Mer Bleue Elementary School Noise Impact Study (NIS)

Jerome Jodoin Drive, Orléans, Ontario

Ottawa Catholic School Board
Care of: Pye & Richards - Temprano & Young Architects Inc.
Noise Impact Study (NIS)
Reference no. 02601609.000

March 05, 2026

ENGLOBE

Ottawa Catholic School Board
Care of: Pye & Richards - Temprano & Young Architects Inc.
Reference no. 02601609.000

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APPENDICES

1 INTRODUCTION

Englobe Corp. (“Englobe”) was engaged by Pye & Richards - Temprano & Young Architects Inc. (“PRTY” or the “Client”), to prepare a Noise Impact Study (“NIS”) for a proposed new elementary school (the “Project”), located along Jerome Jodoin Drive (final address to be determined) in Orléans, Ontario.

This NIS is intended for submission to the City of Ottawa as part of the Project’s site plan control application. It is understood that the City considers the Project to be both noise sensitive and a stationary noise source. Given the proximity of transportation corridors to the Project, the NIS contains an assessment of the impact of road noise on the school, as well as an assessment of the impact of on-site equipment noise on the surrounding community and on the school itself.

1.1 Facility Description

The proposed Project will feature a 1-storey school (approximate floor area of 4,690 m^2), a new childcare centre attached to the main building (approximate floor area of 276 m^2), and up to 18 future portables. The land is currently vacant. The location of the Project is shown on Figure A1 provided in Appendix A.

The area surrounding the Project is made up of a mix of residential, institutional and park land uses: the Project site as well as the land northwest of the Project are zoned I1 (Minor Institutional Zone), the land to the north, west and east is zoned R3 (Residential Third Density Zone) and the land to the south is zoned O1 (Parks and Open Space Zone). A zoning map is shown on Figure A2 provided in Appendix A.

The Project features a ground surface consisting primarily of grass, and the area east of the building consists of a paved parking lot. The topography in the area is considered flat. The Project is assumed to operate within daytime hour limits only (between 7:00 am and 11:00 pm), Monday to Friday.

Operations of the Project are not expected to include significant sources of vibration, and therefore a detailed vibration impact assessment is not considered at this time. This assessment considers potential noise impacts only.

The NIS is based on the Site Plan Drawing A100 rev.01, dated 16 November, 2025, prepared by PRTY.

2 PART 1: STATIONARY NOISE SOURCE

Part 1 of this NIS assesses all sources of significant noise emissions located within the Project boundaries.

Predicted noise impacts to nearby noise sensitive land uses are determined based on an operating scenario that would result in predictable worst-case noise emissions from the Project. The operating scenario assessed in this case is a daytime scenario where all rooftop equipment is operating at 100% load while the school is occupied and in use.

2.1 Noise Sources

Significant noise sources associated with the Project include those listed in Table 2-1, below.

Table 2-1: Significant Noise Sources Associated with the Project

Noise Source	Function and/or Label	Manufacturer	Model	Steady, Varying or Impulsive?
Packaged Heat Pump Rooftop Units	Kindergarten RTU01	AAON	RN-011	Steady
	Daycare RTU02		RN-006	
	Classrooms South RTU03		RN-011	
	Classrooms West RTU04		RN-011	
	Classrooms North RTU05		RN-011	
	Gymnasium RTU06		RN-011	
	Learning Commons RTU07		RN-009	
Condensing Unit	Rooftop CU1	Mitsubishi	PURY-HP144TSNU-A1	Steady
Exhaust Fans	Daycare Exhaust EF1	Greenheck	G-098-VG/VGD	Steady
	Servery Room EF2		G-097-VG/VGD	
	Servery Room EF3		G-097-VG/VGD	
	Electrical Room EF5		SQ-140-VG	
Dedicated Outdoor Air System	W/R Exhaust DOAS1 (Including Both the Supply Air and Return Air Fans)	Tempeff	RG 2000	Steady

Sound power levels for each of the noise sources listed above, attached as Table B1 in Appendix B, were derived from manufacturer noise level data, attached in Appendix C. For Exhaust Fan EF5, which is located indoors and ducted to the outside, the ducted fan sound power levels were used to calculate ductborne insertion losses and estimate the sound pressure level at 1m from the exhaust point at the rooftop level, using ASHRAE-based attenuation calculations embedded in the EH Price “All-in-One Engineering - Acoustic Analysis” Software Package (the output is included in Appendix C with the EF5 manufacturer data). This sound pressure level at 1m was used in CadnaA to derive an equivalent sound power level at the exhaust point for modelling purposes. Furthermore, for the RTU units, Englobe used the 100% load sound level data, and for CU1, the louder “heating mode” sound level data was used. Both of these assumptions result in a conservative assessment. The locations of the significant noise sources are shown in Figure D1 in Appendix D.

All significant noise sources marked as “Steady” in Table 2-1, above, were assumed to be operating steadily and simultaneously to represent a predictable worst-case one-hour time period. For this Project, there are no significant noise sources marked as “Varying” or “Impulsive”.

2.1.1 Insignificant Noise Sources

Insignificant noise sources associated with this Project include:

— The Mechanical Room exhaust fan “EF4”. Manufacturer data indicates that the noise level data is “1.8 Sones at 1.5m from the fan”, which Englobe considers to be an insignificant sound pressure level. As such, EF4 was not included in the NIS assessment.

2.2 Points of Reception

A Point of Reception (“POR”), as defined by the City of Ottawa’s Environmental Noise Control Guidelines “ENCG” [1], may be located on a property used for residential, noise sensitive commercial, or institutional purposes. The nearest, worst-case PORs are listed in Table 2-2, below.

Table 2-2: Worst-Case POR Locations Surrounding the Facility

POR / OLA №	Description	Receptor Height Above Grade [m]
POR1	2-storey future residence located north of the Project	4.5
POR2	2-storey future residence located north of the Project	4.5
POR3	Future public park located south of the Project	1.5
POR4	2-storey future residence located north of the Project	4.5
POR5	Worst-case future portable associated with the Project, located south of the Project	1.5

Other nearby noise sensitive land uses are expected to experience lower noise levels than those listed in Table 2-2 due to the increased separation distance from the Project. The locations of the PORs relative to the Project are shown in Figures D2 and D3 in Appendix D. Of note, due to the fact that POR1-POR4 represent undeveloped lands where detailed drawings are not available to Englobe, the POR locations were placed on the closest property line associated with those PORs in order to provide a conservative assessment. All PORs are considered as representing a “plane of window”, except POR3, which is a park and therefore is assessed as an Outdoor Living Area (OLA), consistent with the ENCG [1].

2.3 Applicable Noise Level Limits

The applicable guideline noise level limits used for this Project are contained in the City of Ottawa’s ENCG [1].

For steady and varying noise, the ENCG [1] states that the one-hour equivalent noise levels (“$L_{EQ(1hr)}$”) from stationary noise sources shall not exceed the higher of either the background noise level or the limits presented in Table 2-3, below.

Table 2-3: Applicable $L_{EQ(1hr)}$ Noise Level Limits from the ENCG [1] for Steady and Varying Sounds

Outdoor Points of Receptions (OLA)			
Time of Day	**Class 1 Area [dBA]**	**Class 2 Area [dBA]**	**Class 3 Area [dBA]**
07:00 - 19:00	50	50	45
19:00 - 23:00	50	45	40
Plane of Window of Noise Sensitive Spaces			
Time of Day	**Class 1 Area [dBA]**	**Class 2 Area [dBA]**	**Class 3 Area [dBA]**
07:00 - 19:00	50	50	45
19:00 - 23:00	50	50	40
23:00 - 07:00	45	45	40

The area classification is considered to be Class 1 as defined in the ENCG [1], described as an area with an acoustical environment typical of a major population centre, where the background noise level is dominated by the activities of people, usually road traffic. As outlined in Sections 1 and 2, the Project is only expected to operate in a worst-case condition during daytime hours – as such, assessment of compliance in the context of this NIS was undertaken for the daytime period only. A noise level limit of 50 dBA is therefore used for this NIS, corresponding to a Class 1, daytime, plane of window (or OLA) POR.

2.4 Modelling and Results

2.4.1 Modelling Methodology and Assumptions

An acoustic model of the facility was prepared using *CadnaA* by Datakustik (Version 2025). The CadnaA program calculates noise levels surrounding a facility according to the ISO standard 9613-2, "Acoustics - Attenuation of Sound during Propagation Outdoors" [2]. The following parameters were used in the acoustic model:

- Grassy areas and fields assigned a default ground absorption of 0.90;
- The Project's parking lot is assumed to be acoustically reflective (ground absorption of 0.00);
- Maximum order of reflection of 3;
- Temperature of 10°C and relative humidity of 70%;
- Each significant piece of equipment was modelled as a point source;
- Topography in the area of the assessment was modelled as flat;

Sample outputs and parameters are attached as Appendix E, for reference.

2.5 Assessment Results

Predicted noise impacts at each POR are summarized in Table 2-4, with the resulting noise level plots provided as Figures D2 and D3 in Appendix D. A partial levels table is provided as part of the CadnaA outputs contained in Appendix E.

Table 2-4: Predicted Noise Levels and Resulting Compliance Review - Daytime

POR No.	Location	POR Type	Predicted Noise Impact (dBA)	Noise Level Limit (dBA)	Compliant? (Y or N)
POR1	North of Project	Residential	46	50	Y
POR2	East of Project	Residential	41	50	Y
POR3	South of Project	Park	35	50	Y
POR4	West of Project	Residential	41	50	Y
POR5	South of Project (On-Site)	Institutional	43	50	Y

Based on the results above, no noise mitigation recommendations are necessary from a stationary noise source point-of-view.

3 PART 2: TRANSPORTATION CORRIDOR NOISE IMPACT

As per the City of Ottawa's ENCG [1], the following transportation corridor is assessed as part of this NIS due to its roadway classification and proximity to the Project:

— Jerome Jodoin Drive

Of note, there are no rail corridors in proximity to the Project.

A site visit was undertaken by Englobe staff on February 27th, 2026 in order to identify potentially significant stationary noise sources impacting the Project. No significant stationary noise sources were identified during the site visit.

3.1 Source(s) – Road Traffic Parameters

Annual Average Daily Traffic (AADT) values for Jerome Jodoin Drive (classified as a "Collector" road type by the City of Ottawa's Transportation Master Plan) contained in Appendix B of the ENCG [1] were used for this NIS, along with the corresponding day/night traffic split and medium/heavy truck percentages, as summarized in Table 3-1, below.

Table 3-1: Road Traffic Data Summary

Road Segment	AADT	Day/Night %	Medium Trucks	Heavy Trucks	Speed Limit	Road Gradient
Jerome Jodoin Drive	8,000	92 % / 8 %	7 %	5 %	50 km/h	0 %

3.2 Critical Point(s) of Reception

Critical Points of Reception (POR) are receptors (located at the building's plane-of-window for this Project), which are most impacted by the transportation corridor noise sources identified in this NIS. For this Project, the only critical PORs is the one representing the western façade closest to Jerome Jodoin Drive, located near the northwest corner of the building. The POR location is shown in Figure F1, Appendix F, and summarized in Table 3-2.

Table 3-2: Critical Point(s) of Reception – Transportation Corridor Noise

Point of Reception	Location Description	POR Estimated Height Above Grade (m)
POR A	West façade of the building closest to Jerome Jodoin Drive (near NW corner) on the Ground Floor.	1.5

3.3 Noise Level Criteria – Roads

The ENCG [1] provides guidelines for road traffic noise impacting institutional developments, including noise level criteria.

3.3.1 Outdoor Noise Level Criterion

The ENCG [1] does not call for the evaluation of traffic noise impacting an outdoor amenity area associated with institutional developments.

3.3.2 Indoor Noise Level Criteria

The applicable indoor noise level criteria adopted by the ENCG [1] for road sources are given in Table 3-3, below. These are noise level limits contained in Table 2.2b of the ENCG [1].

Table 3-3: ENCG [1] Indoor Noise Level Limit - Road Noise

Type of Space	Time Period	Noise Level Limit ($L_{EQ(t)}$)
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	Daytime (07h00 to 23h00)	45 dBA

In addition to the noise level criteria shown in Table 3-3, the ENCG [1] indicates that noise control measures shall be developed according to the Ontario Ministry of the Environment, Conservation and Parks ("MECP") Publication NPC-300 [3]. The requirements pertaining to noise control measures given in NPC-300 [3] vary depending on the plane-of-window (outdoor) noise level, as shown in Table 3-4 and Table 3-5.

Table 3-4: NPC-300 [3] Minimum Ventilation and Warning Clause Requirements - Road Noise

Point of Assessment	Noise Level ($L_{EQ(t)}$)	Ventilation Requirements	Warning Clause
School plane-of-window[1] Daytime (07h00 to 23h00)	55 dBA < $L_{EQ(t)}$ ≤ 65 dBA	Forced-air heating with provision for central air conditioning	Type C
	65 dBA < $L_{EQ(t)}$	Central air conditioning	Type D

[1] Adapted from Section C7.1 of NPC-300 [3], using space types and relative noise level limits provided for supplementary noise level limits provided in Table 2.2b of the ENCG [1].

Table 3-5: NPC-300 [3] Minimum Building Component Requirements - Road Noise

Point of Assessment	Noise Level ($L_{EQ(t)}$)	Building Façade Requirements
School plane-of-window[1] Daytime (07h00 to 23h00)	$L_{EQ(t)}$ ≤ 65 dBA	Building façade constructions compliant with the Ontario Building Code (OBC)
	65 dBA < $L_{EQ(t)}$	Building façade constructions shall be designed such that the indoor noise level criteria are achieved

[1] Adapted from Section C7.1 of NPC-300 [3], using space types and relative noise level limits provided for supplementary noise level limits provided in Table 2.2b of the ENCG [1].

3.4 Noise Level Calculations

Noise level calculations were performed using two software packages: 1) STAMSON v5.04, the traffic noise prediction software package developed by the MECP; and, 2) TNM 3.1, the traffic noise prediction

software package developed by US Federal Highway Administration. The intermediate terrain between the sources and receivers was modelled as “reflective” in STAMSON and “pavement” in TNM due to the likelihood of on-site access roads or similar located between the Project building and Jerome Jodoin Drive, resulting in a conservative assessment.

Figure F1, Appendix F, shows the source-receiver distances and exposure angles for the POR. Calculation results are given in Table 3-6; of note, only daytime results are considered for the Project, since they are not considered to have night-time usage. Results from both software packages are provided in Appendix G.

Table 3-6: Calculated Noise Levels Due to Transportation Corridor Noise Sources

Point of Reception	Software Package Used	Calculated Sound Pressure Level (dBA) – Road Noise	
		Daytime (07h00 to 23h00)	Night-time (23h00 to 07h00)
POR A	STAMSON	63	N/A
	TNM 3.1	61	N/A

3.5 Noise Control Recommendations – Transportation Corridors

Given the calculated noise levels in Table 3-6, noise control measures are recommended in order to comply with the noise level criteria given in Section 3.3. The noise control measures are discussed in the following section and summarized in Table 3-7.

