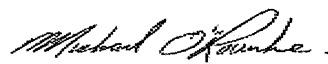


Schedule 1: Designer Information

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 RICHMOND HILL	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: 2010 FIN BSMT & OPT 2ND Project: CENTREFIELD (WEST GORMLEY)	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ 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.			
September 10, 2021 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: CENTREFIELD (WEST GORMLEY) BUILDER: ROYAL PINE HOMES										DATE: Sep-21 LO# 87543	WINTER NATURAL AIR CHANGE RATE 0.275 HEAT LOSS AT °F. 78		SUMMER NATURAL AIR CHANGE RATE 0.083 HEAT GAIN AT °F. 13		CSA-F280-12 SB-12 PERFORMANCE	
ROOM USE EXP. WALL CLG. HT.	MBR 14 8	ENS 22 8	TYPE: 2010	FIN BSMT & OPT 2ND	GFA: 1742	BED-2 10 8	BED-3 42 10	BATH 0 8	B-BATH 0 9	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
GRS.WALL AREA	112	176				80	420	0	0	0	0	0	0	0	0	0
GLAZING																
NORTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	86	362	60	134	564	93	52	219	36	319	1342	221	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	298	392	175	105	138	62	176	231	103	253	332	149	70	92
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0	0	0	20	56	25	0	0
EXPOSED FLOOR	0	0	0	0	0	0	0	0	176	469	76	21	55	9	51	133
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	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	0	0	0	0
SUBTOTAL HT LOSS	1320	1616				1519	3885	63	225	0.20	0.18	42	282	0.50	0.93	302
SUB TOTAL HT GAIN	1315	1517				1378	3518	0	302	0.20	0.18	42	282	0.50	0.93	302
LEVEL FACTOR / MULTIPLIER	0.20	0.18	0.20	0.18	0.20	0.18	0.20	0.18	0.20	0.18	0.20	0.18	0.20	0.18	0.20	0.18
AIR CHANGE HEAT LOSS	244	299				281	735	2	282	0.20	0.18	42	282	0.50	0.93	302
AIR CHANGE HEAT GAIN	50	57				52	133	7	27	0.20	0.18	42	282	0.50	0.93	302
DUCT LOSS	0	0				180	472	0	0	0.20	0.18	42	282	0.50	0.93	302
DUCT GAIN	240	0				221	443	0	0	0.20	0.18	42	282	0.50	0.93	302
HEAT GAIN PEOPLE	2	480	0	0	0	1	240	0	0	0.20	0.18	42	282	0.50	0.93	302
HEAT GAIN APPLIANCES/LIGHTS	536	1915	0	0	0	536	536	0	0	0.20	0.18	42	282	0.50	0.93	302
TOTAL HT LOSS BTU/H	1564	3095				1980	5194	293	563	0.20	0.18	42	282	0.50	0.93	302
TOTAL HT GAIN x 1.3 BTU/H			2046			3155	6331	94	563	0.20	0.18	42	282	0.50	0.93	302

SITE NAME: CENTREFIELD (WEST GORMLEY) TYPE: 2010 FIN BSMT & OPT 2ND DATE: Sep-21 GFA: 1742 LO# 87543

HEATING CFM 875 COOLING CFM 875
TOTAL HEAT LOSS 33,311 TOTAL HEAT GAIN 29,541
AIR FLOW RATE CFM 26.27 AIR FLOW RATE CFM 29.62

59TN6A-060-14V **CARRIER
FAN SPEED 60
LOW 820
MEDIUM 875
HIGH 1520

AFUE = 97 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000
DESIGN CFM = 875
CFM @ .6" E.S.P.

