

SITE NAME: BARLASSINA										DATE: Aug-22		WINTER NATURAL AIR CHANGE RATE 0.319				HEAT LOSS AT °F. 72		CSA-F280-12									
BUILDER: GREENPARK HOMES										TYPE: WILLOW 3E		GFA: 1775		LO# 98655		SUMMER NATURAL AIR CHANGE RATE 0.085				HEAT GAIN AT °F. 9		SB-12 PACKAGE A1					
ROOM USE				MBR				ENS				BED-2		BED-3				BATH		FLEX							
EXP. WALL				34				0				10		30				0		25							
CLG. HT.				9				9				9		9				9		9							
FACTORS																											
GRS.WALL AREA		LOSS GAIN		306		0						90		270				0		225							
GLAZING				LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
NORTH		20.3	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST		20.3	40.5	0	0	0	0	0	0	0	0	23	466	933	24	487	973	0	0	0	0	0	0	0	0	0	0
SOUTH		20.3	23.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	730	860	0	0	0	
WEST		20.3	40.5	24	487	973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SKYLT.		35.5	99.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DOORS		19.1	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NET EXPOSED WALL		4.3	0.5	282	1199	152	0	0	0	0	0	67	285	36	246	1046	133	0	0	0	189	803	102	0	0	0	
NET EXPOSED BSMT WALL ABOVE GR		3.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EXPOSED CLG		1.2	0.5	280	342	148	110	134	58			189	231	100	148	181	78	81	99	43	250	306	132	0	0	0	
NO ATTIC EXPOSED CLG		2.6	1.1	0	0	0	0	0	0	0	0	12	31	14	12	31	14	0	0	0	0	0	0	0	0	0	
EXPOSED FLOOR		2.4	0.3	0	0	0	0	0	0	0	0	180	437	56	10	24	3	0	0	0	7	17	2	0	0	0	
BASEMENT/CRAWL HEAT LOSS				0		0		0		0		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS				0		0		0		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS				2028		134						1451		1769				99		1856							
SUB TOTAL HT GAIN				1273		58						1137		1201				43		1096							
LEVEL FACTOR / MULTIPLIER				0.20		0.27		0.20		0.27		0.20		0.27		0.20		0.27		0.20		0.27					
AIR CHANGE HEAT LOSS				549		36						393		479				27		502							
AIR CHANGE HEAT GAIN				66		3						59		62				2		57							
DUCT LOSS				0		0						184		225				0		236							
DUCT GAIN				0		0						190		197				0		162							
HEAT GAIN PEOPLE		240		2	480	0	0			1	240	1	240	0	240	0	0	0	0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS				468		0						468		468				0		468							
TOTAL HT LOSS BTU/H				2576		171						2028		2473				126		2594							
TOTAL HT GAIN x 1.3 BTU/H				2972		79						2723		2817				58		2317							

ROOM USE					K/B/L			W/R	FOY		MUD						BAS					
EXP. WALL					47			8	48		11						92					
CLG. HT.					10			10	10		10						9					
FACTORS																						
GRS.WALL AREA	LOSS	GAIN			470			80	480		110						552					
GLAZING					LOSS	GAIN	LOSS		GAIN	LOSS		GAIN					LOSS	GAIN				
NORTH	20.3	15.0			0	0	0	0	0	0	0	0	0					0	0	0		
EAST	20.3	40.5			0	0	0	0	0	14	284	568	0	0	0			0	0	0		
SOUTH	20.3	23.9			22	446	526	7	142	167	0	0	0	0	0	0			8	162	191	
WEST	20.3	40.5			56	1135	2270	0	0	0	0	0	0	0	0	0			4	81	162	
SKYLT.	35.5	99.8			0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	
DOORS	19.1	2.4			8	153	19	0	0	0	11	210	27	21	401	51			21	401	51	
NET EXPOSED WALL	4.3	0.5			384	1633	207	73	310	39	455	1934	246	89	378	48			0	0	0	
NET EXPOSED BSMT WALL ABOVE GR	3.4	0.4			0	0	0	0	0	0	0	0	0	0	0	0			276	946	120	
EXPOSED CLG	1.2	0.5			0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	
NO ATTIC EXPOSED CLG	2.6	1.1			0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	
EXPOSED FLOOR	2.4	0.3			0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	
BASEMENT/CRAWL HEAT LOSS					0			0											2840			
SLAB ON GRADE HEAT LOSS					0			0														
SUBTOTAL HT LOSS					3367			452			2428			780					4431			
SUB TOTAL HT GAIN						3023				207		840			99					525		
LEVEL FACTOR / MULTIPLIER					0.30	0.42			0.30	0.42			0.30	0.42					0.50	1.12		
AIR CHANGE HEAT LOSS					1427			192			1029			330					4964			
AIR CHANGE HEAT GAIN						157				11		44			5					27		
DUCT LOSS					0			0			0			0					0			
DUCT GAIN						0				0		0			0					0		
HEAT GAIN PEOPLE	240					0	0			0	0	0	0	0	0	0			0	0		
HEAT GAIN APPLIANCES/LIGHTS						468				0		0			468					468		
TOTAL HT LOSS BTU/H					4794			644			3458			1110					9395			
TOTAL HT GAIN x 1.3 BTU/H						4741				283		1149			743							