Table 3-7: Summary of Recommended Noise Control Measures

Point of Reception	Noise Barrier?	Ventilation Requirements	Building Component Requirements	Warning Clause
POR A	N/A	Forced-air heating w/ provision for central air conditioning	Compliant with OBC	Type C

3.5.1 Ventilation Requirements

Per Table 3-6, noise levels at POR A are expected to be between 55 dBA and 65 dBA during daytime hours. Therefore, as outlined in Table 3-4, forced-air heating with provision for central air conditioning is required as a minimum for all west-facing rooms. It is expected that the proposed Project will comply with this minimum requirement. A warning clause Type C is also required to be incorporated into the development.

3.5.2 Building Component Requirements

Per Table 3-6, noise levels at POR A are expected to be less than (or equal to) 65 dBA during daytime hours. Therefore, as outlined in Table 3-5, building façade constructions (including exterior walls and windows) compliant with the OBC are expected to achieve the indoor noise levels required for all west-facing rooms.

3.5.3 Warning Clause Requirements

Warning clauses are required to be incorporated into all development agreements, registrations on title and inclusion in Agreement of Purchase and Sale associated with this Project. The warning clauses

shall be drafted by a legal expert based on Section C8 of NPC-300 [3] and/or Part 4, Appendix A of the ENCG [1], with wording adapted as applicable to this Project.

4 CLOSURE

Based on a review of the information provided and the predicted noise levels, recommendations for noise mitigation measures have been made. With the implementation of the recommendations, we trust the foregoing will satisfy the requirements contained in NPC-300 [3].

Yours very truly,

Englobe Corp.

Katie Chung
Engineering Intern, Instrumentation

Martin Villeneuve, *P.Eng.*
Senior Engineer - Acoustics

STATEMENT OF LIMITATIONS

The Statement of Limitations enclosed as Appendix H of this report forms an integral part of the Report.

5 REFERENCES

[1] “Environmental Noise Control Guideline ”, City of Ottawa, 2016-2017

[2] “Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation”, ISO 9613-2:1996.

[3] “Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning”, Ontario Ministry of the Environment, Conservation and Parks, Publication NPC-300, August 2013 (Updated September 2021), PIBS 9588E

Appendix A:
Stationary Noise Source NIS Site and Process Figures

ENGLOBE

Note:
This drawing shall be read in conjunction with the associated report

0	2026/03/05	FINAL	M.V.
REVISION	DATE	ISSUE	APPROVAL

Client	Pye & Richards - Temprano & Young Architects Inc.
Project Name	Mer Bleue Elementary School Noise Impact Study (NIS)
Report Title	
Drawing Title	Project Location

Designed By		Scale	NTS
Drawn By	M.V.	Date	05 March 2026
Approved By		Project No.	02601609.000
Figure No.	A1		

eNGLOBe

Note:
This drawing shall be read in conjunction with the associated report

Legend:

DR	Development Reserve Zone
I1	Minor Institutional Zone
O1	Parks and Open Space Zone
R3	Residential 3rd Density Zone
RU	Rural Countryside Zone

0	2026/03/05	FINAL	M.V.
REVISION	DATE	ISSUE	APPROVAL

Client	Pye & Richards - Temprano & Young Architects Inc.
Project Name	Mer Bleue Elementary School Noise Impact Study (NIS)
Report Title	
Drawing Title	Zoning Map

Designed By		Scale	NTS
Drawn By	M.V.	Date	05 March 2026
Approved By		Project No.	02601609.000
Figure No.	A2		

Appendix B: Stationary Noise Source NIS Tables

Table B1: Noise Source Sound Power Level Summary Table

ENGLOBE

Subject: Noise Impact Study

Project Mer Bleue School
Jerome Jodoin Drive, Orléans, ON

Ref No: 02601609.000

Table B1: Noise Source Sound Power Level Summary Table

Source Description	Sound Power Level[a] [dB] at Full Octave Band Centre Frequency [Hz]								Lw(A)	Source Location[b]	Sound Characteristics [c]	Noise Control Measures [d]	Source of Data [e]
	63	125	250	500	1000	2000	4000	8000					
Packaged Heat Pump Rooftop Units (RTU01 and 03-to-07)	92.0	87.0	83.0	82.0	78.0	74.0	71.0	70.0	84	O	S	U	Man
Packaged Heat Pump Rooftop Unit (RTU02)	89.0	84.0	80.0	79.0	75.0	71.0	68.0	67.0	81	O	S	U	Man
Condensing Unit (CU1) - Heating Mode	84.0	79.5	76.5	76.5	76.0	71.5	68.5	65.5	80	O	S	U	Man
Exhaust Fan EF1	71.0	68.0	67.0	59.0	55.0	51.0	44.0	40.0	63	O	S	U	Man
Exhaust Fans EF2 and EF3	72.0	69.0	69.0	59.0	55.0	48.0	44.0	39.0	63	O	S	U	Man
Exhaust Fan EF5	70.0	70.0	75.0	66.0	59.0	58.0	54.0	51.0	69	O	S	U	Man/Cal
Dedicated Outdoor Air System (DOAS1) - Supply Air Fan	87.0	80.0	84.0	78.0	74.0	74.0	65.0	60.0	81	O	S	U	Man
Dedicated Outdoor Air System (DOAS1) - Return Air Fan	85.0	78.0	82.0	76.0	72.0	72.0	63.0	58.0	79	O	S	U	Man

GLOSSARY:

[a] Sound power levels of noise sources do not include sound characteristic adjustments per NPC-104. Values are unadjusted, unmitigated PWLs.
[b] Source location:
O - located/installed outside the building, including on the roof
I - located/installed inside the building
[c] Sound characteristic. (NOTE: applicable penalties, such as a 5 dB penalty for tonality, is not included in the sound power levels given in Table A-2. Penalty is added in the CadnaA model)
S = Steady I = impulsive T=Tonal
Q = Quasi-Steady Impulsive B = Buzzing C = Cyclic
[d] Existing noise control measures
S = Silencer/Muffler L = Lagging O = other
A = Acoustic lining, plenum E = acoustic enclosure U = uncontrolled
B = Barrier, berm, screening
[e] Source of data
Mea = Measured Man = Manufacturer's Data
Cal = Engineering Calculations
PP = Past Project

Appendix C:
Manufacturer Noise Level Data

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GREENHECK
Building Value in Air.

EF1

Job Name: G-098-VG Cut Sheet
Tag: MK-1
Quantity: 1
Printed Date: February 26, 2026

Model: G-098-VG

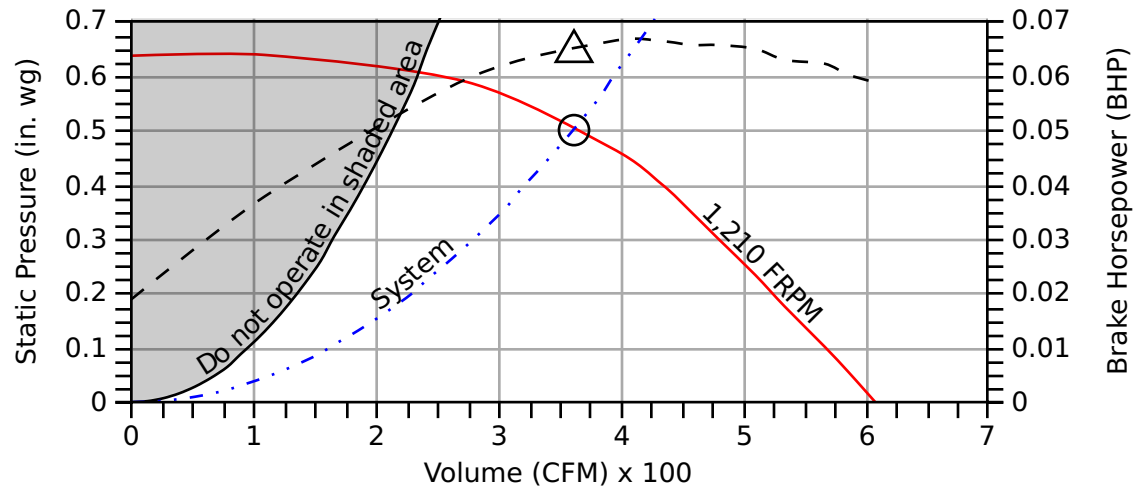
Direct Drive Centrifugal Roof Exhaust Fan

Standard Construction Features: Aluminum housing. Centrifugal backward inclined aluminum (composite for sizes 60-95) wheel. Direct driven motor mounted on vibration isolation.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	360
Actual Volume (CFM)	360
Total External SP (in. wg)	0.5
Fan RPM	1,210
Operating Power (bhp)	0.06
Startup Power (bhp)	0.06
FEI	-
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft^3)	0.075
Elevation (ft)	140
Static Efficiency (%)	44
Outlet Velocity (ft/min)	375

Motor	
Size (hp)	1/4
V/C/P	115/60/1
NEC FLA (Amps)	3.8
Min Circuit Ampacity (MCA)	4.8
Max Overload Production (MOP)	15
Short Circuit Current Rating (SCCR)	5 kA
Motor Speed (RPM)	1800



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

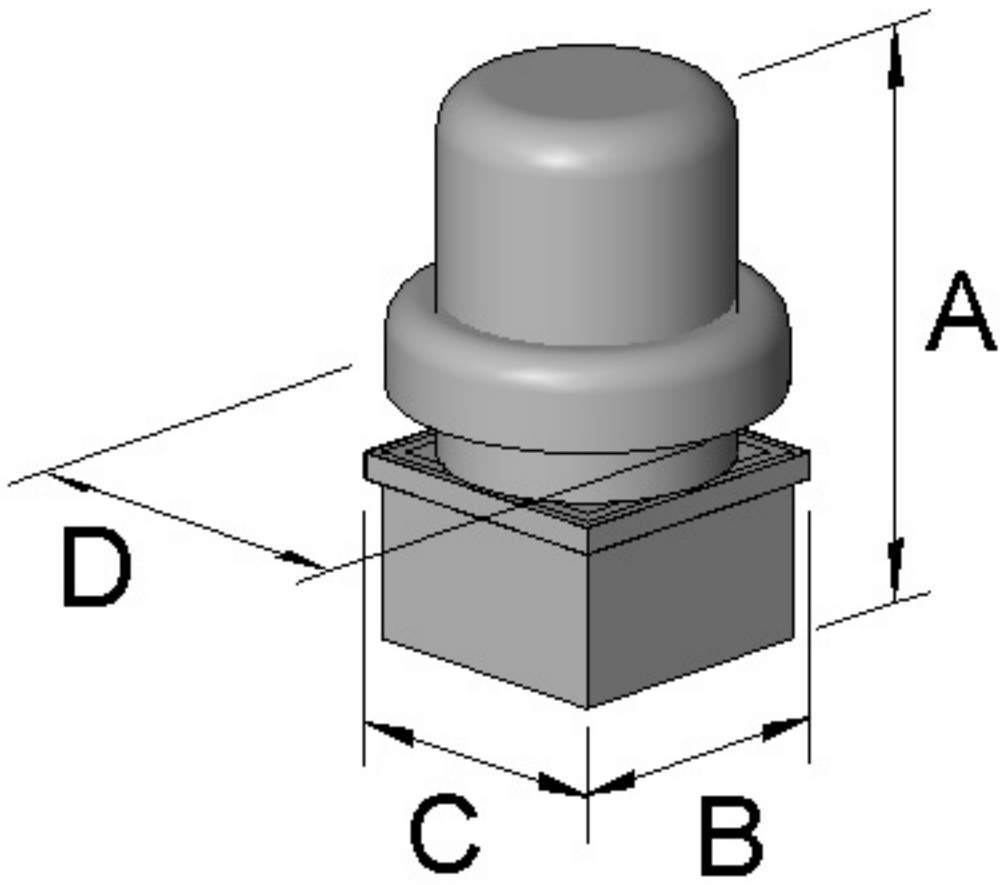
Sound

	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	71	68	67	59	55	51	44	40	63	51	6.1

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 ratings only.Performance certified is for installation type A: Free inlet, free outlet.Power rating does not include transmission losses.Performance ratings include the effects of birdscreen.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.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 for Sound applies to 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.).
SCCR is a rating on components and assemblies representing the maximum level of short-circuit current that a component or assembly can withstand without causing a fire or shock hazard. A short circuit exceeding this rating can cause catastrophic and violent equipment, component and enclosure failure.

Dimensions and Weights		
Label	**Value**	**Description**
-	11.188	Impeller Diameter (in)
-	54	Weight w/o accessories (lbs)
A	36	Overall Height (in)
D	24	Overall Width (in)
B	19	Curb Cap Width (in)
C	19	Curb Cap Length (in)
-	12	Duct / Damper Width (in)
-	12	Duct / Damper Length (in)
-	14.5	Roof Opening Width (in)
-	14.5	Roof Opening Length (in)



*All dimensions are in inches.

GREENHECK
Building Value in Air.

EF2/3

Job Name: G-097-VG Cut Sheet
Tag: MK-1
Quantity: 1
Printed Date: February 26, 2026

Model: G-097-VG

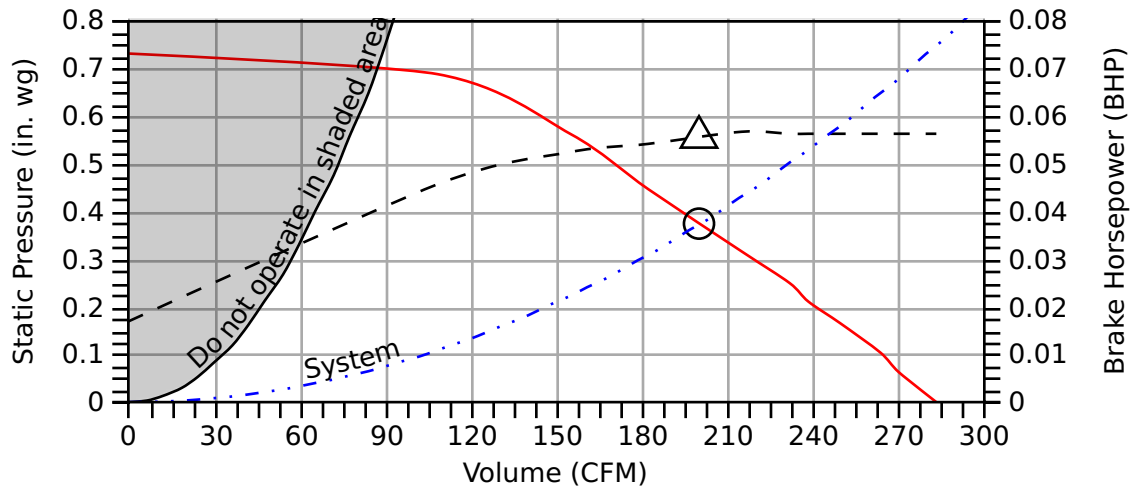
Direct Drive Centrifugal Roof Exhaust Fan

Standard Construction Features: Aluminum housing. Centrifugal backward inclined aluminum (composite for sizes 60-95) wheel. Direct driven motor mounted on vibration isolation.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	200
Actual Volume (CFM)	200
Total External SP (in. wg)	0.38
Fan RPM	1,298
Operating Power (bhp)	0.06
Startup Power (bhp)	0.06
FEI	-
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft^3)	0.075
Elevation (ft)	140
Static Efficiency (%)	21
Outlet Velocity (ft/min)	208

