	0.0	0.0	0.0	44.2	0.1	1.6	0.0	0.0	21.4	0.0	0.0	14.6
37	17537678.33	4812153.94	37.90	0	N	A	81.8	0.0	-3.0	0.0	0.0	44.2	0.1	1.6	0.0	0.0	21.4	0.0	0.0	11.6

Receiver Output With Mitigation

Name	ID	Level Lr		Height	Coordinates		
		Day	Night		X	Y	Z
		(dBA)	(dBA)	(m)	(m)	(m)	(m)
OLA #1	OLA1	31.8	29.0	1.50	17537689.44	4812164.02	10.50
OLA #2	OLA2	28.7	25.9	1.50	17537699.51	4812202.74	4.50
OLA #3	OLA3	30.4	27.4	1.50	17537600.17	4812189.22	1.50
OLA #4	OLA4	19.8	16.9	1.50	17537581.54	4812048.28	1.50
OLA #5	OLA5	32.3	30.4	2.00	17537704.13	4812126.98	2.00
OLA #6	OLA6	29.3	27.0	1.50	17537736.71	4812131.95	1.50
WCPOR	Site_	46.9	45.2	1.50	17537703.41	4812143.31	1.50

ATTACHMENT C

Table C1
Stationary Noise Impact Source Data
6-14 Dietz Avenue North, Waterloo, Ontario

Point Sources

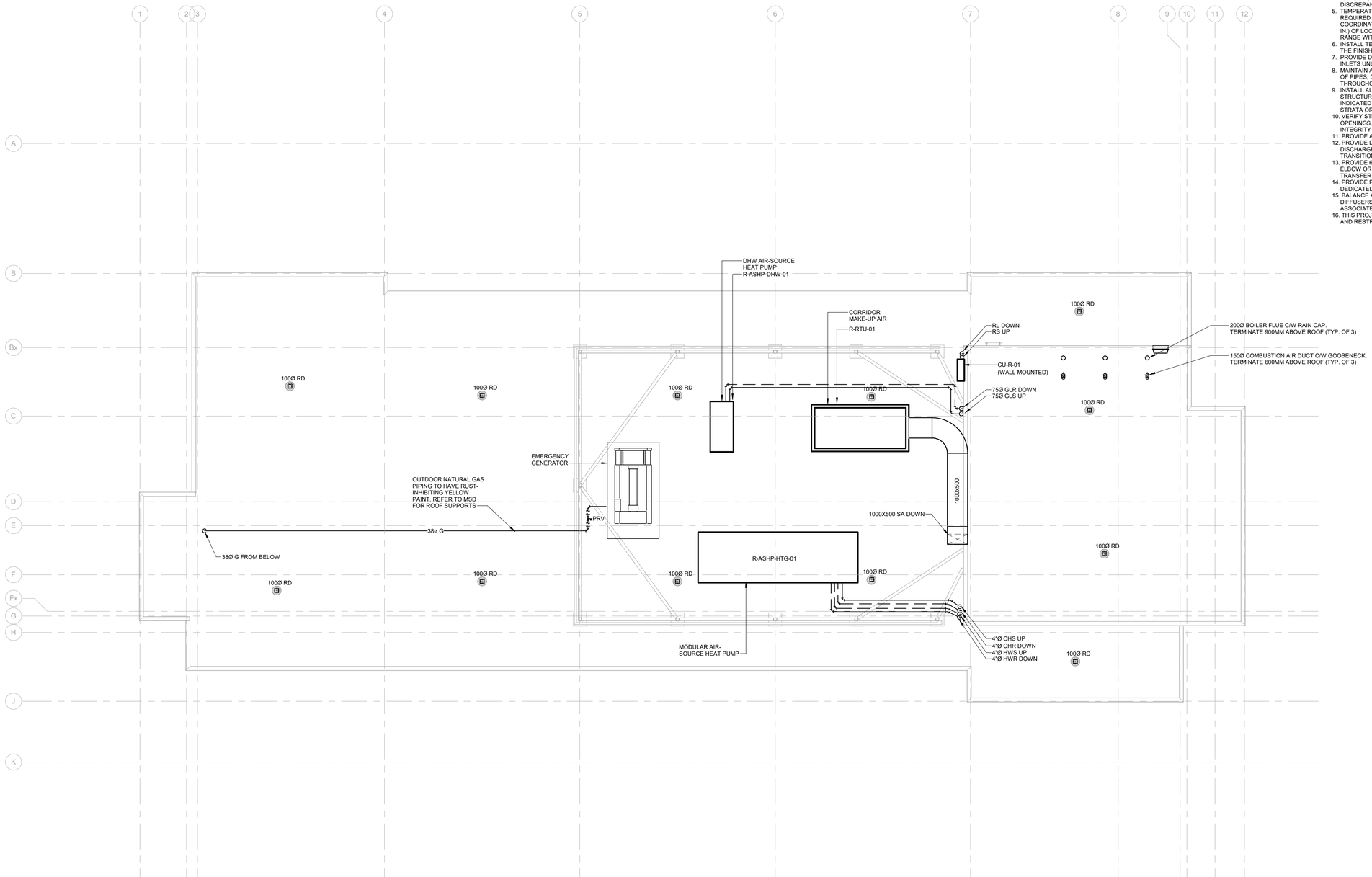
Noise Source Description	Cadna ID	Total SWL (dBA)	Data Source or Representative Data	Height Absolute (m)	Above Roof (m)	x	y
Generator	EMG_Generator	98.5	Generator	38.5	2.5	17537674	4812156
Large Heat Pump	Site_Large_Heatpump	92.9	R_ASHP-HTG-01	38.54	2.54	17537673	4812150
RTU-1	Site_RTU	76	RTU-1	36.5	0.5	17537681	4812149
Small Heat Pump	Site_Small_HeatPump	81.8	R_ASHP-DHW-01	37.9	1.9	17537678	4812154

