

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information				
Building number, street name			Unit no.	Lot/con.
Municipality BRAMPTON	Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design activities				
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD		
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A	
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdsgns.ca	
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()		
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]				
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings				
☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection				
☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems				
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 2003 Project: SUMMER RIDGE ESTATES		
D. Declaration of Designer				
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)				
☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____				
☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>				
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____				
I certify that:				
1. The information contained in this schedule is true to the best of my knowledge.				
2. I have submitted this application with the knowledge and consent of the firm.				
April 22, 2024				
Date		Signature of Designer		

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: SUMMER RIDGE ESTATES				DATE: Apr-24				WINTER NATURAL AIR CHANGE RATE 0.275				HEAT LOSS AT °F. 74				CSA-F280-12			
BUILDER: ROYAL PIE HOMES				TYPE: 2003				GFA: 1961				SUMMER NATURAL AIR CHANGE RATE 0.086				HEAT GAIN AT °F. 11			
ROOM USE				MBR				BED-2				BED-3				BATH			
EXP. WALL				12				11				12				0			
CLG. HT.				9				9				9				9			
FACTORS																			
GRS.WALL AREA				103				95				103				0			
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN			
NORTH				20.8 12.8				0 0 0				0 0 0				0 0 0			
EAST				20.8 32.9				26 540 856				35 727 1152				0 0 0			
SOUTH				20.8 19.8				0 0 0				0 0 0				0 0 0			
WEST				20.8 32.9				0 0 0				0 0 0				0 0 0			
SKYLT.				34.1 132.1				0 0 0				0 0 0				0 0 0			
DOORS				19.6 2.9				0 0 0				0 0 0				0 0 0			
NET EXPOSED WALL				3.5 0.5				69 238 35				68 236 35				0 0 0			
NET EXPOSED BSMT WALL ABOVE GR				3.5 0.5				0 0 0				0 0 0				0 0 0			
EXPOSED CLG				1.3 0.6				232 291 129				204 256 114				101 127 56			
NO ATTIC EXPOSED CLG				2.7 1.2				0 0 0				17 46 20				0 0 0			
EXPOSED FLOOR				2.5 0.4				0 0 0				0 0 0				0 0 0			
BASEMENT/CRAWL HEAT LOSS				0				0				0				0			
SLAB ON GRADE HEAT LOSS				0				0				0				0			
SUBTOTAL HT LOSS				1234				1069				1265				127			
SUB TOTAL HT GAIN				1184				1020				1321				56			
LEVEL FACTOR / MULTIPLIER				0.20 0.40				0.20 0.40				0.20 0.40				0.20 0.40			
AIR CHANGE HEAT LOSS				489				423				501				50			
AIR CHANGE HEAT GAIN				95				82				106				5			
DUCT LOSS				0				0				0				0			
DUCT GAIN				0				0				0				0			
HEAT GAIN PEOPLE				240				1				1				0			
HEAT GAIN APPLIANCES/LIGHTS				2				240				240				0			
TOTAL HT LOSS BTU/H				1723				1492				1766				177			
TOTAL HT GAIN x 1.3 BTU/H				2980				2439				2861				79			