Motor	
Size (hp)	1/4
V/C/P	115/60/1
NEC FLA (Amps)	3.8
Min Circuit Ampacity (MCA)	4.8
Max Overload Production (MOP)	15
Short Circuit Current Rating (SCCR)	5 kA
Motor Speed (RPM)	1800



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

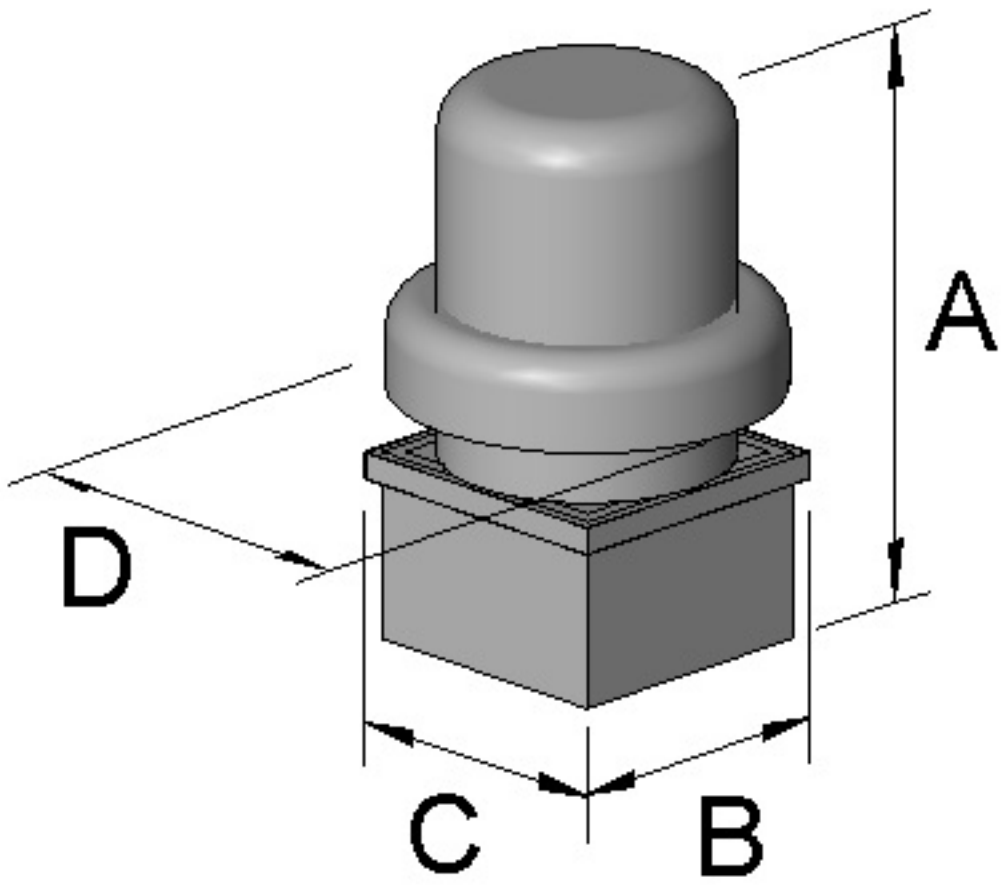
Sound

	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	72	69	69	59	55	48	44	39	64	52	6.4

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 ratings only.Performance certified is for installation type A: Free inlet, free outlet.Power rating does not include transmission losses.Performance ratings include the effects of birdscreen.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.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 for Sound applies to 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.).
SCCR is a rating on components and assemblies representing the maximum level of short-circuit current that a component or assembly can withstand without causing a fire or shock hazard. A short circuit exceeding this rating can cause catastrophic and violent equipment, component and enclosure failure.

Dimensions and Weights		
Label	**Value**	**Description**
-	11.188	Impeller Diameter (in)
-	54	Weight w/o accessories (lbs)
A	36	Overall Height (in)
D	24	Overall Width (in)
B	19	Curb Cap Width (in)
C	19	Curb Cap Length (in)
-	12	Duct / Damper Width (in)
-	12	Duct / Damper Length (in)
-	14.5	Roof Opening Width (in)
-	14.5	Roof Opening Length (in)



*All dimensions are in inches.

Model: CSP-A390-VG

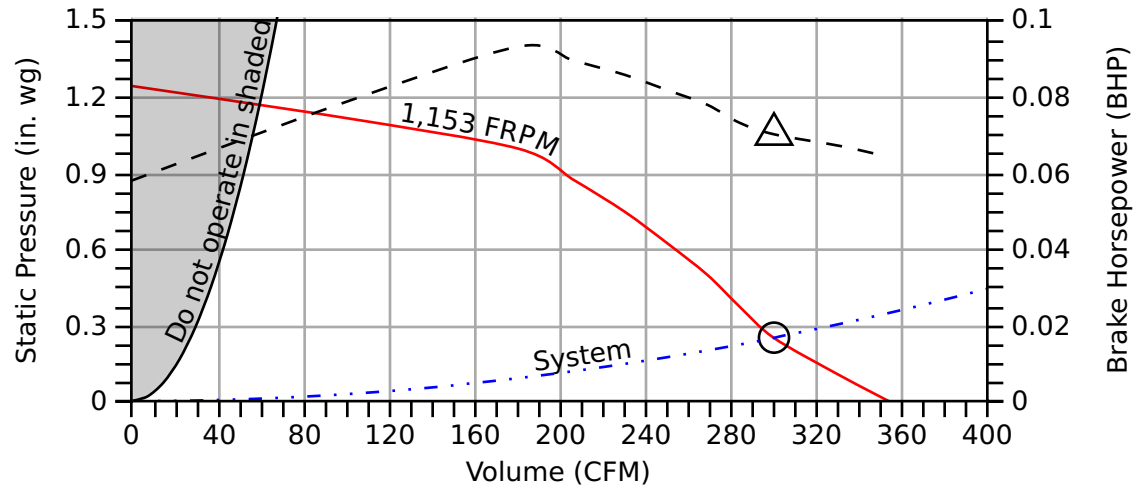
Direct Drive Cabinet Fan

Standard Construction Features: Galvanized steel housing with duct collars. Centrifugal forward curved wheel. Direct driven motor in the air stream.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	300
Actual Volume (CFM)	300
Total External SP (in. wg)	0.25
Fan RPM	1,153
Operating Power (bhp)	0.07
Startup Power (bhp)	0.07
FEI	-
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft^3)	0.075
Elevation (ft)	140
Watts (W)	53
Static Efficiency (%)	17
Outlet Velocity (ft/min)	278

Motor	
V/C/P	115/60/1
NEC FLA (Amps)	1.5
Min Circuit Ampacity (MCA)	1.9
Max Overload Production (MOP)	15
Motor Speed (RPM)	1800



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

Static Pressure Calculations	
External SP	0.25 in. wg
Direct Drive RPM Adjustment	0 in. wg
Total External SP	0.25 in. wg

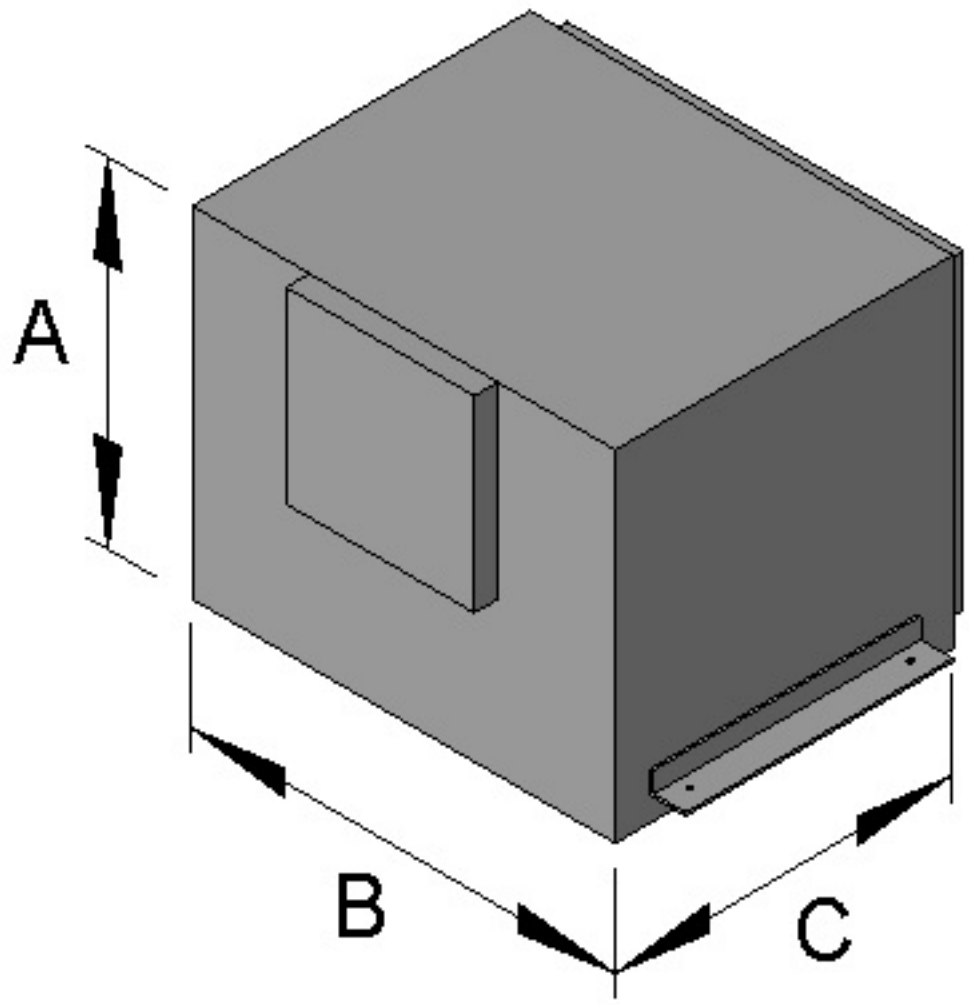
Sound

	Sones
Inlet	1.8

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 comply with the requirements of the AMCA Certified Ratings Program.The AMCA certified ratings seal applies to air performance ratings only.Performance certified is for installation type D: Ducted inlet, ducted outlet.Power rating does not include transmission losses.Performance ratings include the effects of a backdraft damper.Speed (RPM) shown is nominal. Performance is based on actual speed of test.The sound ratings shown are loudness values in spherical sones at 1.5 m (5 ft) in a spherical free field calculated per ANSI/AMCA 301.Values shown are for installation Type D: ducted inlet spherical sone levels. Ratings do not include the effects of duct end correction. Ratings are based on 10 ft. of insulated duct.

Wattage is shown at free air. Wattage is approximate and may vary between motors. Fan shaft input power (bhp) is not certified.
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**
-	7.75	Impeller Diameter (in)
-	24	Weight w/o accessories (lbs)
A	11	Overall Height (in)
B	14	Overall Width (in)
C	12	Overall Length (in)
-	12.875	Inlet Width (in)
-	10	Inlet Height (in)



*All dimensions are in inches.

EF5

Job Name: SQ-140-VG Cut Sheet
Tag: MK-1
Quantity: 1
Printed Date: February 26, 2026

Model: SQ-140-VG

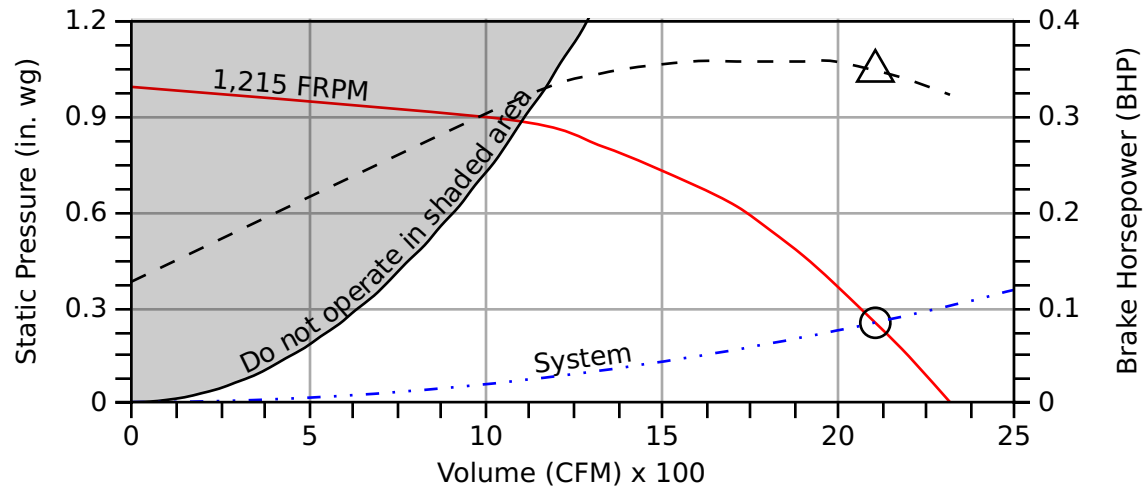
Direct Drive Inline Fan

Standard Construction Features: Galvanized steel housing (optional aluminum). Centrifugal backward inclined wheel. Direct driven motor in the air stream.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	2,100
Actual Volume (CFM)	2,100
Total External SP (in. wg)	0.25
Fan RPM	1,215
Operating Power (bhp)	0.35
Startup Power (bhp)	0.35
FEI	-
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft^3)	0.075
Elevation (ft)	140
Static Efficiency (%)	24
Outlet Velocity (ft/min)	775

Motor	
Size (hp)	3/4
V/C/P	208/60/1
NEC FLA (Amps)	6
Min Circuit Ampacity (MCA)	7.5
Max Overload Production (MOP)	15
Short Circuit Current Rating (SCCR)	5 kA
Motor Speed (RPM)	1800



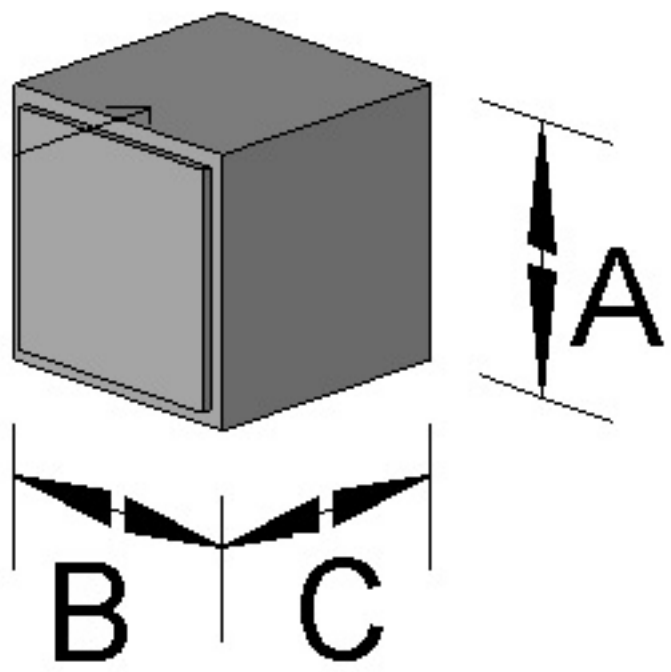
Sound

	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	70	72	78	71	64	63	59	56	73	62	11.3
Radiated	73	73	74	66	56	48	41	40	68	56	7.8

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 ratings only.Performance certified is for installation type B: Free inlet, ducted outlet.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.Values shown are for Installation Type B: free inlet hemispherical sone levels.dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal for Sound applies to 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.).
SCCR is a rating on components and assemblies representing the maximum level of short-circuit current that a component or assembly can withstand without causing a fire or shock hazard. A short circuit exceeding this rating can cause catastrophic and violent equipment, component and enclosure failure.