Area Sources without Mitigation

Noise Source Description	Cadna ID	Total SWL (dBA)	Data Source or Representative Data	x	y
GE	Site_Garage_Exhaust	85.2	Parking_Exhaust	17537706	4812140

Area Sources with Mitigation

Noise Source Description	Cadna ID	Total SWL (dBA)	Data Source or Representative Data	x	y
GE	Site_Garage_Exhaust	70.7	Parking_Exhaust	17537706	4812140



HVAC NOTES

1. PROVIDE MINIMUM 19 MM (3/4 IN.) HWS/HWR AND CHS/CHR BRANCH PIPES SERVING TERMINAL DEVICES AND/OR EQUIPMENT UNLESS INDICATED OTHERWISE.
2. PROVIDE TYPE CV-1 CONTROL VALVES UNLESS INDICATED OTHERWISE.
3. PROVIDE ALL DUCTWORK DOWNSTREAM OF TERMINAL EQUIPMENT (I.E. FAN COILS, HEAT PUMPS, V.A.V. BOXES AND FAN POWERED BOXES) EQUAL TO THE EQUIPMENT OUTLET SIZE (MINIMUM) OR LARGER AS INDICATED. WHERE OUTLET SIZES ARE ODD SIZES, INCREASE THE DUCT SIZE UP TO THE NEAREST EVEN SIZE ((I.E. PROVIDE 356 MM (14 IN.) FOR 318 MM (12.5 IN.) OR 330 MM (13 IN.) OUTLET). PROVIDE TRANSITION DUCTS AS REQUIRED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS. REQUEST CLARIFICATION FOR ANY DIFFUSER OR GRILLE WITH MORE THAN A 600 MM (24 IN.) DISCREPANCY IN LOCATION.
5. TEMPERATURE SENSORS ARE LOCATED TO AID IN PRICING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN (REFER TO SPECIFICATIONS). COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 1000 MM (40 IN.) OF LOCATION SHOWN. REVIEW ALL RELOCATIONS OUTSIDE OF THIS RANGE WITH THE CONSULTANT.
6. INSTALL TEMPERATURE SENSORS AT NOMINALLY 1200 MM (48 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
7. PROVIDE DIFFUSER DUCT RUN-OUTS THE SAME SIZE AS THE DIFFUSER INLETS UNLESS INDICATED OTHERWISE.
8. MAINTAIN A MINIMUM OF 2400 MM (96 IN.) CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC. THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
9. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
10. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
11. PROVIDE ALL OPEN ENDED DUCTWORK COMPLETE WITH WIRE MESH.
12. PROVIDE DISCHARGE DUCTWORK FOR EXHAUST FANS EQUAL TO THE DISCHARGE OF THE FAN AS A MINIMUM OR LARGER AS INDICATED. TRANSITION AS REQUIRED FOR LARGER DUCTS.
13. PROVIDE 600X400X1200 (WXHXL) INTERNAL ACOUSTIC INSULATED ELBOW OR STRAIGHT TRANSFER DUCTS UNLESS INDICATED OTHERWISE. TRANSFER AIR DUCTS IN LIEU OF SILENCERS ARE NOT PERMITTED.
14. PROVIDE POWER FOR ON-FLOOR CONTROL DEVICES FROM THE DEDICATED EMERGENCY POWER CIRCUIT(S) IN ROOMS "XXX ".
15. BALANCE AIR FLOW RATES EQUALLY BETWEEN ALL INTERIOR DIFFUSERS BASED ON THE MAXIMUM AIR FLOW RATE SHOWN FOR THE ASSOCIATED TERMINAL DEVICE (VAV, FAN COIL, ETC.).
16. THIS PROJECT HAS SEISMIC REQUIREMENTS, PROVIDE SEISMIC BRACING AND RESTRAINTS AS REQUIRED.