ROOM USE				LV/DN				K/B/G				ENTRY-1				LAUN				FOY				ENTRY-2				BAS			
EXP. WALL				11				12				7				0				12				21				56			
CLG. HT.				10				10				10				9				11				11				9			
FACTORS																															
GRS.WALL AREA				106				115				67				0				127				223				314			
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN							
NORTH				20.8	12.8	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				20.8	32.9	37	769	1218	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	208	329		
SOUTH				20.8	19.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
WEST				20.8	32.9	0	0	0	33	686	1086	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	208	329		
SKYLT.				34.1	132.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
DOORS				19.6	2.9	0	0	0	0	0	0	20	392	58	0	0	0	36	705	104	40	783	116	20	392	58	20	392	58		
NET EXPOSED WALL				3.5	0.5	69	238	35	82	285	42	47	164	24	0	0	0	86	299	44	183	633	94	0	0	0	0	0	0		
NET EXPOSED BSMT WALL ABOVE GR				3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	168	590	88		
EXPOSED CLG				1.3	0.6	0	0	0	0	0	0	0	0	50	63	28	0	0	0	0	0	0	0	0	0	0	0	0	0		
NO ATTIC EXPOSED CLG				2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EXPOSED FLOOR				2.5	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	0		
BASEMENT/CRAWL HEAT LOSS				0				0				0				0				0				0				1828			
SLAB ON GRADE HEAT LOSS				0				0				0				0				0				0							
SUBTOTAL HT LOSS				1007				971				555				63				1108				1416				3225			
SUB TOTAL HT GAIN				1253				1128				82				28				313				210				804			
LEVEL FACTOR / MULTIPLIER				0.30	0.57			0.30	0.57	0.30	0.57	0.20	0.40			0.30	0.57	0.30	0.57			0.50	1.49								
AIR CHANGE HEAT LOSS				574				553				316				25				631				807				4802			
AIR CHANGE HEAT GAIN				101				91				7				2				25				17				65			
DUCT LOSS				0				0				0				0				0				0				0			
DUCT GAIN				0				0				0				0				0				0				0			
HEAT GAIN PEOPLE				240	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		
HEAT GAIN APPLIANCES/LIGHTS				534				534				0				534				0				0				534			
TOTAL HT LOSS BTU/H				1580				1524				872				87				1739				2223				8027			
TOTAL HT GAIN x 1.3 BTU/H				2454				2279				116				733				440				295				1824			

LO# 104854

AFUE = 96 %
INPUT (BTU/H) = 26,000
OUTPUT (BTU/H) = **25,000**

LOW	0	DESIGN CFM =	545
MEDLOW	545	CFM @ .6" E.S.P.	
MEDIUM	770		
MEDIUM HIGH	0	TEMPERATURE RISE	42
HIGH	0		

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

RUN #
ROOM NAME
RM LOSS MBH.
CFM PER RUN HEAT
RM GAIN MBH.
CFM PER RUN COOLING
ADJUSTED PRESSURE
ACTUAL DUCT LGH.
EQUIVALENT LENGTH
TOTAL EFFECTIVE LENGTH
ADJUSTED PRESSURE
ROUND DUCT SIZE
HEATING VELOCITY (ft/min)
COOLING VELOCITY (ft/min)
OUTLET GRILL SIZE
TRUNK

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

TYPE: 2003
SITE NAME: SUMMER RIDGE ESTATES

LO # 104854

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	63.6	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 74 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

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	☒ HVI Approved	
@ 32 deg F (0 deg C)		

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

BUILDER:	
ROYAL PIE 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:	April-24

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																					
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																					
LO#: 104854		Model: 2003		Builder: ROYAL PIE HOMES				Date: 2024-04-22																																																													
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5.2.3.1 Heat Loss due to Air Leakage					6.2.6 Sensible Gain due to Air Leakage																																																																
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.275 x 206.65 x 41 °C x 1.2 = 2815 W = 9603 Btu/h					$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ 0.086 x 206.65 x 6 °C x 1.2 = 131 W = 446 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 74 °F x 1.08 x 0.25 = 1274 Btu/h					$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 11 °F x 1.08 x 0.25 = 189 Btu/h																																																																
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																					
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{ (HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel}) \}$																																																																					
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*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: 2003	BUILDER: ROYAL PIE HOMES
SFQT: 1961	SITE: SUMMER RIDGE ESTATES
LO# 104854	

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.60

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.00	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	26272.6	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:	5.6 ft
LENGTH: 55.0 ft	WIDTH: 21.0 ft	EXPOSED PERIMETER:	56.0 ft

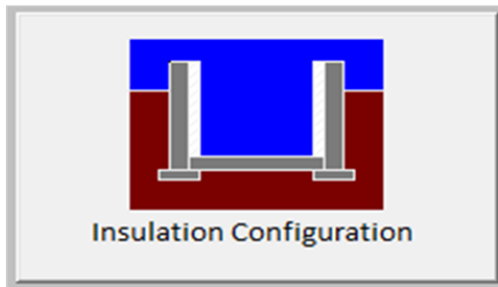
2012 OBC - COMPLIANCE PACKAGE		Compliance Package PERFORMANCE	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22+1.5	21.40
Basement Walls Minimum RSI (R)-Value		20	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		1.6	-
Skylights Maximum U-Value		2.6	-
Space Heating Equipment Minimum AFUE		96%	-
HRV/ERV Minimum Efficiency		75%	-
Domestic Hot Water Heater Minimum EF		0.9	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	16.8	 Insulation Configuration
Floor Width (m):	6.4	
Exposed Perimeter (m):	17.1	
Wall Height (m):	2.6	
Depth Below Grade (m):	1.71	
Window Area (m ²):	1.9	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		535