TEMPERATURE RISE 61 °F

ROOM NAME	1	2	3	4	5	6	7	10	13	14	15	17	18	19	20	21	22	23
BED-3	BED-3	BED-3	BED-3	BED-3	BED-3	BED-3	BATH	MBR	K/B/G	K/B/G	K/B/G	LAUND	PWD	FOY	FOY	BAS	BAS	B-BATH
RM LOSS MBH	1.98	2.60	2.60	2.60	2.60	2.60	0.29	0.78	2.03	2.03	2.03	0.85	1.19	2.64	2.64	2.80	2.80	0.58
CFM PER RUN HEAT	21	50	52	52	52	52	8	21	53	53	53	22	31	69	69	73	73	15
RM GAIN MBH	1.55	2.05	3.16	3.17	3.17	3.17	0.09	1.55	2.65	2.65	2.65	1.54	0.21	1.91	1.91	0.43	0.43	0.00
CFM PER RUN COOLING	46	61	93	94	94	94	3	46	78	78	78	46	6	57	57	13	13	0
ADJUSTED PRESSURE	0.17	0.17	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	110	130	130	130	130	130	150	110	150	150	170	190	160	110	130	160	160	140
TOTAL EFFECTIVE LENGTH	150	158	178	245	216	216	179	143	154	169	194	231	182	144	166	199	182	149
ADJUSTED PRESSURE	0.11	0.11	0.09	0.07	0.08	0.1	0.1	0.12	0.11	0.11	0.09	0.07	0.09	0.12	0.1	0.09	0.09	0.12
ROUND DUCT SIZE	5	5	6	6	6	6	4	5	5	5	5	5	4	5	5	5	5	4
HEATING VELOCITY (ft/min)	154	367	347	347	347	347	92	154	389	389	389	162	356	507	507	536	536	172
COOLING VELOCITY (ft/min)	338	448	474	479	479	479	34	338	573	573	573	338	69	419	419	95	95	0
OUTLET GRILL SIZE	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	B	B	A	A	B	C	B	C	C	B	B	A	A	C	C	B

ROOM NAME	25	BAS
RM LOSS MBH	2.80	2.80
CFM PER RUN HEAT	73	0.43
RM GAIN MBH	13	0.17
CFM PER RUN COOLING	35	120
ADJUSTED PRESSURE	0.11	0.11
EQUIVALENT LENGTH	155	536
TOTAL EFFECTIVE LENGTH	155	95
ADJUSTED PRESSURE	0.11	0.11
ROUND DUCT SIZE	5	3X10
HEATING VELOCITY (ft/min)	536	95
COOLING VELOCITY (ft/min)	95	3X10
OUTLET GRILL SIZE	3X10	A
TRUNK	A	

SUPPLY AIR TRUNK SIZE	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	347	0.07	9.8	12	8	521	0	0.00	0	0	8	0	0.05	0	0	0	8
TRUNK B	528	0.07	11.4	16	8	594	0	0.00	0	0	8	0	0.05	0	0	0	8
TRUNK C	344	0.09	9.1	10	8	619	0	0.00	0	0	8	0	0.05	0	0	0	8
TRUNK D	0	0.00	0	0	8	0	0	0.00	0	0	8	0	0.05	0	0	0	8
TRUNK E	0	0.00	0	0	8	0	0	0.00	0	0	8	0	0.05	0	0	0	8
TRUNK F	0	0.00	0	0	8	0	0	0.00	0	0	8	0	0.05	0	0	0	8
RETURN AIR #	1	2	3	4	5	6	0	0	0	0	0	0	0	0	0	0	0
AIR VOLUME	95	85	85	75	330	105	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	57	46	56	55	18	35	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	165	205	175	215	190	160	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	222	251	231	270	208	195	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.06	0.06	0.05	0.07	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	6	6	6	6	9.6	6	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	24	10	0	0	0	0	0	0	0	0	0	0	0

TYPE: 2010
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87543
FIN BSMT & OPT 2ND

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	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	2 @ 10.6 cfm	21.2 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	1 @ 10.6 cfm	10.6 cfm
Table 9.32.3.A.	TOTAL	127.2 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	127.2	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	63.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
63.6 cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
63.6 CFM	X 78 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
B-BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155	cfm high	64 cfm low
75	% Sensible Efficiency	☒ HVI Approved
@ 32 deg F (0 deg C)		