Dimensions and Weights		
Label	**Value**	**Description**
-	14.562	Impeller Diameter (in)
-	82	Weight w/o accessories (lbs)
A	23	Overall Height (in)
B	23	Overall Width (in)
C	22	Overall Length (in)
-	19.875	Inlet Width (in)
-	19.875	Inlet Height (in)
-	19.875	Outlet Width (in)
-	19.875	Outlet Height (in)



*All dimensions are in inches.

EF5 DUCTBORNE NOISE ATTENUATION AND
ROOFTOP SPL ESTIMATE BY ENGLOBE

Acoustic Analysis Report

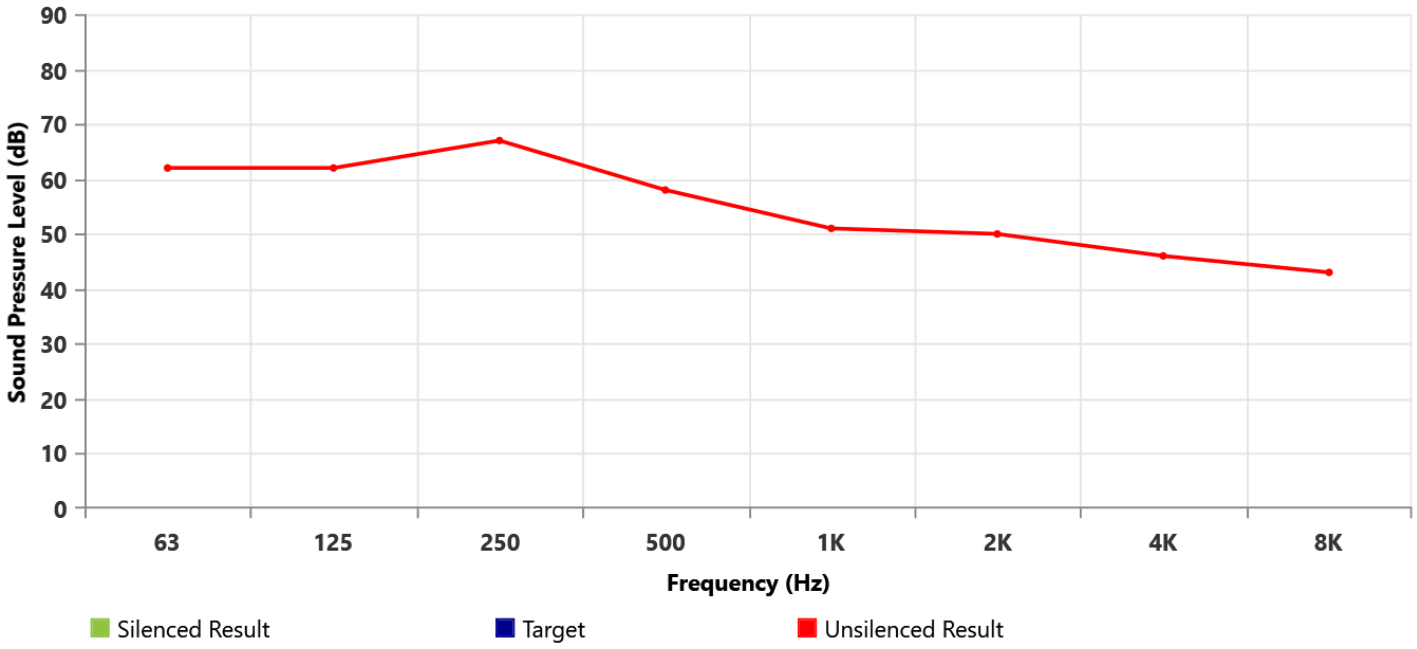
Prepared by	Martin Villeneuve
Date	February 26, 2026

PROJECT:
LOCATION:
DATE: FEBRUARY 26, 2026
REVISION:

REP NAME:
REP OFFICE:
ENGINEER:
CONTRACTOR:

PATH #1

Element	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Comments
Source	70	72	78	71	64	63	59	56	
Elbow - *18.00w x 16.00h*	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - *18.00w x 16.00h*	48	43	37	29	21	13	3	0	
Elbow - *18.00w x 16.00h*	0	-1	-2	-3	-3	-3	-3	-3	
Elbow (regen.) - *18.00w x 16.00h*	48	43	37	29	21	13	3	0	
Straight Duct - *3ft 18.00w x 16.00h*	-1	-1	0	0	0	0	0	0	
Receiver	-7	-7	-7	-7	-7	-7	-7	-7	Distance effect
Sum	**62**	**62**	**67**	**58**	**51**	**50**	**46**	**43**	
Target:									
Current: 61 dBA *(NC 60 / RC > 50)*									



Speed %			Fans	Dia	RPM	Sound Power Level 63	125	250	500	1000	2000	4000	8000	LwA
100%	RQ 2 & 3 Ton	Inlet	1	30	850	79	74	72	70	66	62	59	59	72
		Outlet				81	77	71	71	67	62	59	58	73
		Total				83	79	74	73	69	65	62	61	75
75%	RQ 2 & 3 Ton	Inlet	1	30	638	73	68	66	63	59	56	53	52	65
		Outlet				75	71	64	65	60	56	53	52	66
		Total				77	73	68	67	63	59	56	55	69
50%	RQ 2 & 3 Ton	Inlet	1	30	425	64	59	57	54	51	47	44	44	57
		Outlet				66	62	56	56	52	47	44	43	57
		Total				68	64	59	58	54	50	47	46	60
25%	RQ 2 & 3 Ton	Inlet	1	30	213	49	44	42	39	36	32	29	29	42
		Outlet				51	47	40	41	37	32	29	28	42
		Total				53	49	44	43	39	35	32	31	45
100%	RQ 4-6 RN 6 & 7 Ton	Inlet	1	30	1085	85	79	77	75	71	68	65	64	77
		Outlet				86	83	76	76	72	68	65	63	78
		Total				89	84	80	79	75	71	68	67	80
75%	RQ 4-6 RN 6 & 7 Ton	Inlet	1	30	814	78	73	71	69	65	61	58	58	71
		Outlet				80	77	70	70	66	61	58	57	72
		Total				82	78	73	72	68	64	61	61	74
50%	RQ 4-6 RN 6 & 7 Ton	Inlet	1	30	543	70	64	62	60	56	53	50	49	
		Outlet				71	68	61	61	57	53	50	48	63
		Total				74	69	65	64	59	56	53	52	65
25%	RQ 4-6 RN 6 & 7 Ton	Inlet	1	30	271	54	49	47	45	41	37	35	34	47
		Outlet				56	53	46	46	42	38	35	33	48
		Total				59	54	50	48	44	41	38	37	50
100%	RN 8 & 10 Ton	Inlet	1	30	1085	92	86	85	82	78	75	72	71	84
		Outlet				94	90	83	83	79	75	72	71	85
		Total				96	91	87	86	82	78	75	74	88
75%	RN 8 & 10 Ton	Inlet	1	30	814	86	80	78	76	72	68	66	65	78
		Outlet				87	84	77	77	73	69	66	64	79
		Total				90	85	81	80	75	72	69	68	81
50%	RN 8 & 10 Ton	Inlet	1	30	543	77	71	69	67	63	60	57	56	69
		Outlet				79	75	68	68	64	60	57	56	70
		Total				81	76	72	71	67	63	60	59	73
25%	RN 8 & 10 Ton	Inlet	1	30	271	62	56	54	52	48	45	42	41	54
		Outlet				64	60	53	53	49	45	42	41	55
		Total				66	61	57	56	52	48	45	44	58

RTU-2 @ 95F (AHRI Conditions)

RTU-2 at approximate Ottawa ASHRAE design day conditions

100%	RN 9 & 11 Ton	Inlet	2	30	1085	88	82	80	78	74	71	68	67	80
		Outlet				89	86	79	79	75	71	68	66	81
		Total				92	87	83	82	78	74	71	70	83
75%	RN 9 & 11 Ton	Inlet	2	30	814	81	76	74	72	68	64	61	61	74
		Outlet				83	80	73	73	69	64	61	60	75
		Total				85	81	76	75	71	67	64	64	77
50%	RN 9 & 11 Ton	Inlet	2	30	407	66	61	59	57	53	49	46	46	59
		Outlet				68	64	58	58	54	49	46	45	60
		Total				70	66	61	60	56	52	49	48	62
25%	RN 9 & 11 Ton	Inlet	2	30	271	57	52	50	48	44	40	38	37	50
		Outlet				59	56	49	49	45	41	38	36	51
		Total				62	57	53	51	47	44	41	40	53
100%	RN 13-20 Ton	Inlet	2	30	1085	95	89	88	85	81	78	75	74	87
		Outlet				97	93	86	86	82	78	75	74	88
		Total				99	94	90	89	85	81	78	77	91
75%	RN 13-20 Ton	Inlet	2	30	814	89	83	81	79	75	71	69	68	81
		Outlet				90	87	80	80	76	72	69	67	82
		Total				93	88	84	83	78	75	72	71	84
50%	RN 13-20 Ton	Inlet	2	30	543	80	74	72	70	66	63	60	59	72
		Outlet				82	78	71	71	67	63	60	59	73
		Total				84	79	75	74	70	66	63	62	76
25%	RN 13-20 Ton	Inlet	2	30	271	65	59	57	55	51	48	45	44	57
		Outlet				67	63	56	56	52	48	45	44	58
		Total				69	64	60	59	55	51	48	47	61
100%	RN 25 & 30 Ton	Inlet	3	30	1085	97	91	89	87	83	80	77	76	89
		Outlet				98	95	88	88	84	80	77	75	90
		Total				101	96	92	91	86	83	80	79	92
75%	RN 25 & 30 Ton	Inlet	3	30	814	90	85	83	81	77	73	70	70	83
		Outlet				92	88	82	82	78	73	70	69	83
		Total				94	90	85	84	80	76	73	72	86
50%	RN 25 & 30 Ton	Inlet	3	30	543	81	76	74	72	68	64	62	61	74
		Outlet				83	80	73	73	69	65	62	60	75
		Total				86	81	77	75	71	67	65	64	77
25%	RN 25 & 30 Ton	Inlet	3	30	271	66	61	59	57	53	49	47	46	59
		Outlet				68	65	58	58	54	49	47	45	60
		Total				70	66	62	60	56	52	50	49	62

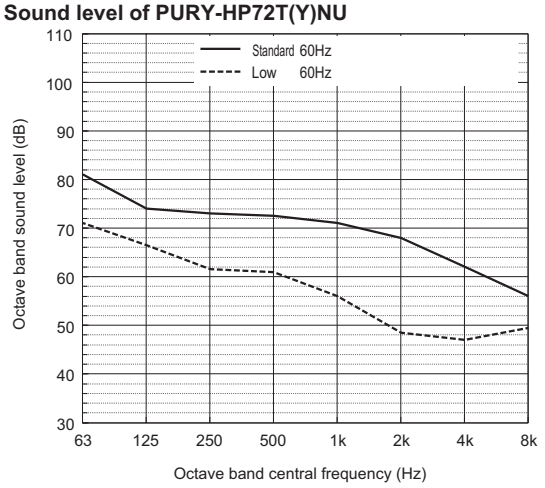
RTU-1,3-7 @ 95F (AHRI Conditions)

RTU-1,3-7 at approximate Ottawa ASHRAE design day

100%	RN 26, 31 & 40 Ton	Inlet	4	30	1085	98	92	91	88	84	81	78	77	90
		Outlet				100	96	89	89	85	81	78	77	91
		Total				102	98	93	92	88	84	81	80	94
75%	RN 26, 31 & 40 Ton	Inlet	4	30	814	92	86	84	82	78	75	72	71	84
		Outlet				93	90	83	83	79	75	72	70	85
		Total				96	91	87	86	81	78	75	74	87
50%	RN 26, 31 & 40 Ton	Inlet	2	30	1085	95	89	88	85	81	78	75	74	87
		Outlet				97	93	86	86	82	78	75	74	88
		Total				99	95	90	89	85	81	78	77	91
25%	RN 26, 31 & 40 Ton	Inlet	2	30	543	80	74	72	70	66	63	60	59	72
		Outlet				82	78	71	71	67	63	60	59	73
		Total				84	79	75	74	70	66	63	62	76
100%	RN 50, 60 & 70 Ton	Inlet	6	30	1085	100	94	92	90	86	83	80	79	92
		Outlet				101	98	91	91	87	83	80	78	93
		Total				104	99	95	94	89	86	83	82	95
75%	RN 50, 60 & 70 Ton	Inlet	6	30	814	93	88	86	84	80	76	73	73	86
		Outlet				95	91	85	85	81	76	73	72	87
		Total				97	93	88	87	83	79	76	75	89
50%	RN 50, 60 & 70 Ton	Inlet	3	30	1085	97	91	89	87	83	80	77	76	89
		Outlet				98	95	88	88	84	80	77	75	90
		Total				101	96	92	91	86	83	80	79	92
25%	RN 50, 60 & 70 Ton	Inlet	3	30	543	81	76	74	72	68	64	62	61	74
		Outlet				83	80	73	73	69	65	62	60	75
		Total				86	81	77	75	71	68	65	64	77
100%	RN 55,65 & 75 Ton	Total	4	30	1170	89	84	84	84	84	83	83	79	90
75%	RN 55,65 & 75 Ton	Total	4	30	877.5	83	78	78	78	78	77	77	73	84
50%	RN 55,65 & 75 Ton	Total	4	30	585	74	69	69	69	69	68	68	64	75
25%	RN 55,65 & 75 Ton	Total	4	30	292.5	59	54	54	54	54	53	53	49	60
100%	RN 90,105,120,130,140	Total	8	30	1170	92	87	87	87	87	86	86	82	93
75%	RN 90,105,120,130,140	Total	8	30	877.5	86	81	81	81	81	80	80	76	87
50%	RN 90,105,120,130,140	Total	4	30	1170	89	84	84	84	84	83	83	79	90
25%	RN 90,105,120,130,140	Total	4	30	585	74	69	69	69	69	68	68	64	75

5-1. Sound levels in cooling mode CU1

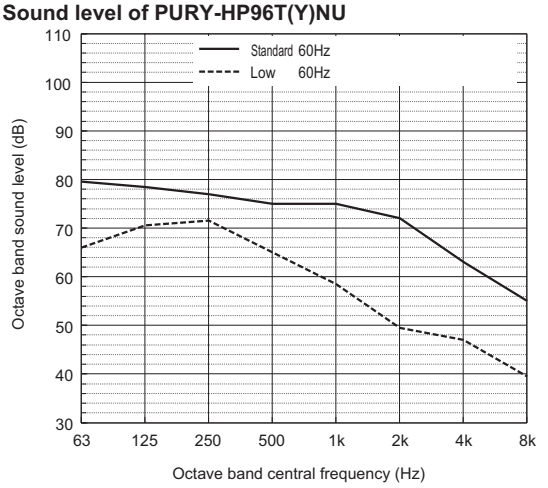
Sound level of PURY-HP72T(Y)NU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	81.0	74.0	73.0	72.5	71.0	68.0	62.0	56.0	75.5
Low noise mode	60Hz	71.0	66.5	61.5	61.0	56.0	48.5	47.0	49.5	62.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