TYPE: 2003
LO# 104854

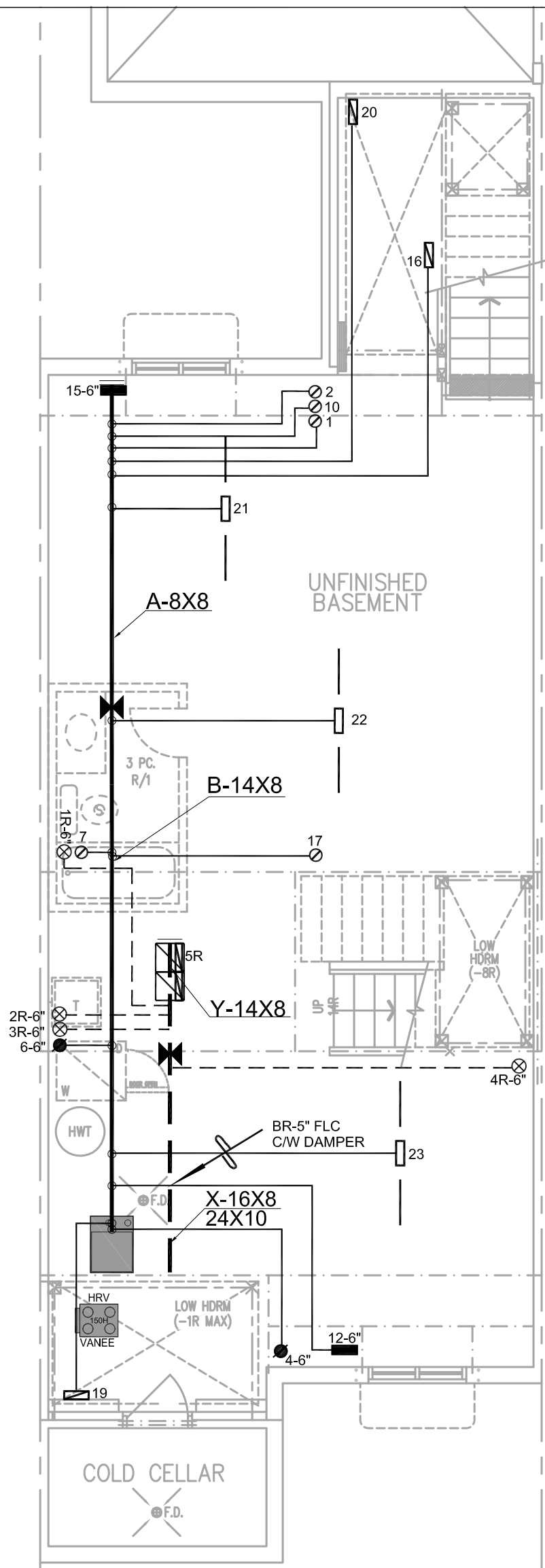
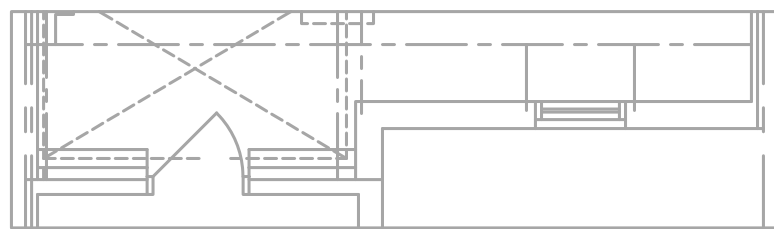
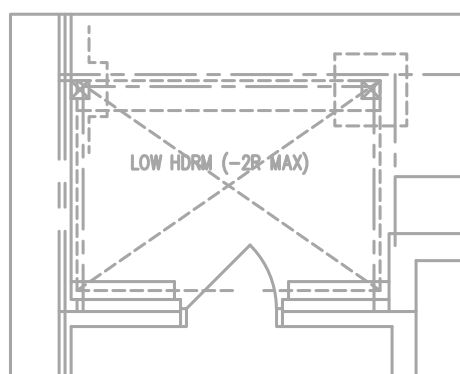
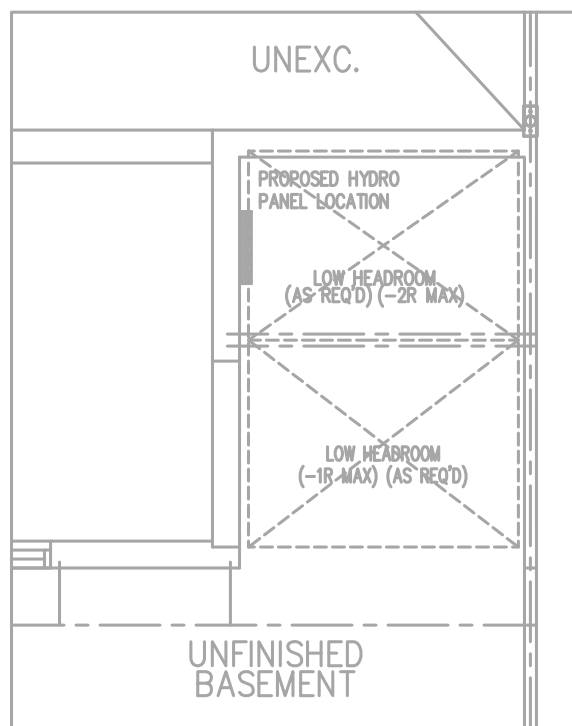
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