TOTAL HEAT GAIN BTU/H:

19366

TONS: 1.61

LOSS DUE TO VENTILATION LOAD BTU/H: 1243

STRUCTURAL HEAT LOSS: 29368

TOTAL COMBINED HEAT LOSS BTU/H: 30611

All S/A runs 5"Ø unless noted otherwise on layout.

MICHAEL O'ROURKE

TYPE: WILLOW 3E
SITE NAME: BARLASSINA

LO # 98655

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	☒ Direct vent (sealed combustion) only	
b)	☐ Positive venting induced draft (except fireplaces)	
c)	☐ Natural draft, B-vent or induced draft gas fireplace	
d)	☐ Solid Fuel (including fireplaces)	
e)	☐ No Combustion Appliances	

HEATING SYSTEM	
☒ Forced Air	☐ Non Forced Air
☐ Electric Space Heat	

HOUSE TYPE		9.32.1(2)
☒ I	Type a) or b) appliance only, no solid fuel	
☐ II	Type I except with solid fuel (including fireplaces)	
☐ III	Any Type c) appliance	
☐ IV	Type I, or II with electric space heat	
☐	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>2</u> @ 10.6 cfm	<u>21.2</u> cfm
Kitchen & Bathrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Other Rooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Table 9.32.3.A.	TOTAL	<u>148.4</u> cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL		<u>63.6</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>148.4</u>	cfm
Less Principal Ventil. Capacity	<u>63.6</u>	cfm
Required Supplemental Capacity	<u>84.8</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>63.6</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
63.6 CFM	X 72 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
W/R	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H		
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: GREENPARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	August-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 98655	Model: WILLOW 3E	Builder: GREENPARK HOMES	Date: 2022-08-31																																																									
Volume Calculation			Air Change & Delta T Data																																																									
House Volume <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>802</td> <td>9</td> <td>7218</td> </tr> <tr> <td>First</td> <td>802</td> <td>10</td> <td>8020</td> </tr> <tr> <td>Second</td> <td>973</td> <td>9</td> <td>8757</td> </tr> <tr> <td>Third</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>23,995.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>679.5 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	802	9	7218	First	802	10	8020	Second	973	9	8757	Third	0	9	0	Fourth	0	9	0	Total:			23,995.0 ft³	Total:			679.5 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%;">0.319</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.085</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-18</td> <td>40</td> <td>72</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>29</td> <td>5</td> <td>9</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.319	SUMMER NATURAL AIR CHANGE RATE	0.085	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-18	40	72	Summer DTDc	24	29	5	9
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																									
Bsmt	802	9	7218																																																									
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Winter DTDh	22	-18	40	72																																																								
Summer DTDc	24	29	5	9																																																								
5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.319 x 188.74 x 40 °C x 1.2 = 2910 W = 9928 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.085 x 188.74 x 5 °C x 1.2 = 98 W = 334 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 72 °F x 1.08 x 0.25 = 1243 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 9 °F x 1.08 x 0.25 = 158 Btu/h																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																												
Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																								
1	0.5	9,928	4,431	1.120																																																								
2	0.3		7,027	0.424																																																								
3	0.2		7,337	0.271																																																								
4	0		0	0.000																																																								
5	0		0	0.000																																																								
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												
				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: WILLOW 3E	BUILDER: GREENPARK HOMES
SFQT: 1775	SITE: BARLASSINA
LO# 98655	