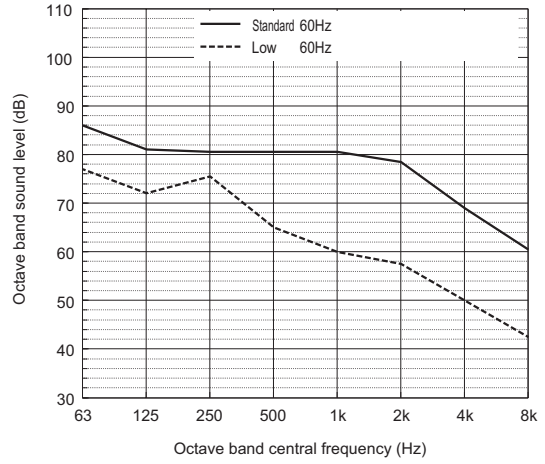
Sound level of PURY-HP96T(Y)NU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	79.5	78.5	77.0	75.0	75.0	72.0	63.0	55.0	79.0
Low noise mode	60Hz	66.0	70.5	71.5	65.0	58.5	49.5	47.0	39.5	66.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

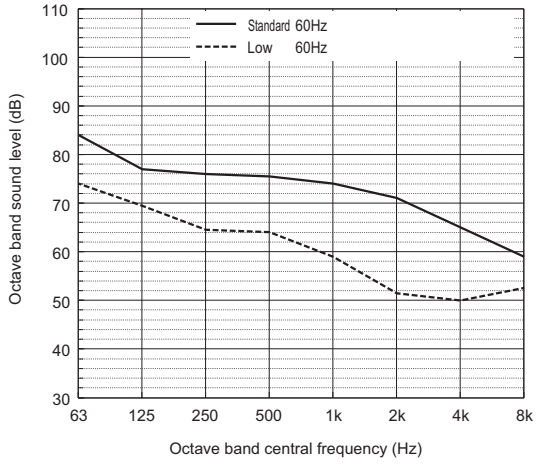
Sound level of PURY-HP120T(Y)NU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	86.0	81.0	80.5	80.5	80.5	78.5	69.0	60.5	84.5
Low noise mode	60Hz	77.0	72.0	75.5	65.0	60.0	57.5	50.0	42.5	69.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

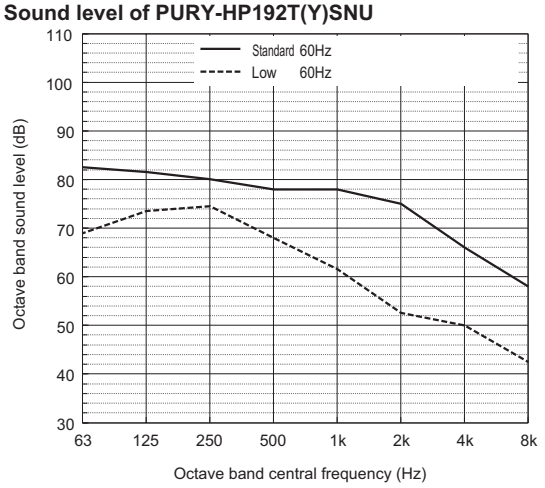
Sound level of PURY-HP144T(Y)SNU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	84.0	77.0	76.0	75.5	74.0	71.0	65.0	59.0	78.5
Low noise mode	60Hz	74.0	69.5	64.5	64.0	59.0	51.5	50.0	52.5	65.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

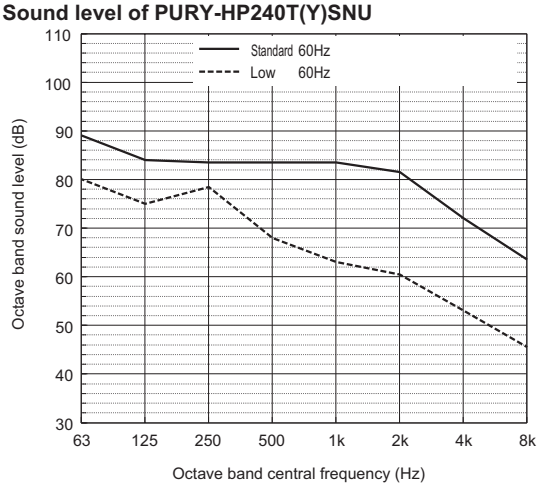
Sound level of PURY-HP192T(Y)SNU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	82.5	81.5	80.0	78.0	78.0	75.0	66.0	58.0	82.0
Low noise mode	60Hz	69.0	73.5	74.5	68.0	61.5	52.5	50.0	42.5	69.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Sound level of PURY-HP240T(Y)SNU



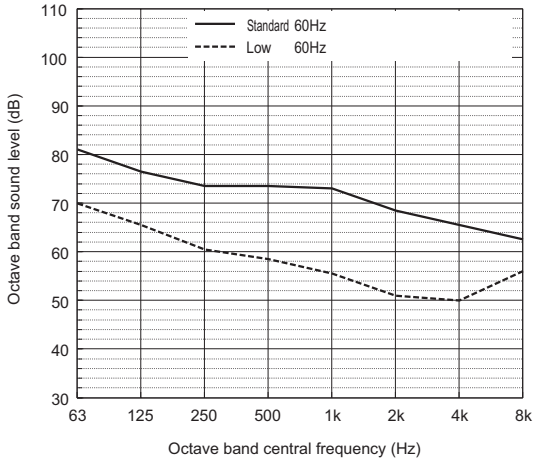
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Cooling	60Hz	89.0	84.0	83.5	83.5	83.5	81.5	72.0	63.5	87.5
Low noise mode	60Hz	80.0	75.0	78.5	68.0	63.0	60.5	53.0	45.5	72.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

- Depending on the operation conditions, the unit generates noise caused by valve actuation, refrigerant flow, and pressure changes when operating normally. Please consider to avoid location where quietness is required.
  For BC controller, it is recommended to be installed in places such as ceilings of corridor, rest rooms and plant rooms.
- The sound values are sound power level (PWL) based on ISO 3744:2010 (r = 3.5 m).

5-2. Sound levels in heating mode CU1

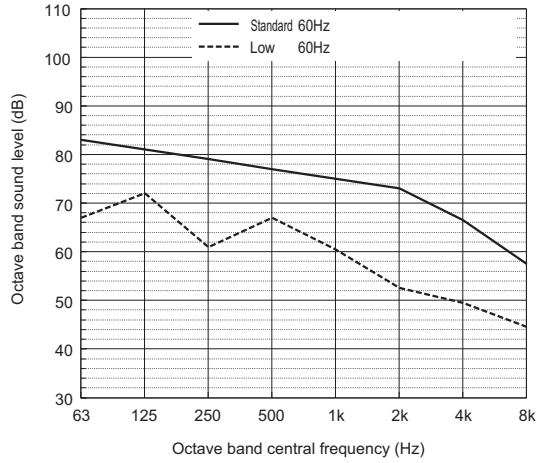
Sound level of PURY-HP72T(Y)NU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Heating	60Hz	81.0	76.5	73.5	73.5	73.0	68.5	65.5	62.5	77.0
Low noise mode	60Hz	70.0	65.5	60.5	58.5	55.5	51.0	50.0	56.0	62.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

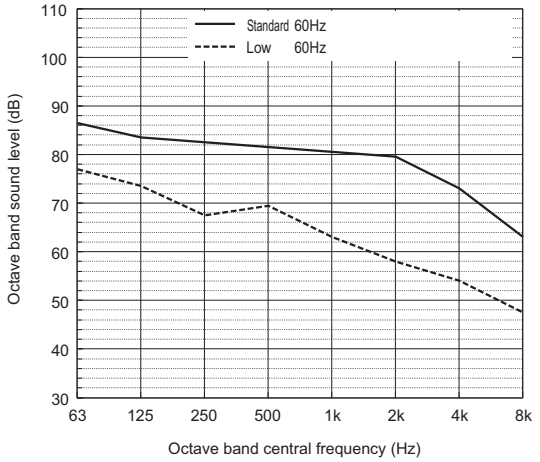
Sound level of PURY-HP96T(Y)NU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Heating	60Hz	83.0	81.0	79.0	77.0	75.0	73.0	66.5	57.5	80.0
Low noise mode	60Hz	67.0	72.0	61.0	67.0	60.5	52.5	49.5	44.5	66.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation

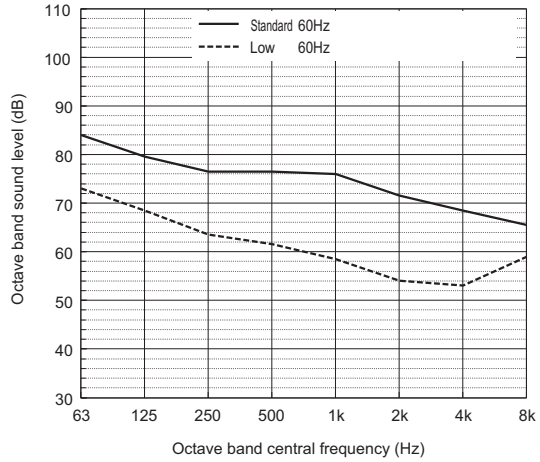
Sound level of PURY-HP120T(Y)NU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Heating	60Hz	86.5	83.5	82.5	81.5	80.5	79.5	73.0	63.0	85.5
Low noise mode	60Hz	77.0	73.5	67.5	69.5	63.0	58.0	54.0	47.5	69.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

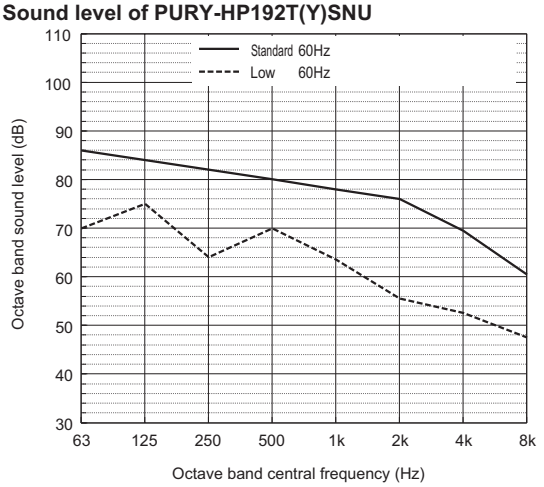
Sound level of PURY-HP144T(Y)SNU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Heating	60Hz	84.0	79.5	76.5	76.5	76.0	71.5	68.5	65.5	80.0
Low noise mode	60Hz	73.0	68.5	63.5	61.5	58.5	54.0	53.0	59.0	65.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

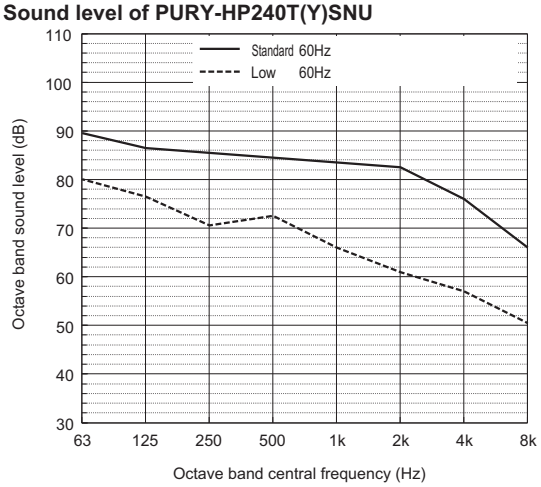
Sound level of PURY-HP192T(Y)SNU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Heating	60Hz	86.0	84.0	82.0	80.0	78.0	76.0	69.5	60.5	83.0
Low noise mode	60Hz	70.0	75.0	64.0	70.0	63.5	55.5	52.5	47.5	69.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Sound level of PURY-HP240T(Y)SNU



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard Heating	60Hz	89.5	86.5	85.5	84.5	83.5	82.5	76.0	66.0	88.5
Low noise mode	60Hz	80.0	76.5	70.5	72.5	66.0	61.0	57.0	50.5	72.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

- Depending on the operation conditions, the unit generates noise caused by valve actuation, refrigerant flow, and pressure changes when operating normally. Please consider to avoid location where quietness is required.
  For BC controller, it is recommended to be installed in places such as ceilings of corridor, rest rooms and plant rooms.
- The sound values are sound power level (PWL) based on ISO 3744:2010 (r = 3.5 m).

TEMPEFF DUAL CORE

675 Washington Ave, WINNIPEG, MB CANADA R2K 1M4 PH: (204) 783-1902

QUOTE #: 8073 - 0 (Serhii Besarab)

Project	OCSB - Fernbank ES #2
Tag(s)	ERV-1
Agent	HTS Canada
Job Number	0
PO#	0

Line In		
Voltage	575-3-60	
FLA	23.7	AMPS
AMPACITY	30	AMPS
MAX.NON-TIME DELAY FUSE	35	AMP
MAX.TIME DELAY FUSE	35	AMP
MAX.CIRCUIT BREAKER	35	AMP
MIN.WIRE SIZE	#10	AWG

Short Circuit Current Rating: 5KA

Model

RG 2000

Approximate Weight	2171 KG	4798 LBS	**Outdoor**
Approx. Curb Weight	261 KG	574 LB	

Fans

Supply air fan: ANPA 14 **X1**

Exhaust air fan: ANPA 14 **X1**

Technical data

Input data	Sup. air	Exh. air
Total volume (SCFM)	2400	2400
HX Air volume (SCFM)	2400	2400
Filter	Merv 10 (2")	None
	-	-
External pressure drop (in. W.C)	0.75	0.75

Output data		
Filter air velocity (fpm)	432	0
Design pressure drop filter (in W.C)	0.50	0.00
HX air velocity (fpm)	414	414
Pressure drop heat exch. (in W.C)	0.59	0.59
Pressure drop HX filter (in W.C)	0.00	0.00
Heating Coil 1 Pressure Drop (in W.C)	0.10	0.00
Heating Coil 2 Pressure Drop (in W.C)	0.00	0.00
Cooling Coil Pressure Drop (in W.C)	0.00	0.00
Auxillary Pressure Drop (in W.C)	0.00	0.00
Backdraft dampers pressure drop (in W.C)	0.00	0.00
Louver/Hood pressure drop (in W.C)	0.08	0.08
Intake/discharge pressure drop (in W.C)	0.02	0.02
Static pressure (in W.C)	2.03	1.44

Fan speed (rpm)	1900	1734	Per fan
Max (rpm)	4000	4000	
Fan efficiency (%)	73.86	71.31	
Required BHP	1.15	0.88	
Actual Required bhp		**0.89**	
Motor efficiency (%)	86.5	85.5	
Motor power rating (hp)	1.50	1.00	
Motor RPM	1755	1760	
Motor Operating Frequency (Hz)	65	59	