Smith + Andersen
1400 - 148 Fullarton Street, London ON, N6A 5P3
t 519 963 8888 smithandandersen.com

TRUE NORTH | PROJECT NORTH

NO.	REVISION DESCRIPTION	DATE
1	ISSUED FOR 50% CD	2025.03.28
2	ISSUED FOR 75% CD	2025.05.09
3	ISSUED FOR 90% CD	2025.07.04
4	ISSUED FOR PERMIT & TENDER	2025.11.27

mcCallumSather
210, 137 Glasgow St. Office 426A
Kitchener, ON N2G 4X8
www.mccallumsather.com

LICENSED PROFESSIONAL ENGINEER
S.A. McCALLUM
100076117
24480.000
M.001
PROVINCE OF ONTARIO

PROJECT NAME

6-14 DIETZ AVE MULTI-RES

6-14 DIETZ AVE. N., WATERLOO, ON

CLIENT

2334825 ONTARIO LTD.

DRAWING TITLE

ROOF PLAN - MECHANICAL

PROJECT NUMBER	DRAWING NUMBER
24480.001	M4.7
SCALE: 1 : 100	
SHEET SIZE: 24x36	

EQUIPMENT NO.			R-ASHP-HTG-01				R-ASHP-DHW-01											
Make			JCI-York				Lync (Watts)											
Model			YMAE0140				Aegis A500											
Unit Configuration			Simultaneous Heat/Cool				Domestic Hot Water											
Modules Per Unit (Modular Units)			4				1											
Compressors / Circuits Per Unit			8															
COP @ Design Conditions	Cooling	Heating	2.9		2.1				3.5									
Fluid Type			40% Propylene Glycol				Water											
COOLING CIRCUIT			Summer															
Design Ambient Temp	°F	°C	95.0	35.0		--	N/A					--		--		--		--
Capacity	Tons		134				N/A											
Input Power	kW	hp	162.4	217.8		--	N/A					--		--		--		--
Water Flow Rate	USgpm	L/min	353.7	1,339		--	N/A					--		--		--		--
Entering Water Temperature	°F	°C	54.0	12.2		--	N/A					--		--		--		--
Leaving Water Temperature	°F	°C	44.0	6.7		--	N/A					--		--		--		--
Water Pressure Drop	Ft. H2O	kPa	19.2	57.3		--	N/A					--		--		--		--
Fouling Factor	°F.ft².h/Btu		0.0001															
Pressure Rating	PSI	kPa	150	1034		--		--		--		--		--		--		--
HEATING CIRCUIT			Winter															
Design Ambient Temp	°F	°C	14.0	-10.0		--	77.0	25.0	5.0	-15.0		--		--		--		--
Capacity	MBH		1215				494		266									
Input Power	kW	hp	172.0	230.7		--	41.9	56.2		--		--		--		--		--
Water Flow Rate	USgpm	L/min	263	997		--	76	288		--		--		--		--		--
Entering Water Temperature	°F	°C	110.0	43.3		--	40.0	4.4		--		--		--		--		--
Leaving Water Temp	°F	°C	120.0	48.9		--	140.0	60.0		--		--		--		--		--
Water Pressure Drop	Ft. H2O	kPa	9.0	26.8		--		--		--		--		--		--		--
Fouling Factor	°F.ft².h/Btu		0.0001															
Pressure Rating	PSI	kPa	150	1034		--	150	1034		--		--		--		--		--
SOUND DATA																		
1st Band			61				78											
2nd Band			64				80											
3rd Band			63				69											
4th Band			62				67											
5th Band			58				66											
			[Sound Pressure at 30.0 ft]				[Sound Pressure at 3.0 ft]											
ELECTRICAL DATA																		
Voltage			575/3/60				460/3/60											
FLA	Amp						73.8											
MCA	Amp		269				110											
MOCP	Amp		300				175											
Length	mm	in.	6750		266		3505		138			--				--		
Width	mm	in.	2240		88		1270		50			--				--		
Height	mm	in.	2540		100		1905		75			--				--		
Operating Weight	kg	lbs.	6506		14343		1279		2820			--				--		
REMARKS							Provide 75kVA transformer to receive 575/3/60											
Comply with the refrigerant requirements of Specification Section 20 05 00.00.							power to be located outdoors (NEMA 4 Enclosure)											
							C/W DHW Heat Exchanger - see H/X Schedule											