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	84
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	23995.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 52.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	92.0 ft

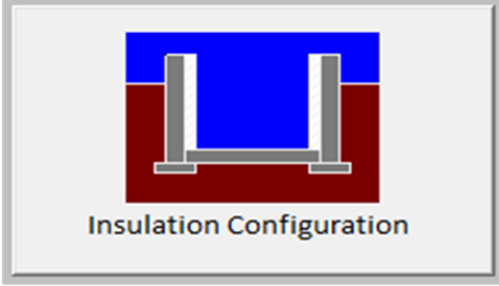
2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component	NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS & DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement Walls Minimum RSI (R)-Value		20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value		-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value		10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value		10	11.13
Windows and Sliding Glass Doors Maximum U-Value		0.28	-
Skylights Maximum U-Value		0.49	-
Space Heating Equipment Minimum AFUE		96%	-
HRV/ERV Minimum Efficiency		75%	-
Domestic Hot Water Heater Minimum EF		0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Cambridge	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	 Insulation Configuration
Floor Width (m):	6.1	
Exposed Perimeter (m):	28.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.1	
Door Area (m ²):	2.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		832

TYPE: WILLOW 3E
LO# 98655

NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS
& DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION
BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE
OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING
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Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

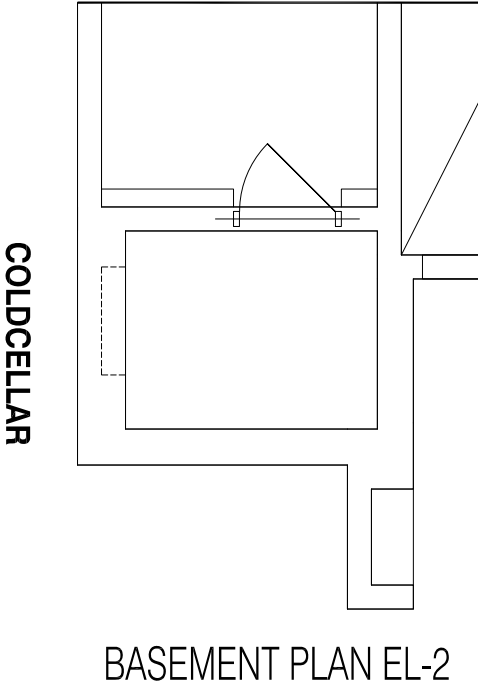
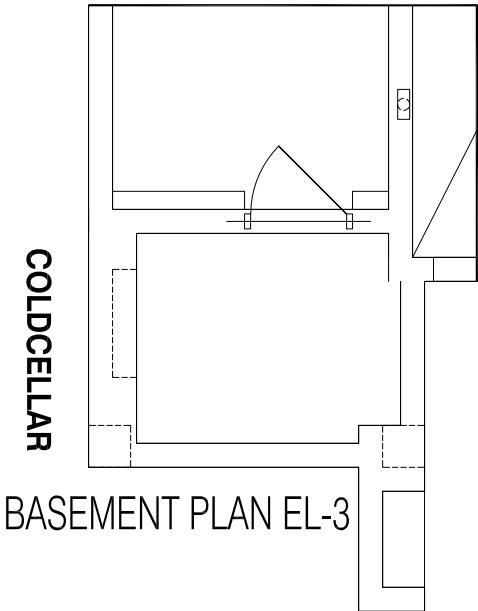
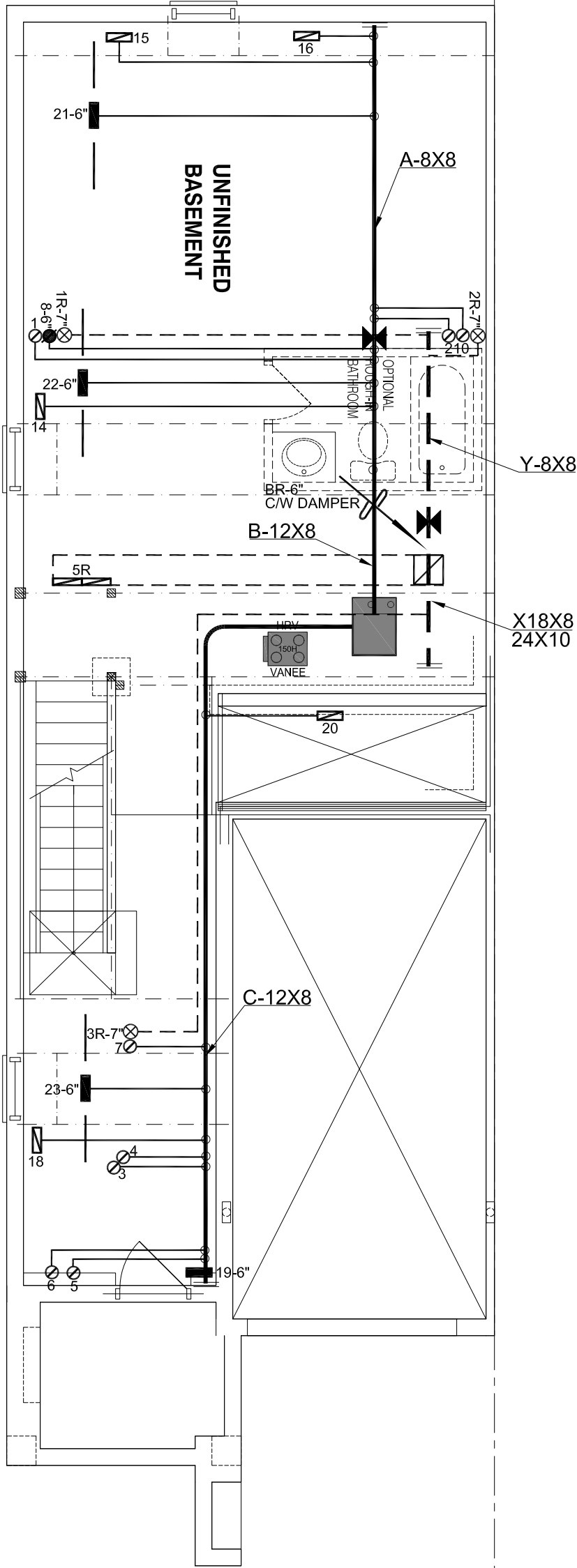
Weather Station Description				
Province:	Ontario			
Region:	Cambridge			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	679.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	905.7 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	30.0	30.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.319			
Cooling Air Leakage Rate (ACH/H):	0.085			