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

BUILDER: ROYAL PINE 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:	September-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																											
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																											
LO#: 87543	Model: 2010	Builder: ROYAL PINE HOMES	Date: 9/10/2021																																																																								
Volume Calculation		Air Change & Delta T Data																																																																									
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6.2.6 Sensible Gain due to Air Leakage																																																																											
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																											
0.275	x	178.28	x																																																																								
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6.2.7 Sensible heat Gain due to Ventilation																																																																											
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																											
64 CFM	x	78 °F	x																																																																								
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		1336 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																																																																											

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2010	FIN BSMT & OPT 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 1742	LO# 87543	SITE: CENTREFIELD (WEST GORMLEY)

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-6	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

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 (ft³):	22664.7	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 52.0 ft	WIDTH: 22.0 ft	EXPOSED PERIMETER:	120.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package****SB-12 PERFORMANCE****Nominal Min. Eff.**

Ceiling with Attic Space Minimum RSI (R)-Value	60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.70
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22+1.5	18.50
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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	TE=94%	-

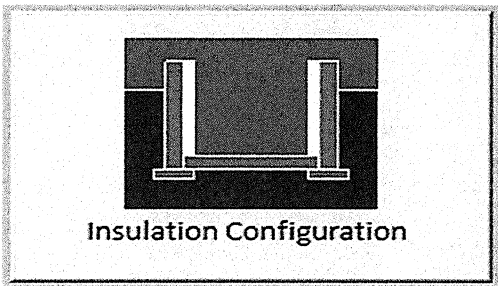
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Richmond Hill	
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):	6.7	
Exposed Perimeter (m):	36.6	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.9	
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):		1144