EQUIPMENT NO.			R-RTU-01															
SUPPLY FAN	cfm	L/s	6,000	2,832		--		--		--		--		--		--		--
External Static Pressure	In H2O	Pa	1.0	249		--		--		--		--		--		--		--
RPM			1,800															
Motor	hp	kW	10	7.46		--		--		--		--		--		--		--
Fan Control (vfd/viv/cv)			VFD															
Outlet sound Power Levels 1 to 6			75, 73, 77, 83, 71, 64															
Supply Fan Efficiency	%																	
RETURN FAN	cfm	L/s	N/A			--		--		--		--		--		--		--
External Static Pressure	In H2O	Pa	N/A			--		--		--		--		--		--		--
RPM			N/A															
Motor	hp	kW	N/A			--		--		--		--		--		--		--
Fan Control (vfd/viv/cv)			N/A															
Inlet sound Power Levels 1 to 6			N/A															
Return Fan Efficiency	%		N/A															
COOLING (total)	MBH	kW	162.0	47		--		--		--		--		--		--		--
Sensible Capacity	MBH	kW	111.0	33		--		--		--		--		--		--		--
Entering Air Temperature (db)	°F	°C	84.2	29.0		--		--		--		--		--		--		--
Entering Air Temperature (wb)	°F	°C	73.4	23.0		--		--		--		--		--		--		--
Leaving Air Temperature (db)	°F	°C	67.8	19.9		--		--		--		--		--		--		--
Leaving Air Temperature (wb)	°F	°C	66.2	19.0		--		--		--		--		--		--		--
Type (D/X/water/glycol)			40% Propylene Glycol															
Entering Glycol Temperature	°F	°C	45.0	7.2		--		--		--		--		--		--		--
Glycol Flow Rate	USgpm	L/min	32.5	123		--		--		--		--		--		--		--
Glycol Pressure Drop	ft H2O	kPa	2.8	8		--		--		--		--		--		--		--
HEATING	MBH	kW	488.0	143		--		--		--		--		--		--		--
Entering Air Temperature (db)	°F	°C	-5.8	-21.0		--		--		--		--		--		--		--
Type (gas/elec/glycol)			40% Propylene Glycol															
Stages of Heating			N/A															
Entering Glycol Temperature	°F	°C	115.0	46.1		--		--		--		--		--		--		--
Glycol Flow Rate	USgpm	L/min	52.6	199		--		--		--		--		--		--		--
Glycol Pressure Drop	ft H2O	kPa	9.1	27		--		--		--		--		--		--		--
FILTERS																		
Pre-filter	in.	mm.	2	0.08		--		--		--		--		--		--		--
Final filter	in.	mm.	12	0.49		--		--		--		--		--		--		--
HUMIDIFICATION (integral)	lbs/hr	kg/hr	N/A			--		--		--		--		--		--		--
UNIT WEIGHT	lbs		3,690															
CONDENSER			N/A															
Ambient Air Temperature	°F	°C	N/A			--		--		--		--		--		--		--
No. of Compressers			N/A															
Compressor Motor (each)	hp	kW	N/A			--		--		--		--		--		--		--
ELECTRICAL																		
Volts/Phase/Cycle			575/3/60															
Maximum Circuit Ampacity			12.5															
REMARKS																		