TYPE: WILLOW 3E
LO# 98655

Michael O'Rourke BCIN# 19669



NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS & DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.



I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12

PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

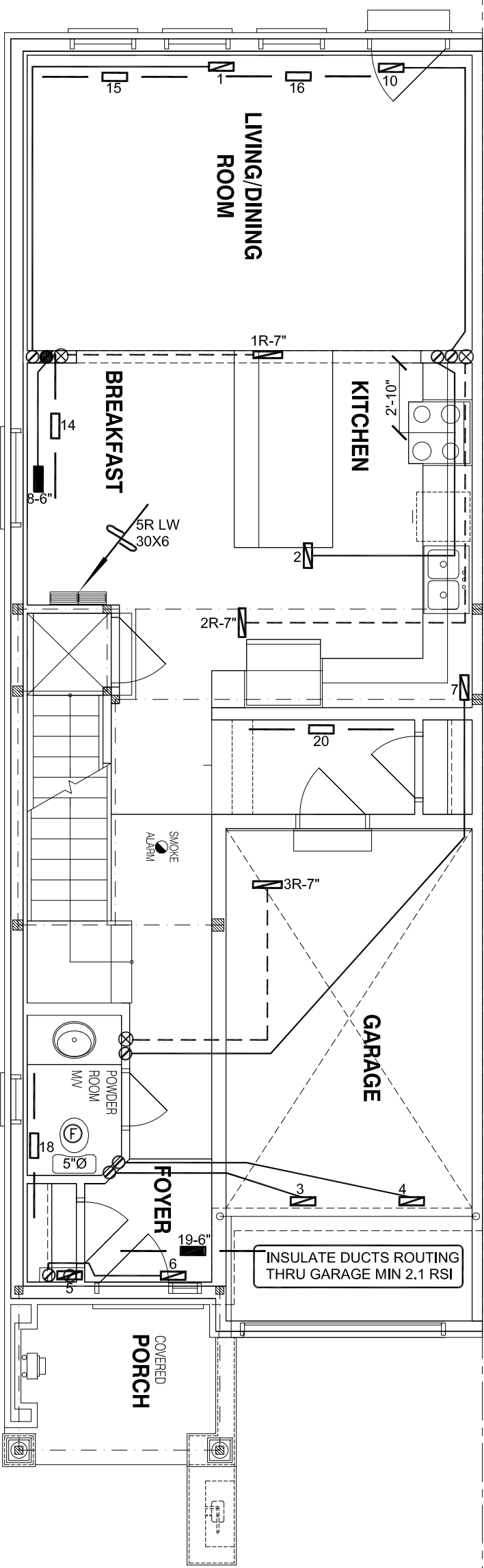
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Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	HEAT LOSS 30611 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GREENPARK HOMES			MAKE GOODMAN	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name BARLASSINA CAMBRIDGE, ONTARIO			MODEL GMEC960402BNA	2ND FLOOR	9	3	3		
Block 122 Units 37 to 42			INPUT 40 MBTU/H	1ST FLOOR	6	1	2	Date	AUG/2022
			OUTPUT 38.4 MBTU/H	BASEMENT	3	1	0	Scale	3/16" = 1'-0"
		COOLING 1.5 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A					BCIN# 19669	
WILLOW 3E 1775 sqft		FAN SPEED 695 cfm @ 0.6" w.c.						LO#	98655