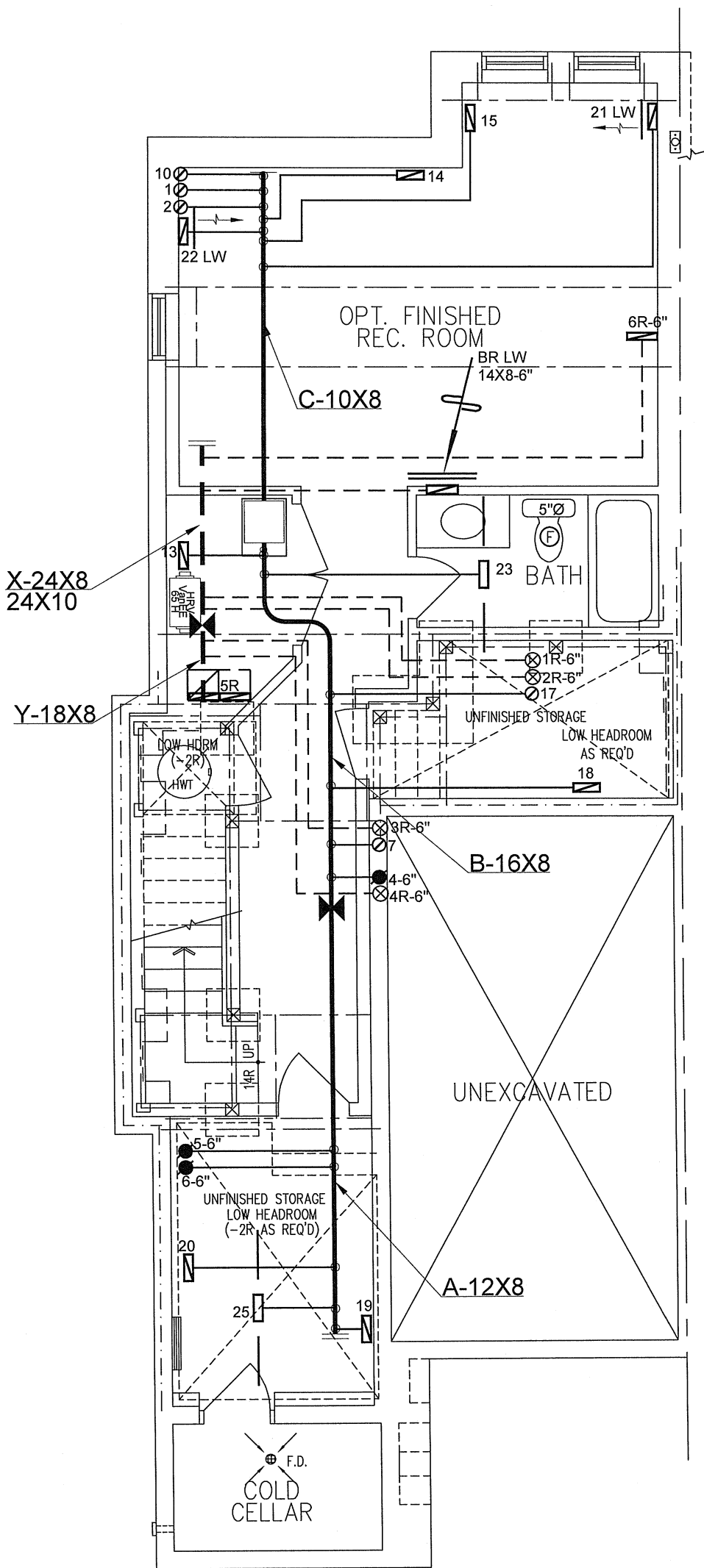
TYPE: 2010
LO# 87543

FIN BSMT & OPT 2ND

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Richmond Hill			
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):	6.43			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	641.8			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	718.9 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):	0.083			



OPT. FINISHED
BASEMENT PLAN, EL. 'A' & 'B'

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.

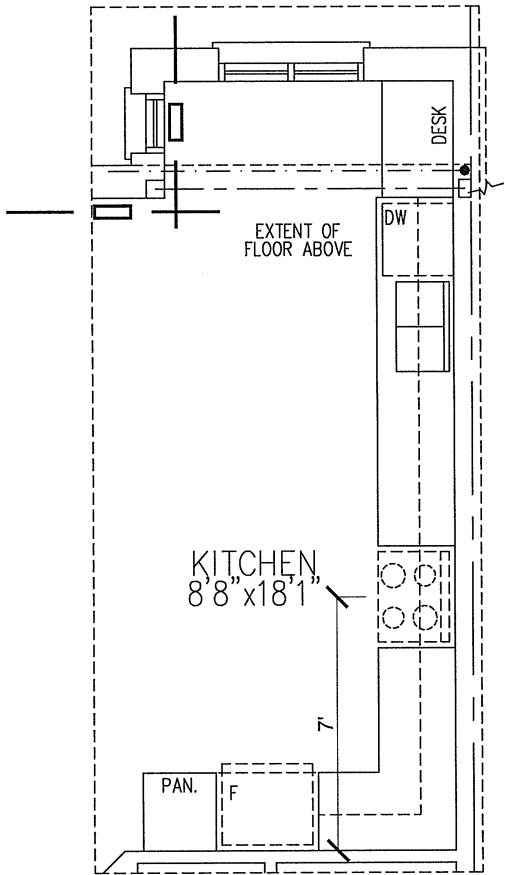
CSA-F280-12

SB-12 PERFORMANCE

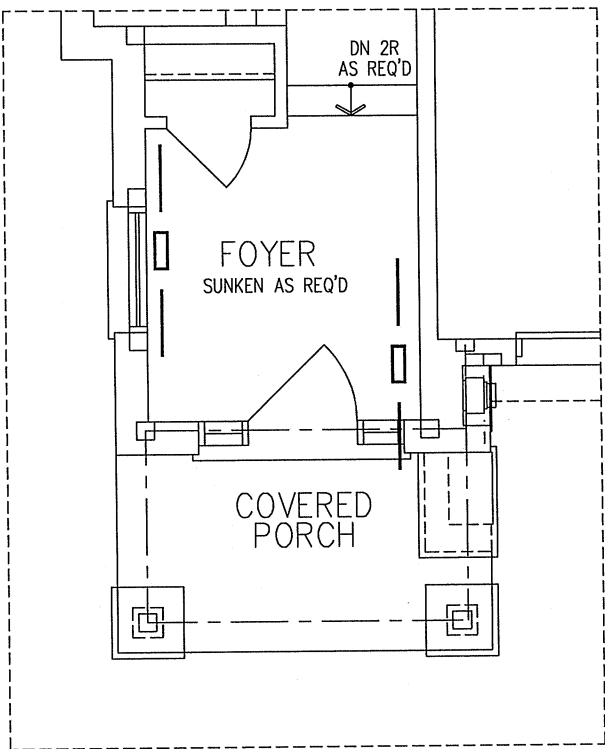
HVAC LEGEND						REVISIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Description
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	3.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	2.	REVISED ACH
	SUPPLY AIR BOOT ABOVE	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