Power and energy demand

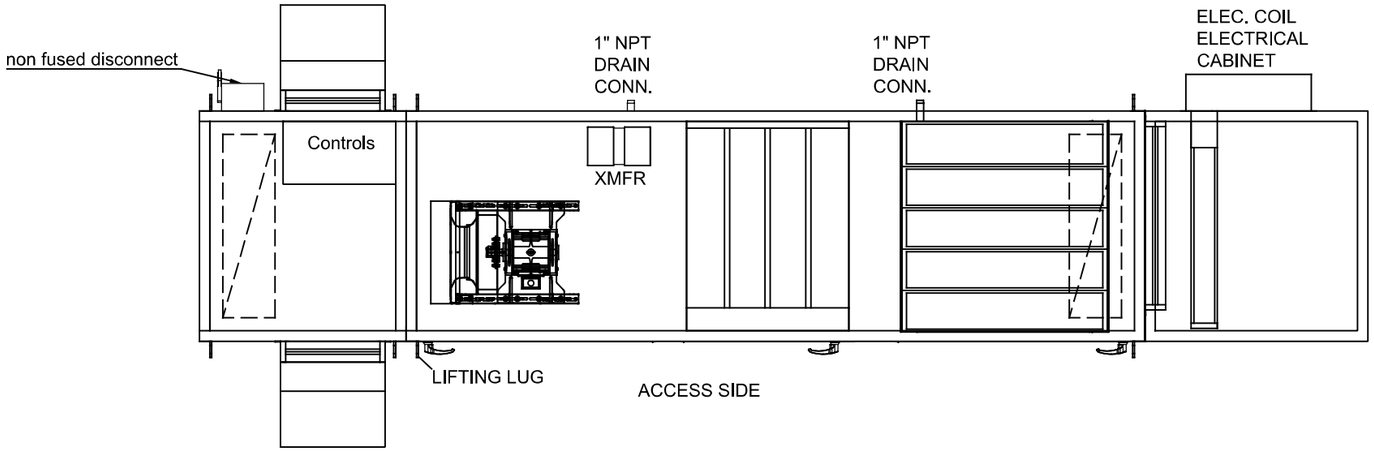
Input data	Calculated Winter DB	WB	Summer DB	WB
Design outdoor temp. (°F)	-10.50	-10.5	87.7	71.3
Desired supply air temp. winter (°F)				
Exhaust air temperature (°F)	60.7	46.3	78.5	68.6
Output data				
Efficiency (across unit) (%)	88.4%	70.0%	77.3%	0.0%
Supply air temp. after unit (°F)	52.43	40.2	80.6	69.2
Recovered energy across unit (BTUH)	163,109	25,570	-18,439	0

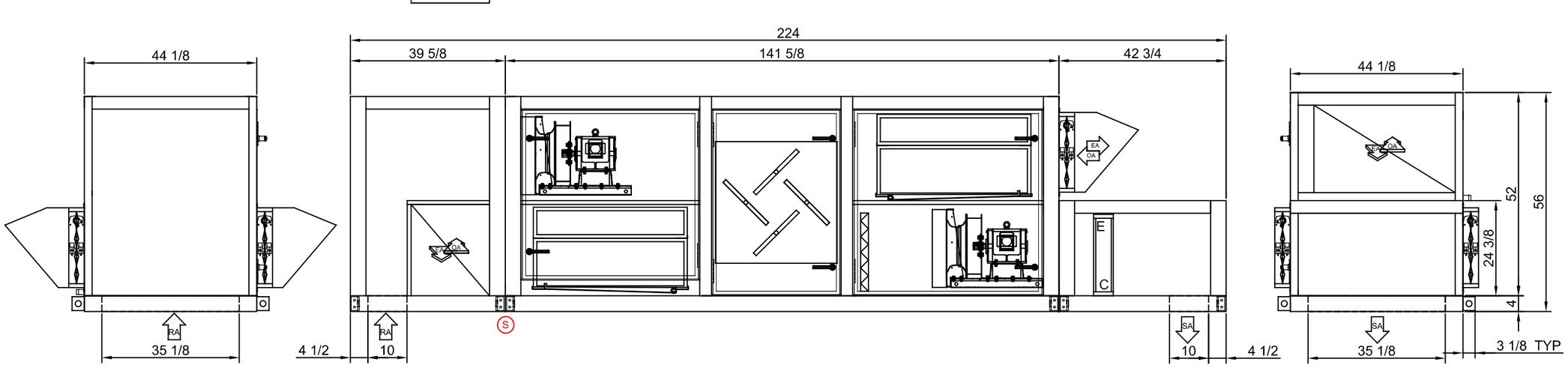
Standard Features

2" Foam injected panels
All sections come with hinged access doors and locking latches
Multi-Damper switchover section complete with actuators
SS Drain Pans under Heat Exchanger(s) w/ 1"NPTConnections
Galvanized Heat Exchanger Frames
Galvanized damper blades, damper rods and axles
18Ga Roof & Gutters
4" Louvers

Additional Features

Exterior Casing: 24 Ga G90 Galv
Interior Casing: 24 Ga G90 Galv
Exterior paint: 24Ga Prepaint (Grey)
1.5 HP WEG TEFC Premium Eff. 4 Pole 145T Frame
1 HP WEG TEFC Premium Eff. 4 Pole 143T Frame
SA Drive: FC-102-P1K1-T6-131G1418
RA Drive: FC-102-P1K1-T6-131G1418
1in. Seismic Spring Isolation
SA Pre-Filter: Dafco Merv 10 (2") 400 HC
20 KW Electric Coil
Insulated Shutoff Dampers with 2 position Belimo actuator
Single point power
Non-fused Disconnect
Low Limit
4" 10Ga Baseframe
24" Roof Curb Insulated
Aluminum Wheel & cone all fans
EMT Conduit for line voltage, Armoured flex to motors
BACNet controller
7 day programmable timeclock
Free cooling mode





UNIT INCLUDES FLAT ROOF WITH SPLIT CAPS (NOT SHOWN)

Ⓢ SPLIT FOR SHIPMENT

NOTES:
1. SERVICE ACCESS PANELS MUST NOT BE
OBSTRUCTED RECOMMENDED CLEARANCE = SECTION SIZE.
2. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
FOR REFERENCE USE ONLY, SUBJECT TO CHANGE WITHOUT NOTICE

TEMPEFF
675 Washington Ave, Winnipeg, MB
Tel:(204) 783-1902

DRAWN BY	DATE	SCALE	MODEL	REV
SB	23-Sep-25	NTS	RG 2000	0

PROJECT NAME	Unit Tag
8316 OCSB - Fernbank ES #2	ERV-1

comefri fans of energy saving

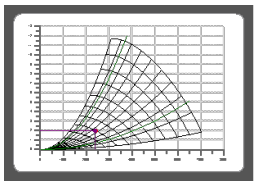
2025-09-23
Aeolus4 1.0.20126.1

Customer	HTS Canada		
Project	OCSB - Fernbank ES #2	**Description**	SA Fan
Your Ref.	8316	**Our Ref.**	ERV-1

Input data

Volume	2400 CFM	**Temperature**	68.0 °F	**Density**	0.075 lb/cu.ft
Static Pressure	2.03 In.W.G.	**Altitude**	0 ft	**Free Inlet - Free Outlet**	

	Catalogue data		
Selected Fan **ANPA14 -**	n Max 1/min	Pw Max BHP	J lb ft²
	4000		5.22



Fan Information

OV ft/min	p tot * In.W.G.	p sta In.W.G.	p dyn ** In.W.G.	tip speed ft/min	RPM 1/min	eta Tot * %	eta Sta %	P fan BHP	Min Mot. BHP	P mot BHP	Shaft diameter in
	2.25	2.03	0.22	6954	1900	73.86	66.61	1.15			0.00

(*)Theoric value calculated taking into account the dynamic pressure at the impeller outlet
(**)Theoric value, calculated at the impeller outlet

fm[Hz]	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**Tot.**
Lw3 Total Sound Power Level in the inlet duct- Lwi Inlet Duct Sound Power Level includes the effect of duct end correction									
Level Lw3 dB/dB(A)	78 / 52	71 / 55	75 / 67	69 / 66	65 / 65	65 / 67	56 / 57	51 / 50	**81 / 72**
Lw5 Inlet Total Sound Power Level - Lwmi Inlet Sound Power Level (free inlet) do not includes the effect of duct end correction									
Level Lw5 dB/dB(A)	68 / 42	67 / 51	81 / 72	77 / 74	69 / 69	67 / 68	64 / 65	61 / 59	**83 / 78**
Lw6 Total Sound Power Level at the free outlet - Lwmo Outlet Sound Power Level (free outlet) do not includes the effect of duct end correction									
Level Lw6 dB/dB(A)	87 / 60	80 / 63	84 / 75	78 / 74	74 / 74	74 / 75	65 / 66	60 / 58	**89 / 81**

Performances

Fan RPM 1/min	Volume CFM	Fan Static In.W.G.	Fan Total In.W.G.	Fan power BHP
1899	2399	2.03	2.25	1.15

Certificates

CO.ME.FRI. S.p.A. certifies that the ANPA14 - shown here is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance ratings include to effects of spring dampers and does not include the effects of appurtenances (accessories). Power rating (kW or BHP) does not include trasmission losses. Free inlet Lw5, LwA5 sound power levels shown are in decibels, referred to 10^{-12} watts calculated per AMCA International Standard 301. Air and free inlet Lw5, LwA5 sound performances shown are for installation type ANPA14 -. The AMCA Certified Ratings Seal applies to air performance and to free inlet Lw5, LwA5 sound power levels. The AMCA Certified Ratings Seal does not apply either to in-duct inlet Lw3, LwA3 sound or outlet Lw6, LwA6 sound.

Legend for frequency converter data

Frequency: freq. converter working frequency
RPM: actual motor rpm corresponding to the working freq. of the converter
Inverter efficiency factor (DRF): power losses due to the presence of the inverter (in percentage). The default value proposed is the more common used. It can be modified according to the inverter catalogue prescription. It relates to the fact that a motor reduces it performances when it is controlled by an frequency converter
P mot DRF: motor power available due to the DRF at the working frequency.
Max frequency: maximum frequency reachable with the selected motor
Max RPM: maximum RPM corresponding to the max frequency
Max P mot DRF: maximum motor power available due to the DRF at the Max frequency
Electrical power: electrical power absorbed by motor (calculated applying to the wheel power the motor efficiency and the DRF of the freq. converter)
SFP: Specific Fan Power (electrical power consumed per unit of airflow)

Electronic Cometer

Piezo ring Q [m³/s] = dFac $(\Delta p[Pa])^{0.5}$

dFac	Q [m³/s]	Δp[Pa]
0.048	1.13	557

Δp: pressure differential between the suction chamber of the AHU and the sensor/ring

Chart

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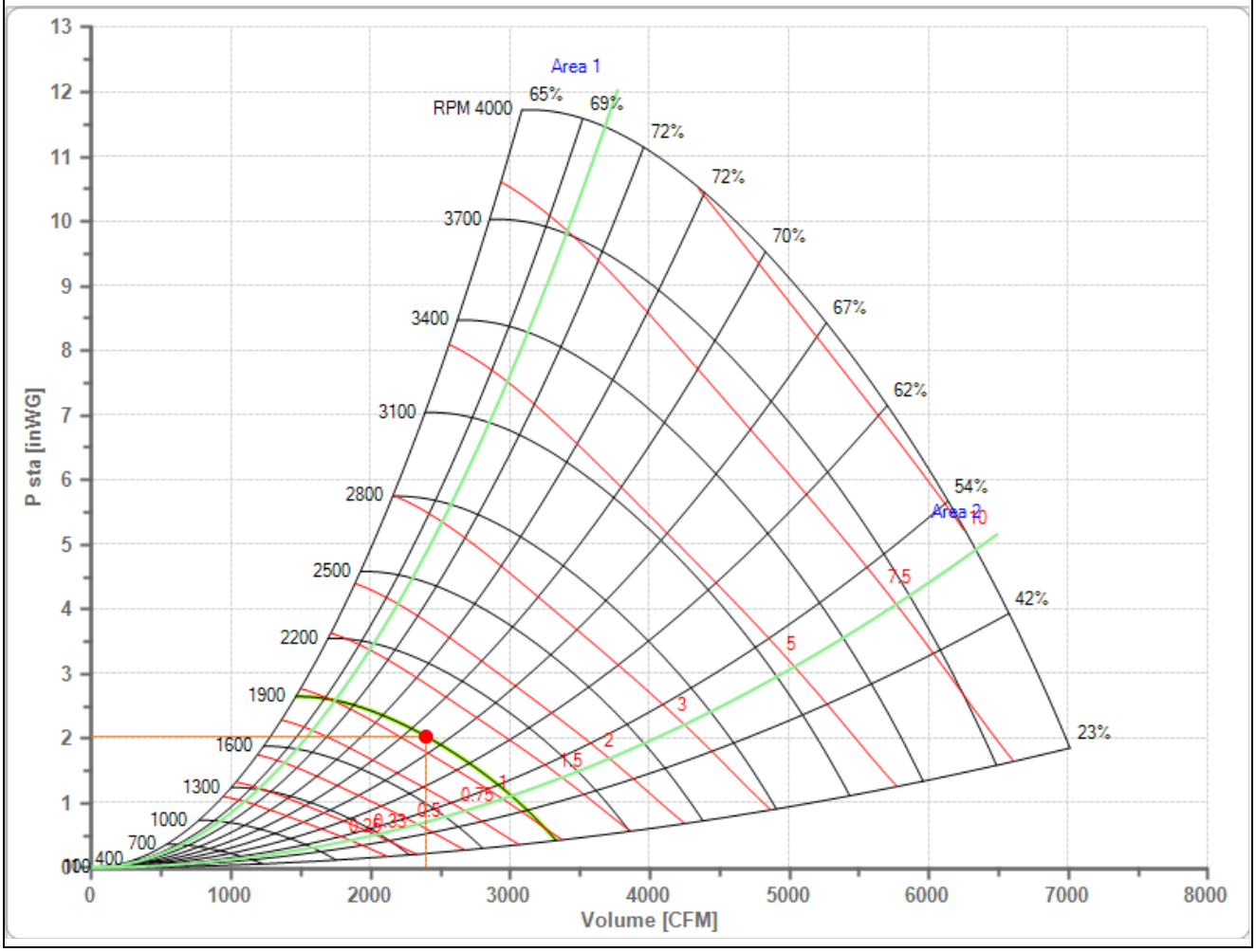
2025-09-23
Aeolus4 1.0.20126.1

Selected Fan	ANPA14 -	Fan working conditions	Free Inlet - Free Outlet
n Max	4000 1/min	Volume	2400 CFM
Pw Max		Total Pressure	2.25 In.W.G.
P fan	1.15 BHP	Static Pressure	2.03 In.W.G.
J	5.22 lb ft²	eta Tot	73.86 %
Required working point	•	eta Sta	66.61 %
Effective working point	•	RPM	1900 1/min
		Temperature	68.0 °F
		Altitude	0 ft



comefri fans of energy saving

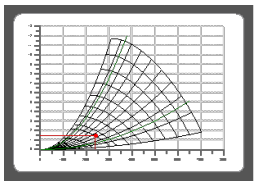
2025-09-23
Aeolus4 1.0.20126.1

Customer	HTS Canada		
Project	OCSB - Fernbank ES #2	**Description**	RA Fan
Your Ref.	8316	**Our Ref.**	ERV-1