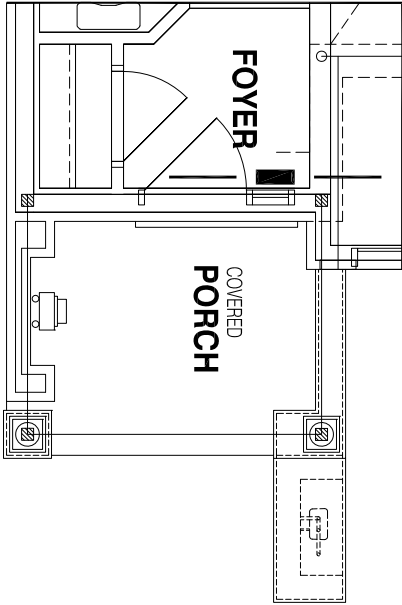
I MICHAEL O'ROURKE HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

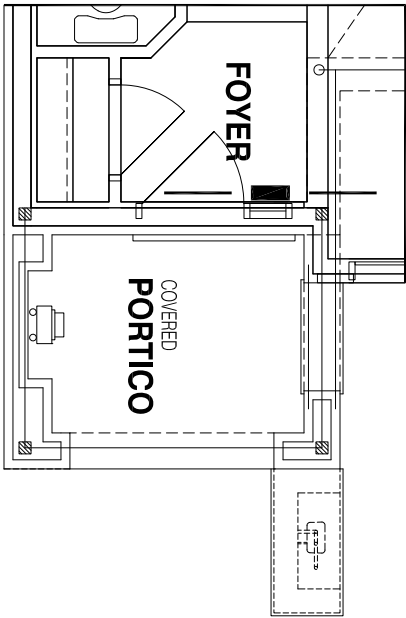
FIRST FLOOR PLAN EL-1



NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS
& DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION
BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE
OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING
CODE AND ANY OTHER REFERENCED REQUIREMENTS.



FIRST FLOOR PLAN EL-3



FIRST FLOOR PLAN EL-2

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 122 Units 37 to 42			BCIN# 19669	
WILLOW 3E	1775 sqft		LO#	98655