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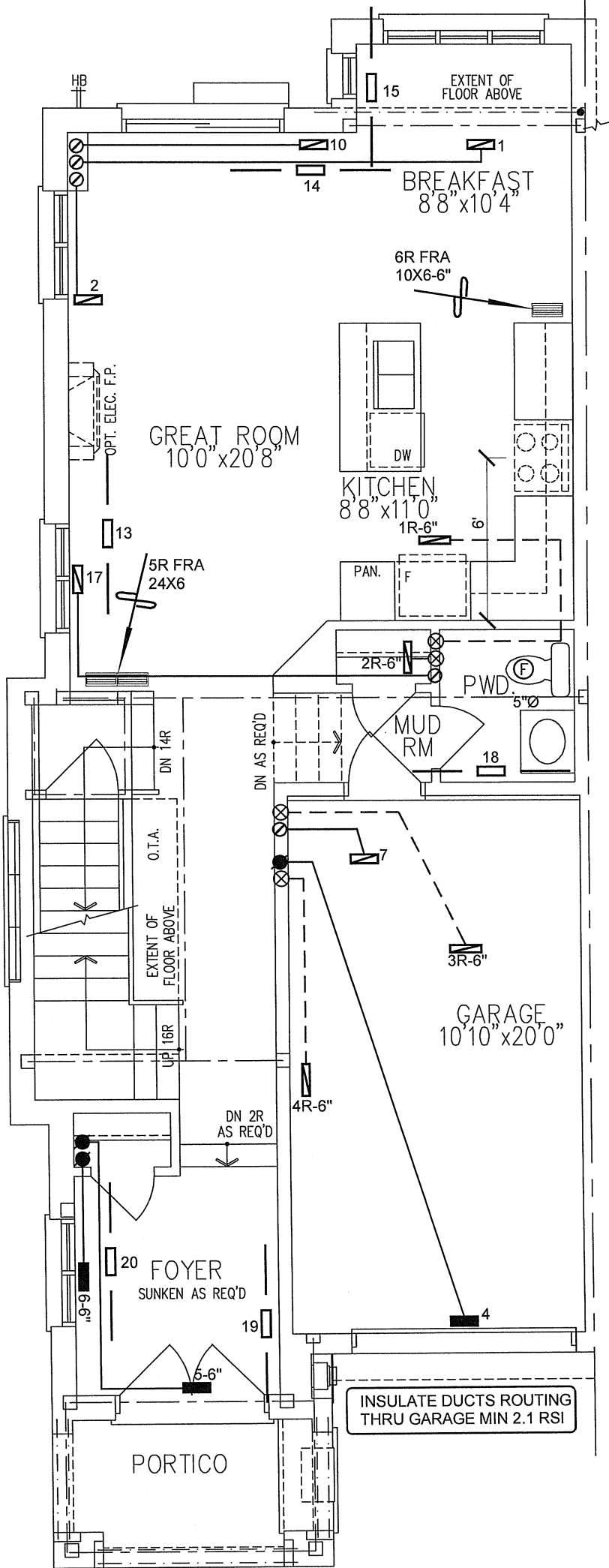
Client ROYAL PINE HOMES	Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO	FIN BSMT & OPT 2ND 2010	1742 sqft	 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential 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 34647 BTU/H UNIT DATA	# OF RUNS S/A R/A FANS	Sheet Title
					MAKE CARRIER	3RD FLOOR	BASEMENT HEATING LAYOUT
					MODEL 59TN6A-060-14V	2ND FLOOR 8 4 2	Date SEPT/2020
					INPUT 60 MBTU/H	1ST FLOOR 6 2 2	Scale 3/16" = 1'-0"
					OUTPUT 58 MBTU/H	BASEMENT 4 1 1	BCIN# 19669
					COOLING 2.5 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	LO# 87543
					FAN SPEED 875 cfm @ 0.6" w.c.		