Input data

Volume	2400 CFM	**Temperature**	68.0 °F	**Density**	0.075 lb/cu.ft
Static Pressure	1.44 In.W.G.	**Altitude**	0 ft	**Free Inlet - Free Outlet**	

	Catalogue data		
Selected Fan **ANPA14 -**	n Max 1/min	Pw Max BHP	J lb ft²
	4000		5.22



Fan Information

OV ft/min	p tot * In.W.G.	p sta In.W.G.	p dyn ** In.W.G.	tip speed ft/min	RPM 1/min	eta Tot * %	eta Sta %	P fan BHP	Min Mot. BHP	P mot BHP	Shaft diameter in
	1.66	1.44	0.22	6345	1734	71.31	61.82	0.88			0.00

(*)Theoric value calculated taking into account the dynamic pressure at the impeller outlet
(**)Theoric value, calculated at the impeller outlet

fm[Hz]	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**Tot.**
Lw3 Total Sound Power Level in the inlet duct- Lwi Inlet Duct Sound Power Level includes the effect of duct end correction									
Level Lw3 dB/dB(A)	77 / 51	70 / 54	74 / 65	68 / 65	64 / 64	64 / 65	55 / 56	50 / 49	**80 / 71**
Lw5 Inlet Total Sound Power Level - Lwmi Inlet Sound Power Level (free inlet) do not includes the effect of duct end correction									
Level Lw5 dB/dB(A)	67 / 41	67 / 51	79 / 71	75 / 71	67 / 67	65 / 66	62 / 63	58 / 57	**81 / 76**
Lw6 Total Sound Power Level at the free outlet - Lwmo Outlet Sound Power Level (free outlet) do not includes the effect of duct end correction									
Level Lw6 dB/dB(A)	85 / 59	78 / 62	82 / 74	76 / 73	72 / 72	72 / 74	63 / 64	58 / 57	**88 / 79**

Performances

Fan RPM 1/min	Volume CFM	Fan Static In.W.G.	Fan Total In.W.G.	Fan power BHP
1734	2400	1.44	1.66	0.88

Certificates

CO.ME.FRI. S.p.A. certifies that the ANPA14 - shown here is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance ratings include to effects of spring dampers and does not include the effects of appurtenances (accessories). Power rating (kW or BHP) does not include trasmission losses. Free inlet Lw5, LwA5 sound power levels shown are in decibels, referred to 10^{-12} watts calculated per AMCA International Standard 301. Air and free inlet Lw5, LwA5 sound performances shown are for installation type ANPA14 -. The AMCA Certified Ratings Seal applies to air performance and to free inlet Lw5, LwA5 sound power levels. The AMCA Certified Ratings Seal does not apply either to in-duct inlet Lw3, LwA3 sound or outlet Lw6, LwA6 sound.

Legend for frequency converter data

Frequency: freq. converter working frequency
RPM: actual motor rpm corresponding to the working freq. of the converter
Inverter efficiency factor (DRF): power losses due to the presence of the inverter (in percentage). The default value proposed is the more common used. It can be modified according to the inverter catalogue prescription. It relates to the fact that a motor reduces it performances when it is controlled by an frequency converter
P mot DRF: motor power available due to the DRF at the working frequency.
Max frequency: maximum frequency reachable with the selected motor
Max RPM: maximum RPM corresponding to the max frequency
Max P mot DRF: maximum motor power available due to the DRF at the Max frequency
Electrical power: electrical power absorbed by motor (calculated applying to the wheel power the motor efficiency and the DRF of the freq. converter)
SFP: Specific Fan Power (electrical power consumed per unit of airflow)

Electronic Cometer

Piezo ring Q [m³/s] = dFac $(\Delta p[Pa])^{0.5}$

dFac	Q [m³/s]	Δp[Pa]
0.048	1.13	557

Δp: pressure differential between the suction chamber of the AHU and the sensor/ring

Chart

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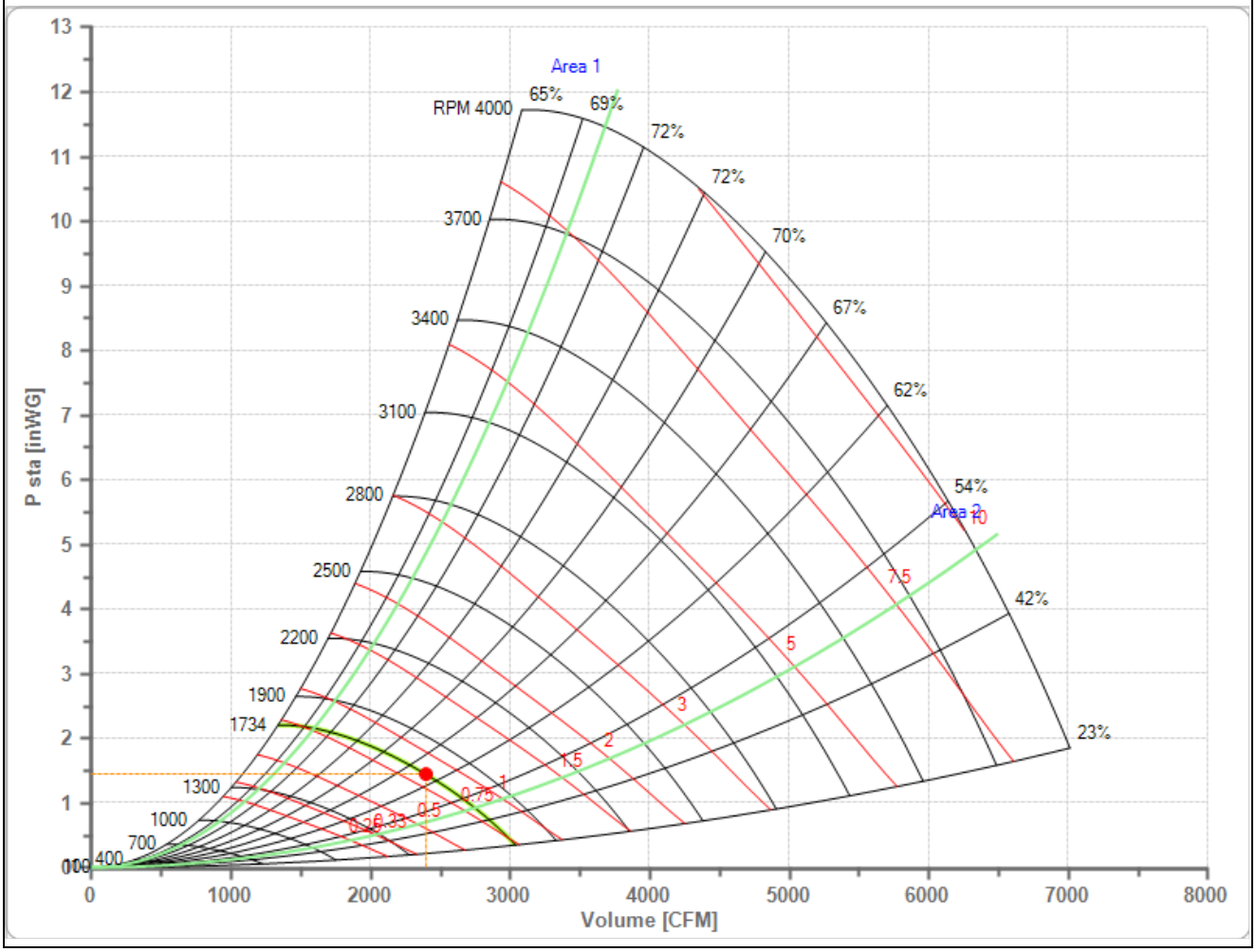
2025-09-23
Aeolus4 1.0.20126.1

Selected Fan	ANPA14 -	Fan working conditions	Free Inlet - Free Outlet
n Max	4000 1/min	Volume	2400 CFM
Pw Max		Total Pressure	1.66 In.W.G.
P fan	0.88 BHP	Static Pressure	1.44 In.W.G.
J	5.22 lb ft²	eta Tot	71.31 %
Required working point	•	eta Sta	61.82 %
Effective working point	•	RPM	1734 1/min
		Temperature	68.0 °F
		Altitude	0 ft



Appendix D:
CadnaA Model Figures

ENGLOBE

Note:
This drawing shall be read in conjunction with the associated report

REVISION	DATE	ISSUE	APPROVAL
0	2026/03/05	FINAL	M.V.

Client	Pye & Richards - Temprano & Young Architects Inc.
Project Name	Mer Bleue Elementary School Noise Impact Study (NIS)
Report Title	
Drawing Title	Proposed Location of Noise Sources on Building Roof

Designed By	K.C.	Scale	NTS
Drawn By	K.C.	Date	05 March 2026
Approved By	M.V.	Project No.	02601609.000

Figure No. D1

ENGLOBE

Note:
This drawing shall be read in conjunction with the associated report

0	2026/03/05	FINAL	M.V.
REVISION	DATE	ISSUE	APPROVAL

Client	Pye & Richards - Temprano & Young Architects Inc.
Project Name	Mer Bleue Elementary School Noise Impact Study (NIS)
Report Title	
Drawing Title	Predicted Noise Levels at 4.5 m Above Grade

Designed By	K.C.	Scale	NTS
Drawn By	K.C.	Date	05 March 2026
Approved By	M.V.	Project No.	02601609.000

Figure No.
D2

ENGLOBE

Note:
This drawing shall be read in conjunction with the associated report

REVISION	DATE	ISSUE	APPROVAL
0	2026/03/05	FINAL	M.V.

Client	Pye & Richards - Temprano & Young Architects Inc.
Project Name	Mer Bleue Elementary School Noise Impact Study (NIS)
Report Title	
Drawing Title	Predicted Noise Levels at 1.5 m Above Grade

Designed By	K.C.	Scale	NTS
Drawn By	K.C.	Date	05 March 2026
Approved By	M.V.	Project No.	02601609.000
Figure No.	D3		

Appendix E:
Sample CadnaA Output

ENGLOBE

Report (Mer Bleue School.cna)

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	3
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613 (1996))	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.90
Wind Speed for Dir. (m/s)	3.0
Roads (NONE)	
Railways (NONE)	
Aircraft (NONE)	
Strictly acc. to AzB	

Partial Day/Night

Source			Partial Level (dB(A))																			
Name	M.	ID	POR_03				POR_05				POR_04				POR_01				POR_02			
			Day	Night	Ldn	Le	Day	Night	Ldn	Le	Day	Night	Ldn	Le	Day	Night	Ldn	Le	Day	Night	Ldn	Le
RTU05		S05	10.9	10.9	17.0	10.9	17.3	17.3	23.4	17.3	32.8	32.8	38.8	32.8	41.8	41.8	47.8	41.8	29.6	29.6	35.6	29.6
RTU06		S06	25.5	25.5	31.5	25.5	21.9	21.9	27.9	21.9	38.1	38.1	44.2	38.1	36.2	36.2	42.2	36.2	14.8	14.8	20.8	14.8
RTU04		S04	29.2	29.2	35.3	29.2	37.6	37.6	43.7	37.6	35.3	35.3	41.3	35.3	21.8	21.8	27.9	21.8	30.4	30.4	36.4	30.4
RTU03		S03	29.2	29.2	35.2	29.2	37.8	37.8	43.8	37.8	24.0	24.0	30.0	24.0	35.0	35.0	41.0	35.0	32.8	32.8	38.8	32.8
RTU07		S07	26.3	26.3	32.4	26.3	34.5	34.5	40.5	34.5	17.7	17.7	23.7	17.7	36.8	36.8	42.8	36.8	34.1	34.1	40.1	34.1
RTU01		S01	21.6	21.6	27.6	21.6	28.7	28.7	34.8	28.7	21.0	21.0	27.0	21.0	35.2	35.2	41.2	35.2	30.7	30.7	36.7	30.7
RTU02		S02	24.1	24.1	30.1	24.1	30.2	30.2	36.2	30.2	18.3	18.3	24.3	18.3	33.1	33.1	39.1	33.1	31.9	31.9	37.9	31.9
CU01		S08	22.0	22.0	28.0	22.0	28.1	28.1	34.1	28.1	25.0	25.0	31.1	25.0	36.3	36.3	42.3	36.3	29.6	29.6	35.7	29.6
DOAS01_SA		S09	22.2	22.2	28.2	22.2	30.5	30.5	36.5	30.5	16.9	16.9	22.9	16.9	35.2	35.2	41.2	35.2	30.8	30.8	36.8	30.8
DOAS01_EA		S10	19.8	19.8	25.8	19.8	27.8	27.8	33.8	27.8	12.8	12.8	18.9	12.8	32.7	32.7	38.7	32.7	24.6	24.6	30.6	24.6
EF1		S12	2.8	2.8	8.8	2.8	9.6	9.6	15.6	9.6	-0.4	-0.4	5.6	-0.4	11.1	11.1	17.2	11.1	13.1	13.1	19.2	13.1
EF2		S13	3.5	3.5	9.6	3.5	10.8	10.8	16.9	10.8	0.8	0.8	6.8	0.8	11.7	11.7	17.8	11.7	13.4	13.4	19.4	13.4
EF3		S14	-5.8	-5.8	0.2	-5.8	1.2	1.2	7.3	1.2	-2.3	-2.3	3.7	-2.3	18.2	18.2	24.2	18.2	8.3	8.3	14.3	8.3
EF5		S15	10.0	10.0	16.1	10.0	19.1	19.1	25.1	19.1	5.2	5.2	11.2	5.2	19.0	19.0	25.0	19.0	17.5	17.5	23.6	17.5

Sound Sources

Point Sources

Name	Sel.	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
				Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
RTU05			S05	83.8	83.8	83.8	Lw	RTU_1		0.0	0.0	0.0							0.0		(none)	1.20	g	1671430.82	12137939.99	4.20
RTU06			S06	83.8	83.8	83.8	Lw	RTU_1		0.0	0.0	0.0							0.0		(none)	1.20	g	1671418.18	12137921.06	4.20
RTU04			S04	83.8	83.8	83.8	Lw	RTU_1		0.0	0.0	0.0							0.0		(none)	1.20	g	1671428.95	12137904.94	4.20
RTU03			S03	83.8	83.8	83.8	Lw	RTU_1		0.0	0.0	0.0							0.0		(none)	1.20	g	1671455.11	12137922.53	4.20
RTU07			S07	83.8	83.8	83.8	Lw	RTU_1		0.0	0.0	0.0							0.0		(none)	1.20	g	1671453.69	12137935.66	4.20
RTU01			S01	80.8	80.8	80.8	Lw	RTU_2		0.0	0.0	0.0							0.0		(none)	1.20	g	1671458.52	12137952.89	4.20
RTU02			S02	80.8	80.8	80.8	Lw	RTU_2		0.0	0.0	0.0							0.0		(none)	1.20	g	1671472.65	12137956.56	4.20
CU01			S08	80.0	80.0	80.0	Lw	CU_2		0.0	0.0	0.0							0.0		(none)	1.80	g	1671440.68	12137945.79	4.80
DOAS01_SA			S09	81.2	81.2	81.2	Lw	DOAS_1		0.0	0.0	0.0							0.0		(none)	1.00	g	1671448.12	12137940.52	4.00
DOAS01_EA			S10	79.2	79.2	79.2	Lw	DOAS_2		0.0	0.0	0.0							0.0		(none)	0.40	g	1671444.07	12137938.37	3.40
EF1			S12	62.5	62.5	62.5	Lw	EF_1		0.0	0.0	0.0							0.0		(none)	0.46	g	1671485.52	12137957.41	3.46
EF2			S13	63.3	63.3	63.3	Lw	EF_2		0.0	0.0	0.0							0.0		(none)	0.46	g	1671483.89	12137954.46	3.46
EF3			S14	63.3	63.3	63.3	Lw	EF_2		0.0	0.0	0.0							0.0		(none)	0.46	g	1671438.19	12137937.54	3.46
EF5			S15	69.3	69.3	69.3	Lw	EF_3		0.0	0.0	0.0							0.0		(none)	0.30	g	1671469.63	12137943.81	3.30