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

Client

GREENPARK HOMES

Project Name

BARLASSINA
CAMBRIDGE, ONTARIO

Block 122 Units 37 to 42

WILLOW 3E 1775 sqft

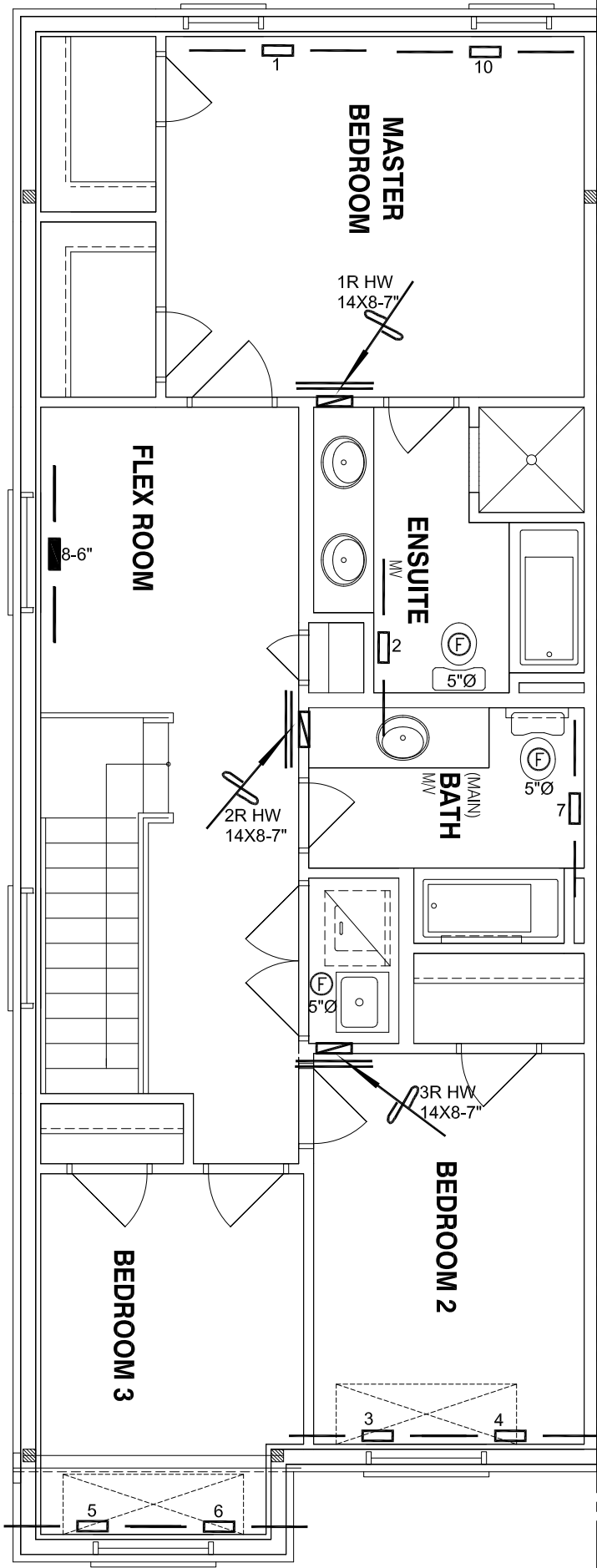


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Specializing in Residential Mechanical Design Services

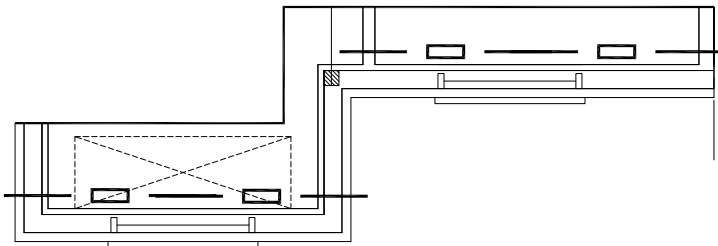
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS & DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.

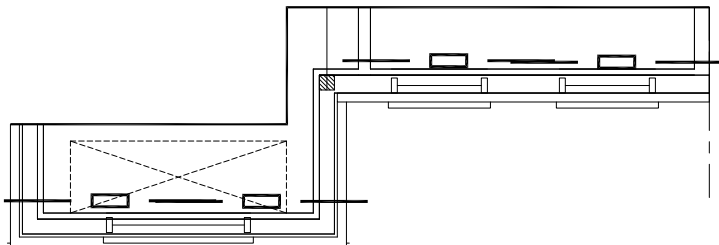
Sheet Title	
SECOND FLOOR HEATING LAYOUT	
Date	AUG/2022
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	98655



SEC. FLOOR PLAN EL-1



SEC. FLOOR PLAN EL-3



SEC. FLOOR PLAN EL-2

CSA-F280-12

PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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