EQUIPMENT NO.			SL-RTU-01															
Fan Served			RTU-01 Supply Fan															
Airflow Rate	cfm	L/s	6,000	2,832		--		--		--		--		--		--		--
Type			Rectangular															
Diameter	In	mm		--		--		--		--		--		--		--		--
Width	In	mm	40	1,016		--		--		--		--		--		--		--
Height	In	mm	20	508		--		--		--		--		--		--		--
Length	In	mm	72	1,829		--		--		--		--		--		--		--
INSERT LOSS																		
2nd Band			3															
3rd Band			5															
4th Band			13															
Class																		
Air Pressure Drop	In H2O	Pa	0.30	75		--		--		--		--		--		--		--
Remarks			Exterior/Insulated															
EQUIPMENT NO.																		
Fan Served																		
Airflow Rate	cfm	L/s		--		--		--		--		--		--		--		--
Type																		
Diameter	In	mm		--		--		--		--		--		--		--		--
Width	In	mm		--		--		--		--		--		--		--		--
Height	In	mm		--		--		--		--		--		--		--		--
Length	In	mm		--		--		--		--		--		--		--		--
INSERT LOSS																		
2nd Band																		
3rd Band																		
4th Band																		
Class																		
Air Pressure Drop	In H2O	Pa		--		--		--		--		--		--		--		--
Remarks																		

Job Name: AER-20-02-0618 Cut Sheet
Tag: MK-1
Quantity: 1
Printed Date: April 8, 2026

Model: AER-20-02-0618

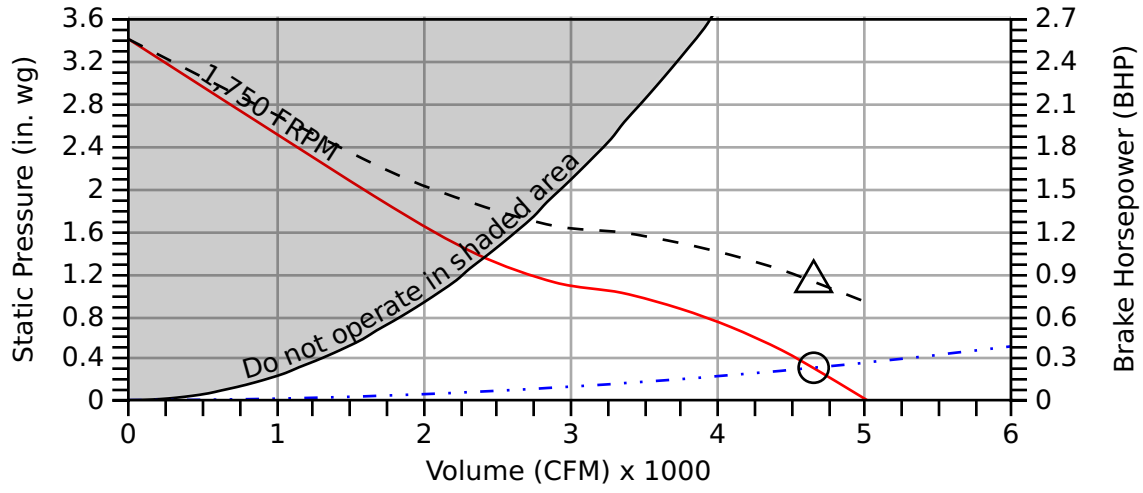
Sidewall Direct Drive Exhaust Fan

Standard Construction Features: Galvanized steel panel with fabricated galvanized steel drive frame (optional wall housing or wall collar). Propeller, fabricated steel (02) or cast aluminum (03). Direct driven motor in the airstream.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	4,600
Actual Volume (CFM)	4,646
Total External SP (in. wg)	0.31
Fan RPM	1,750
Operating Power (bhp)	0.84
Startup Power (bhp)	0.84
FEI	1.22
FEP Input Power (kw)	0.74
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft^3)	0.075
Elevation (ft)	12
Static Efficiency (%)	27
Outlet Velocity (ft/min)	2,052