Receptors

Name	Sel.	M.	ID	Level Lr				Limit. Value				Land Use			Height		Coordinates		
				Day	Night	Ldn	Le	Day	Night	Ldn	Le	Type	Auto	Noise Type			X	Y	Z
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
POR_03			R03	35.2	35.2	41.2	35.2	0.0	0.0	0.0	0.0		x	Total	1.50	r	1671501.85	12137821.44	1.50
POR_05		+	R05	42.8	42.8	48.8	42.8	0.0	0.0	0.0	0.0		x	Total	1.50	r	1671469.14	12137893.64	1.50
POR_04			R04	41.0	41.0	47.1	41.0	0.0	0.0	0.0	0.0		x	Total	4.50	r	1671364.35	12137893.74	4.50
POR_01			R01	46.3	46.3	52.3	46.3	0.0	0.0	0.0	0.0		x	Total	4.50	r	1671417.72	12137979.88	4.50
POR_02			R02	40.7	40.7	46.7	40.7	0.0	0.0	0.0	0.0		x	Total	4.50	r	1671540.92	12137943.59	4.50

Obstacles

Barriers

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height	
				left	right		horz.	vert.	Begin	End
						(m)	(m)	(m)	(m)	(m)

Geometry Barriers

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)

Building

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	
							Begin	
							(m)	
School		+	SCH1		0		3.00	r
Gymnasium		+	SCH2		0	0.21	7.00	r

Geometry Building

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
School		+	SCH1		0		3.00	r	1671471.48	12137920.06	3.00	0.00
									1671462.57	12137935.68	3.00	0.00
									1671474.71	12137941.87	3.00	0.00
									1671474.07	12137943.04	3.00	0.00
									1671476.23	12137944.23	3.00	0.00
									1671477.94	12137941.14	3.00	0.00
									1671500.52	12137953.89	3.00	0.00
									1671492.99	12137967.49	3.00	0.00
									1671491.88	12137966.88	3.00	0.00
									1671490.36	12137969.40	3.00	0.00
									1671491.51	12137969.92	3.00	0.00
									1671483.97	12137983.25	3.00	0.00
									1671442.17	12137960.41	3.00	0.00
									1671438.95	12137966.31	3.00	0.00
									1671422.06	12137957.08	3.00	0.00
									1671424.42	12137952.76	3.00	0.00
									1671417.59	12137949.03	3.00	0.00
									1671419.43	12137946.25	3.00	0.00
									1671405.99	12137938.79	3.00	0.00
									1671404.15	12137941.84	3.00	0.00
									1671396.48	12137937.69	3.00	0.00
									1671397.19	12137936.38	3.00	0.00
									1671391.11	12137933.09	3.00	0.00
									1671396.40	12137923.30	3.00	0.00
									1671400.23	12137925.37	3.00	0.00
									1671401.24	12137923.49	3.00	0.00
									1671399.79	12137922.71	3.00	0.00
									1671401.14	12137920.21	3.00	0.00
									1671404.29	12137921.92	3.00	0.00
									1671410.52	12137910.41	3.00	0.00
									1671407.59	12137908.83	3.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(m)		(m)	(m)	(m)	(m)
									1671415.47	12137895.33	3.00	0.00
									1671417.06	12137896.27	3.00	0.00
									1671420.48	12137889.76	3.00	0.00
									1671429.69	12137894.59	3.00	0.00
									1671428.56	12137896.75	3.00	0.00
									1671430.66	12137897.85	3.00	0.00
									1671431.73	12137895.81	3.00	0.00
									1671453.57	12137907.83	3.00	0.00
									1671452.51	12137909.77	3.00	0.00
									1671454.39	12137910.81	3.00	0.00
									1671455.55	12137908.71	3.00	0.00
									1671464.54	12137913.66	3.00	0.00
									1671463.42	12137915.69	3.00	0.00
Gymnasium		+	SCH2		0	0.21	7.00	r	1671433.73	12137939.36	7.00	0.00
									1671418.20	12137930.93	7.00	0.00
									1671428.92	12137911.15	7.00	0.00
									1671445.09	12137919.92	7.00	0.00
									1671441.21	12137927.07	7.00	0.00
									1671447.62	12137930.55	7.00	0.00
									1671444.39	12137936.50	7.00	0.00
									1671437.54	12137932.79	7.00	0.00

Ground Absorption

Name	Sel.	M.	ID	G
Ground_1			GRND1	0.0

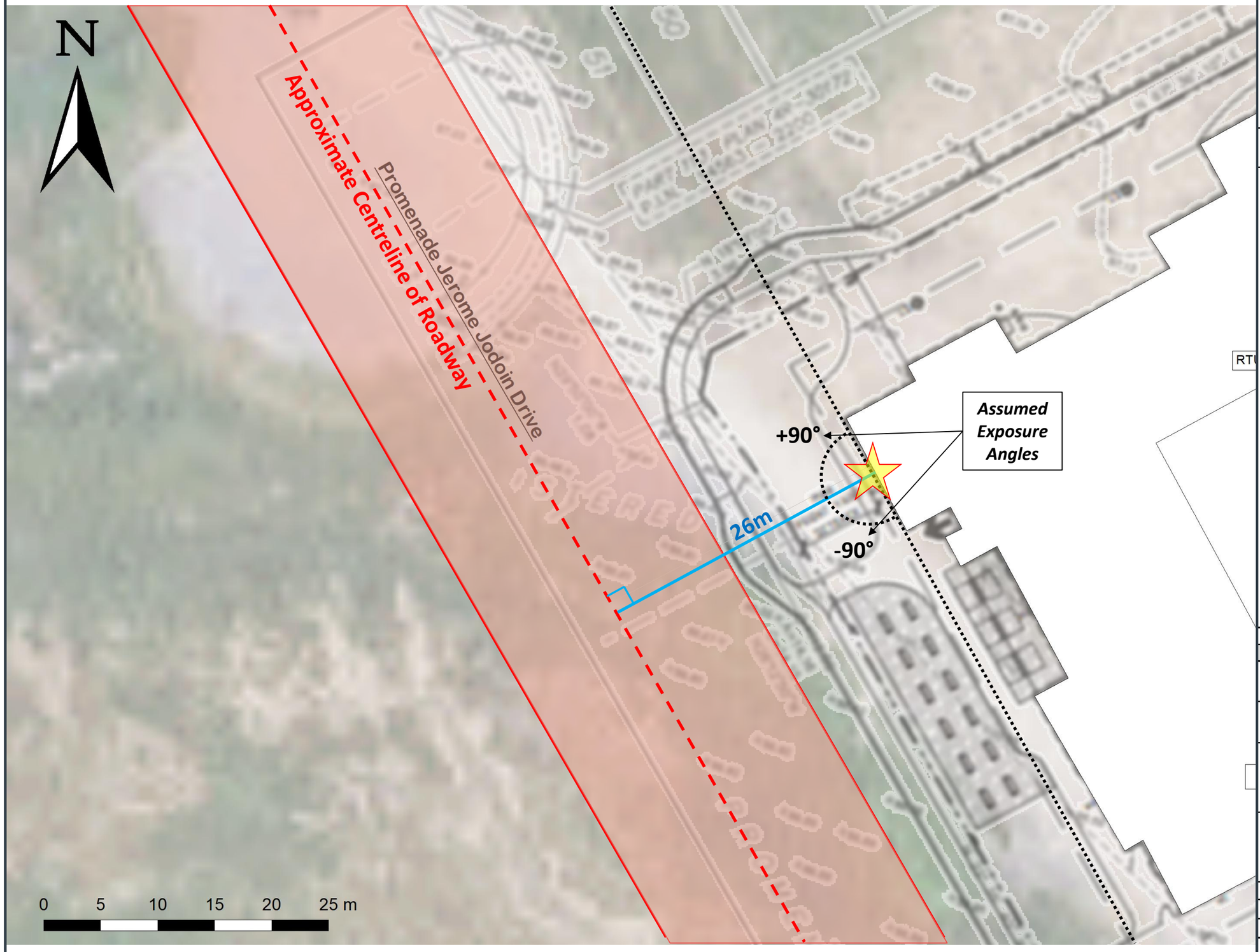
Geometry Absorption

Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(m)	(m)
Ground_1			GRND1	0.0	1671533.10	12138012.06
					1671528.59	12138009.47
					1671523.70	12138018.16
					1671523.73	12138020.44
					1671515.56	12138015.77
					1671517.19	12138014.90
					1671521.52	12138007.81
					1671521.60	12138007.29
					1671521.58	12138006.74
					1671521.47	12138006.26
					1671521.23	12138005.87
					1671520.81	12138005.42
					1671520.08	12138005.16
					1671517.45	12138009.68
					1671501.26	12138000.72
					1671503.80	12137996.18
					1671498.66	12137997.21
					1671498.18	12137994.53
					1671494.48	12137992.37

Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(m)	(m)
					1671491.70	12137979.75
					1671500.15	12137978.15
					1671500.34	12137975.23
					1671501.18	12137973.81
					1671517.55	12137945.30
					1671518.54	12137943.45
					1671519.40	12137942.49
					1671520.01	12137941.80
					1671520.84	12137941.30
					1671522.03	12137940.76
					1671523.74	12137940.49
					1671525.05	12137940.24
					1671526.76	12137940.45
					1671528.70	12137941.28
					1671530.24	12137942.49
					1671531.30	12137943.89
					1671531.76	12137945.20
					1671532.09	12137946.82
					1671532.13	12137947.20
					1671533.28	12137947.68
					1671535.76	12137943.22
					1671554.22	12137953.10
					1671551.64	12137957.51
					1671552.80	12137958.60
					1671555.43	12137956.10
					1671561.51	12137962.47
					1671559.01	12137964.89
					1671559.76	12137965.68

Appendix F: Transportation Corridor NIS Figures

Figure F1: Transportation Corridor Noise Impact Details



Note:
This drawing shall be read in conjunction with the associated report

Legend:

★ : Point of Reception POR 'A'

0	2026/03/05	FINAL	M.V.
REVISION	DATE	ISSUE	APPROVAL

Client	Pye & Richards - Temprano & Young Architects Inc.
Project Name	Mer Bleue Elementary School Noise Impact Study (NIS)
Report Title	
Drawing Title	Transportation Corridor Noise Impact Details

Designed By		Scale	NTS
Drawn By	M.V.	Date	05 March 2026
Approved By		Project No.	02601609.000
Figure No.	F1		

Appendix G:
Transportation Corridor NIS Results

ENGLOBE

```
STAMSON 5.0        SUMMARY REPORT        Date: 02-03-2026 11:29:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: merbleue.te          Time Period: Day/Night 16/8 hours
Description: Noise level prediction at POR_A (west facade).


Road data, segment # 1: JeromeJodoin (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       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

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

    24 hr Traffic Volume (AADT or SADT):   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: JeromeJodoin (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  :  26.00 / 26.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00


Result summary (day)
--------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.JeromeJodoin     !     1.50 !    63.36 !    63.36
--------------------+----------+----------+----------
                      Total                   63.36 dBA


Result summary (night)
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.JeromeJodoin     !     1.50 !    55.77 !    55.77
--------------------+----------+----------+----------
                      Total                   55.77 dBA


TOTAL Leq FROM ALL SOURCES (DAY): 63.36
                           (NIGHT): 55.77
```

REPORT:	**INPUT TRAFFIC FOR TNM VEHICLES (LAeq)**		
TNM VERSION:	3.1.7970.37608	REPORT DATE:	2 March 2026
CALCULATED WITH:	3.1.7970.37608	CALCULATION DATE:	3/2/2026 10:35:39 AM
CASE:	OCSB Mer Bleue Elementary School	ORGANIZATION:	Englobe Corp
PATH:		ANALYSIS BY:	Martin Villeneuve
CALCULATION SEQUENCE NUMBER:		TNM SERIAL NUMBER:	
		PROJECT/CONTRACT:	OCSB Mer Bleue Elementary School

Roadway Name	Road Segment			Auto		Medium Truck		Heavy Truck		Bus		Motorcycle	
	Start Point		Total Volume	Percent	Speed	Percent	Speed	Percent	Speed	Percent	Speed	Percent	Speed
	Name	No.											
			[Veh/hr]	[%]	[km/h]	[%]	[km/h]	[%]	[km/h]	[%]	[km/h]	[%]	[km/h]
Jerome Jodoin Drive-1	Point-0	0	460	88.0	50	7.0	50	5.0	50	0.0	0	0.0	0
	Point-8	5	460	88.0	50	7.0	50	5.0	50	0.0	0	0.0	0
	Point-9	6	460	88.0	50	7.0	50	5.0	50	0.0	0	0.0	0
	Point-1	3	460	88.0	50	7.0	50	5.0	50	0.0	0	0.0	0
	Point-3	4	460	88.0	50	7.0	50	5.0	50	0.0	0	0.0	0
	Point-5	1	460	88.0	50	7.0	50	5.0	50	0.0	0	0.0	0
	Point-7	2	460	88.0	50	7.0	50	5.0	50	0.0	0	0.0	0

REPORT:	**Results: Sound Levels - No Barrier Objects**		
TNM VERSION	3.1.7970.37608	REPORT DATE:	2 March 2026
CALCULATED WITH:	3.1.7970.37608	CALCULATION DATE:	3/2/2026 10:35:39 AM
CASE:	OCSB Mer Bleue Elementary School	ORGANIZATION:	Englobe Corp
UNITS:	Metric	ANALYSIS BY:	Martin Villeneuve
DEFAULT GROUND TYPE:	Pavement	PROJECT/CONTRACT	OCSB Mer Bleue Elementary School
ATMOSPHERICS:	20°C, 50%	Average pavement type shall be used unless a state highway agency substantiates the use of a different type with approval FHWA.	
PAVEMENT TYPE(S) USED:	Average		

Receiver				Modeled Traffic Noise Levels				
				LAeq		Increase over Existing		
Name	No.	Nb. R.R.	Existing LAeq	Calc.	Absolute Criterion	Calc.	Relative Criterion	Type of Impact
			dBA	dBA	dBA	dBA	dBA	
POR-01-1	1	1	---	60.7	0.0	---	---	Sound Level

Appendix H:
Statement of Limitations

ENGLOBE

STATEMENT OF LIMITATIONS

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In preparing this Report, the Company has relied in good faith on information available to the Company and has assumed that such information is factual, accurate and complete. The Company accepts no responsibility or liability for any deficiency, misstatement or inaccuracy in this Report resulting from the information provided, concealed or not fully disclosed by those individuals.

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