PART. GROUND FLOOR PLAN
- OPT. KITCHEN LAYOUT



GROUND FLOOR PLAN, EL. 'B'



GROUND FLOOR PLAN, EL. 'A'

I MICHAEL O'ROURKE HAVE REVIEWED 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.

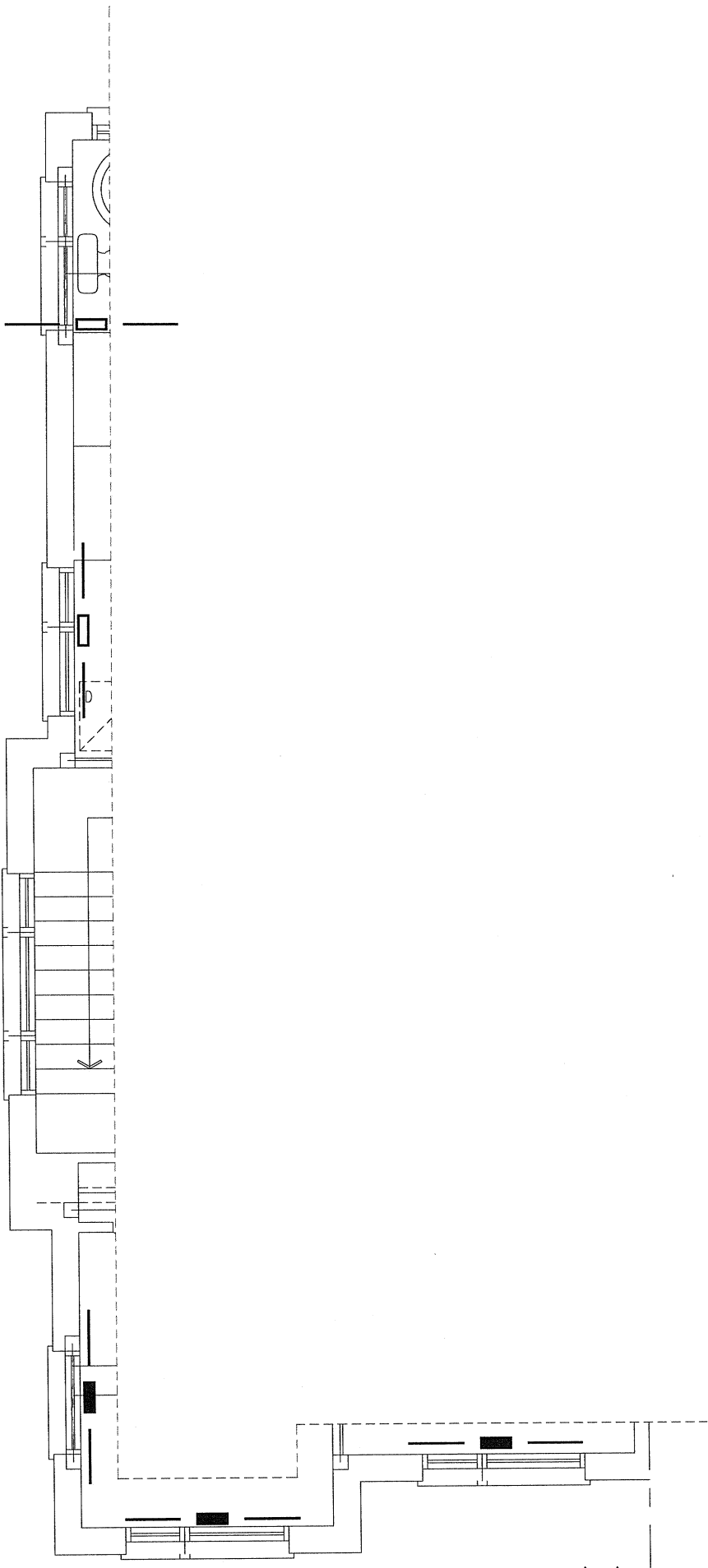
CSA-F280-12

SB-12 PERFORMANCE

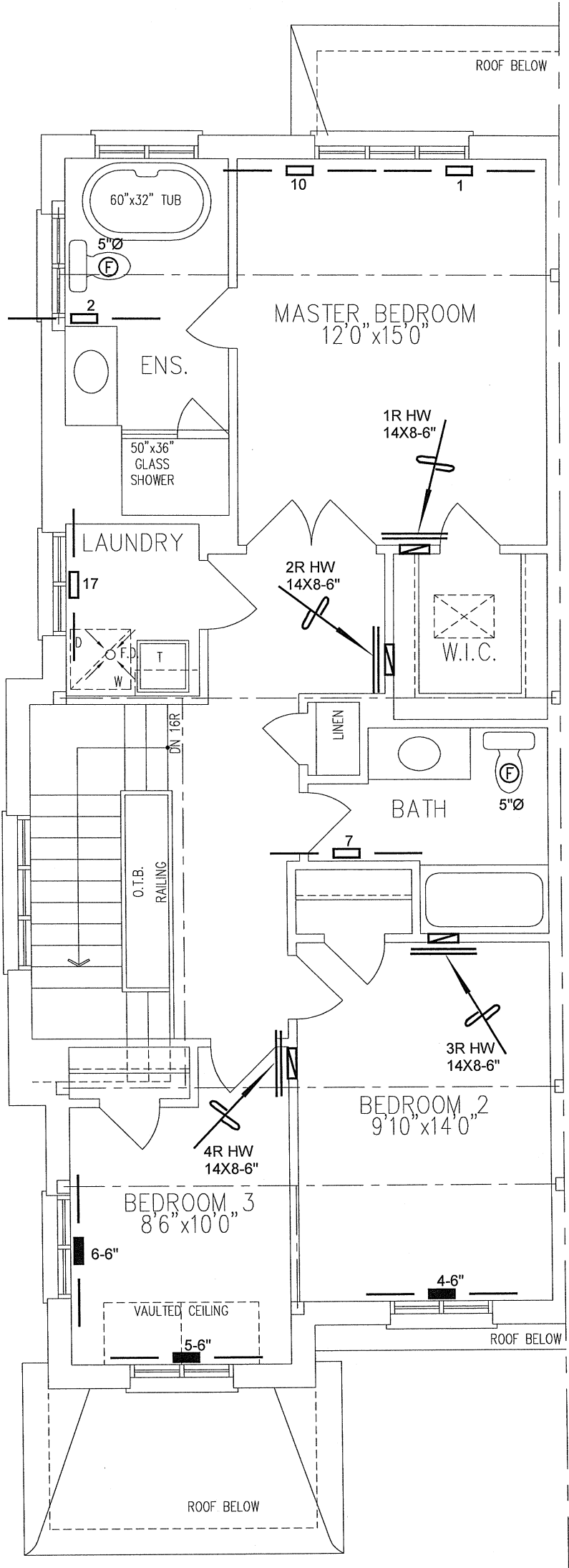
HVAC LEGEND						REVISIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Description
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	3.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	2.	REVISED ACH
	SUPPLY AIR BOOT ABOVE	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

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Client ROYAL PINE HOMES		HVACDESIGNS LTD. 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 FIRST FLOOR HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date SEPT/2020	
FIN BSMT & OPT 2ND 2010			Scale 3/16" = 1'-0"	
1742 sqft			BCIN# 19669	
			LO#	87543



OPT. SECOND FLOOR PLAN, EL. 'B'



OPT. SECOND FLOOR PLAN, EL. 'A'

I MICHAEL O'ROURKE HAVE REVIEWED 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

SB-12 PERFORMANCE

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED ACH	SEPT/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	SEPT/2020
	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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Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date SEPT/2020	
FIN BSMT & OPT 2ND 2010			Scale 3/16" = 1'-0"	
1742 sqft			BCIN# 19669	
		LO#	87543	