Motor	
Size (hp)	1
V/C/P	575/60/3
NEC FLA (Amps)	1.7
Min Circuit Ampacity (MCA)	2.1
Max Overload Production (MOP)	15
Motor Speed (RPM)	1750
Motor Efficiency (%)	84.9



- Fan curve
- Brake horsepower curve
- Operating Point SP
- Operating Bhp point
- Max system curve
- System curve

Static Pressure Calculations	
External SP	0.3 in. wg
Direct Drive RPM Adjustment	0.01 in. wg
Total External SP	0.31 in. wg

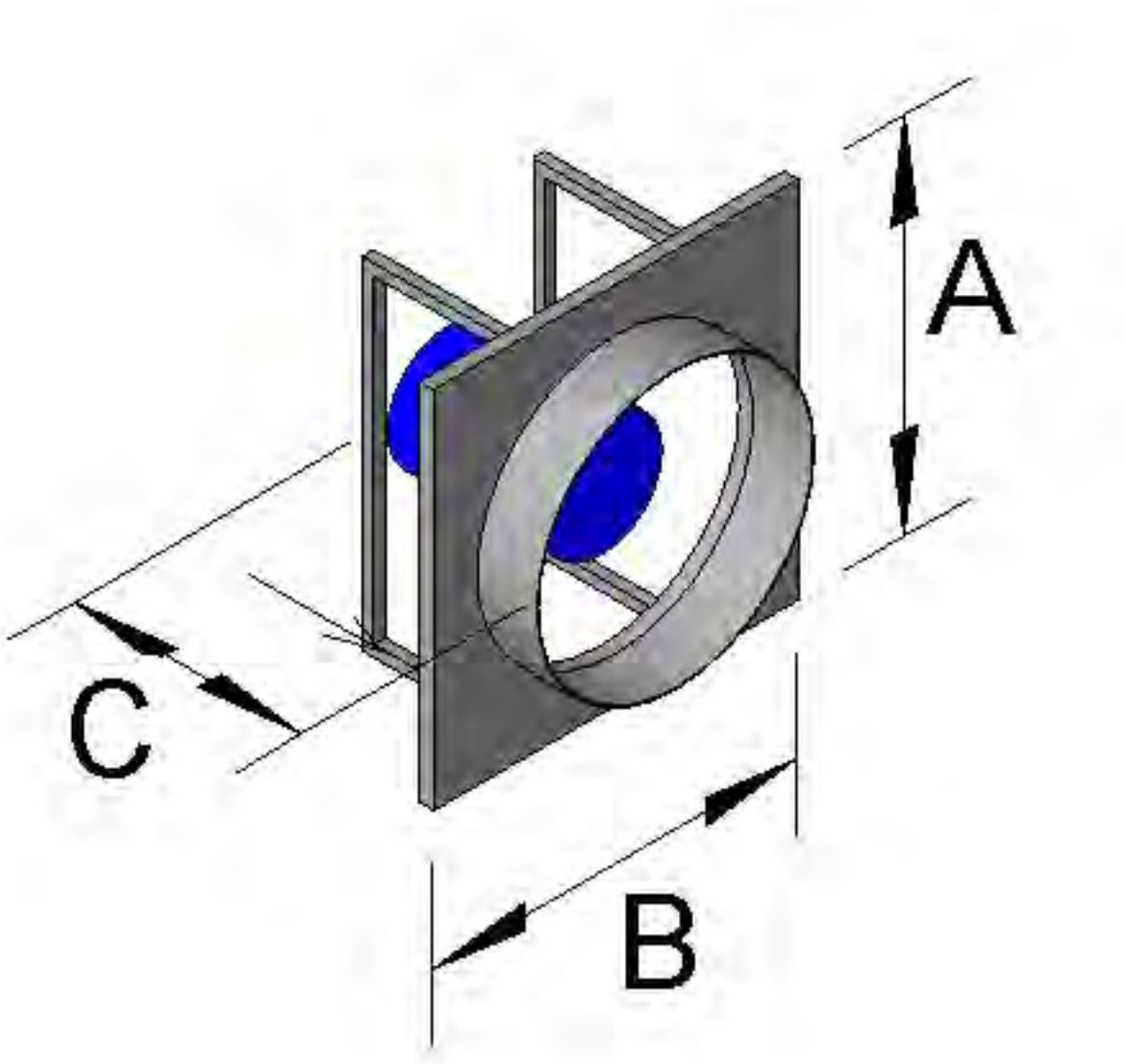
Sound

	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	85	86	87	82	80	76	72	66	85	74	23