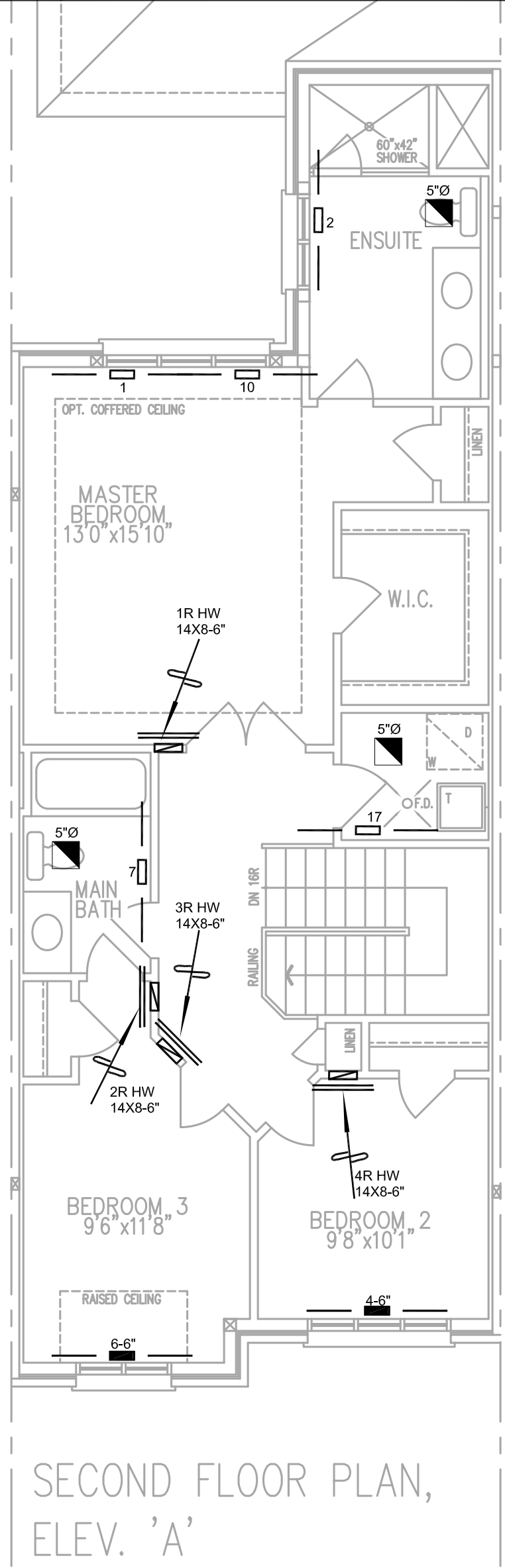
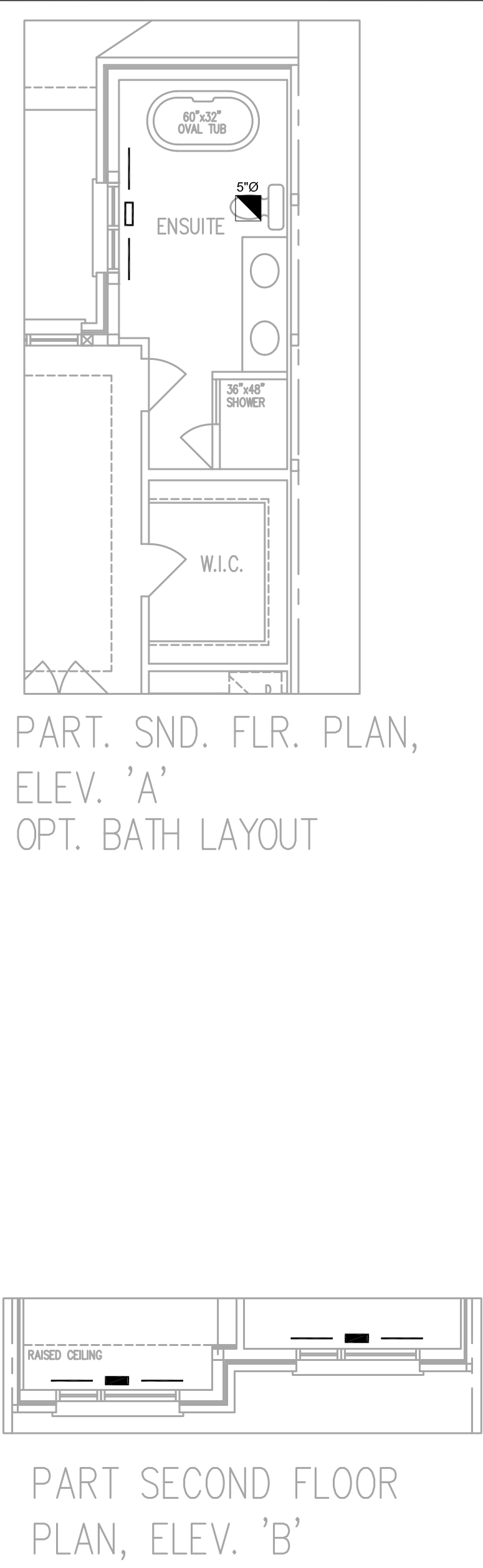
Weather Station Description				
Province:	Ontario			
Region:	Brampton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.46			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	744.0			
Air Leakage/Ventilation				
Air Tightness Type:	Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	833.4 cm ²		
	3.00	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):	0.275			
Cooling Air Leakage Rate (ACH/H):	0.086			

TYPE: 2003

LO# 104854



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				HEAT LOSS 24159 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title	
Project Name						MAKE CARRIER		3RD FLOOR		BASEMENT HEATING LAYOUT	
ROYAL PINE HOMES SUMMER RIDGE ESTATES BRAMPTON, ONTARIO 20031961 sqft		MODEL 59SC6A026M14--10		2ND FLOOR		743		Date			
		INPUT 26 MBTU/H		1ST FLOOR		512		APR/2024			
		OUTPUT 25 MBTU/H		BASEMENT		310		Scale			
		COOLING 1.5 TONS		UNLESS 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		3/16" = 1'-0"		BCIN# 19669			
		FAN SPEED 545 cfm @ 0.6" w.c.				LO#		104854			



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.								Sheet Title	
Project Name										SECOND FLOOR HEATING LAYOUT	
SUMMER RIDGE ESTATES BRAMPTON, ONTARIO										Date APR/2024	
2003										Scale 3/16" = 1'-0"	
1961 sqft										BCIN# 19669	
										LO# 104854	