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.The AMCA certified ratings seal applies to sound and air performance and FEI ratings only.Performance certified is for installation type A: Free inlet, free outlet.FEI calculation is based on the selected Motor Size, Motor Speed, and Motor Efficiency stated (see corresponding parameters).Power rating does not include transmission losses.Performance ratings do not include the effects of appurtenances.The sound ratings shown are loudness values in hemispherical sones at 1.5 m (5 ft) in a hemispherical free field calculated per ANSI/AMCA Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.Values shown are for Installation Type A: free inlet hemispherical sone levels.dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to LwiA and inlet sone ratings only.

FLA - based on tables 150 or 148 of National Electric Code 2002. Actual motor FLA may vary, for sizing thermal overload, consult factory.
MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc.).

Dimensions and Weights		
Label	**Value**	**Description**
-	20.125	Impeller Diameter (in)
-	78	Weight w/o accessories (lbs)
A	26	Overall Height (in)
B	26	Overall Width (in)
C	21	Overall Length (in)
-	23.25	Wall Opening Width (in)
-	23.25	Wall Opening Height (in)



*All dimensions are in inches.

ATTACHMENT D

Owner's Name: 2334825 Ontario Ltd.
Owner's Address: 109 Erb St W, Unit C
Waterloo, ON
N2L 1T4

Re: Addendum Stationary Noise Impact Study 6-14 Dietz Avenue North, Waterloo, Ontario

OWNER'S STATEMENT

I am the owner of the property, or the owner's agent, and that I understand and agree with the noise assessment and potential attenuation measures detailed in the study entitled Stationary Noise Impact Study, 6-14 Dietz Avenue North, Waterloo, Ontario, dated March 5, 2026.

The application has been designed to avoid the use of berms or walls as noise attenuation features where feasible. Where berms or walls are recommended, the Noise Study provides economic, planning and engineering justification.

If the application is changed in a way that may affect the noise level calculations, I will have a revised noise study submitted to the Region of Waterloo.

TOMMY RAKIC
Name



Signature

2026-04-29
Date

ATTACHMENT E

CANADA

PROVINCE OF ONTARIO

In the Matter of the *Environmental Protection Act* and the *Planning Act*

And in the Matter of 6-14 Dietz Avenue North, Waterloo, Ontario in the Regional Municipality of Waterloo

I, Joey Jraige, of JJ Acoustic Engineering Ltd., of the Town of Wheatley, SOLEMNLY DECLARE THAT:

1. I am a Professional Engineer employed by JJ Acoustic Engineering Ltd. which holds a Certificate of Authorization and have personal knowledge of the matters set out below.
2. I was retained or employed as the principal consultant to undertake the assessment of noise impacts and recommendation of noise mitigation measures for the property described as 6-14 Dietz Avenue North, Waterloo, Ontario.
3. I have the expertise required to perform these services. Any assessment activities or recommendations requiring the application of engineering principles have been undertaken or supervised by an engineer qualified to perform such services.
4. The information used in the letter report entitled "Road Traffic and Stationary Noise Impact Study" dated March 5, 2026, is the best available information as of the date of the study.
5. The noise level calculations, the interpretation of noise attenuation requirements and the recommended measures are in accordance with the Ministry of Environment Conservation and Parks Guidelines, Region of Waterloo policies, and any applicable policy or guidelines of the Area Municipality, and any other applicable policy or guideline.
6. The physical noise attenuation measures proposed in this study are feasible to implement and will provide the level of attenuation indicated in the study.
7. I acknowledge that this study may be subject to a peer review conducted at my cost.
8. I acknowledge that public authorities and future owners, occupants and others may rely on this statement.

AND I make this solemn Declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath.

DECLARED before me in the Town of Tilbury, in the Municipality of Chatham-Kent this 5th day of March 2026

Joey Jraige

A Commissioner, etc.

Mona Jraige, a Commissioner, etc., Province of Ontario, for Taylor Deltue, Barristers and Solicitors. Expires October 24, 2028.