

SITE NAME: TRUBINO BUILDING GROUP

LOT 1

TYPE: GEORGIAN 3

DATE FEB-19

LOF 81442

WINTER NATURAL AIR CHANGE RATE 0.347

HEAT LOSS AT °F 72

HEAT GAIN AT °F 11

CSA-F282-12

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	EXP. WLL	EXP. HT.	FACTORS	LOSS	GAIN	ENS	WIC	BED-2	BED-3	BED-4	ENS-20	WIC-4	ENS-4	BED-5	ENS-5
GRS.WALL AREA	GLAZING	NORTH	EAST	SOUTH	WEST	SKYLT.	32.5	100.7	DOORS	24.1	3.7	0	0	0	0	0
NET EXPOSED WALL	4.3	0.6	22.3	73.73	209	249	1059	161	133	656	86	244	1025	156	149	633
NET EXPOSED SUBT. WALL AND/OR GL	3.4	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	38.4	44.5	263	228	279	127	286	313	143	228	278	127	265	312
NO ATTIC EXPOSED CLG	2.6	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
SUB TOTAL HT LOSS	2629						1945		1903		1706		1860		2005	
SUB TOTAL HT GAIN								497	622		1860		622		1903	
LEVEL FACTOR / MULTIPLIER	0.20	0.36	0.20	0.26	0.20	0.26	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36
AIR CHANGE HEAT LOSS	957						708		893		639		893		739	
AIR CHANGE HEAT GAIN								31	39		119		39		120	
DUCT LOSS	0	0	0	0	0	0	0	0	250	0	0	0	159	0	0	0
DUCT GAIN								152	152	0	0	0	46	0	0	0
HEAT GAIN PEOPLE	240						0	0	1	240	1	0	0	0	0	0
HEAT GAIN APPLIANCES							617		617	617	617	0	0	0	0	0
TOTAL HT LOSS	3086						2654		2866		2736		1763		2736	
TOTAL HT GAIN x 1.3 BURN							4263		2171		3713		654		3741	

TYPE: GEORGIAN 3
SITE NAME: TIBURTINO BUILDING GROUP

LO # 81442
LOT 1

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	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm	63.6 cfm
Other Rooms	9 @ 10.6 cfm	95.4 cfm
Table 9.32.3.A.	TOTAL	243.8 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	79.6	cfm
5 Bedroom	95.4	cfm
TOTAL		95.4 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	243.8	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	88.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
155.0 cfm	3.0 sones
☒ HVI Approved	

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

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	✓
ENS-2/3	QTXEN050C	50	✓
ENS-4	QTXEN050C	50	✓
PWD	QTXEN050C	50	✓

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155	cfm high	64 cfm low
75	% 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:	February-19

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: GEORGIAN 3	LOT 1	BUILDER: GREENPARK HOMES
SFQT: 3830	LO# 81442	SITE: TIBURTINO BUILDING GROUP

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

BUILDING DATA

ATTACHMENT:	DETACHED	# 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 (ft³):	54480.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 48.0 ft	WIDTH: 45.0 ft	EXPOSED PERIMETER:	186.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package A1	
	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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

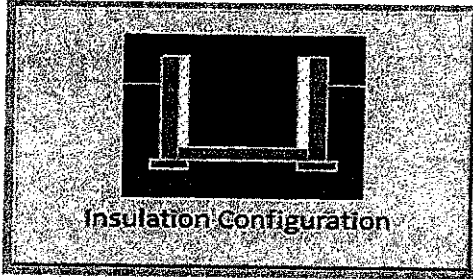
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Oakville	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	14.6	
Floor Width (m):	13.7	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	5.8	
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):	1755	

TYPE: GEORGIAN 3
LO# 81442

LOT 1

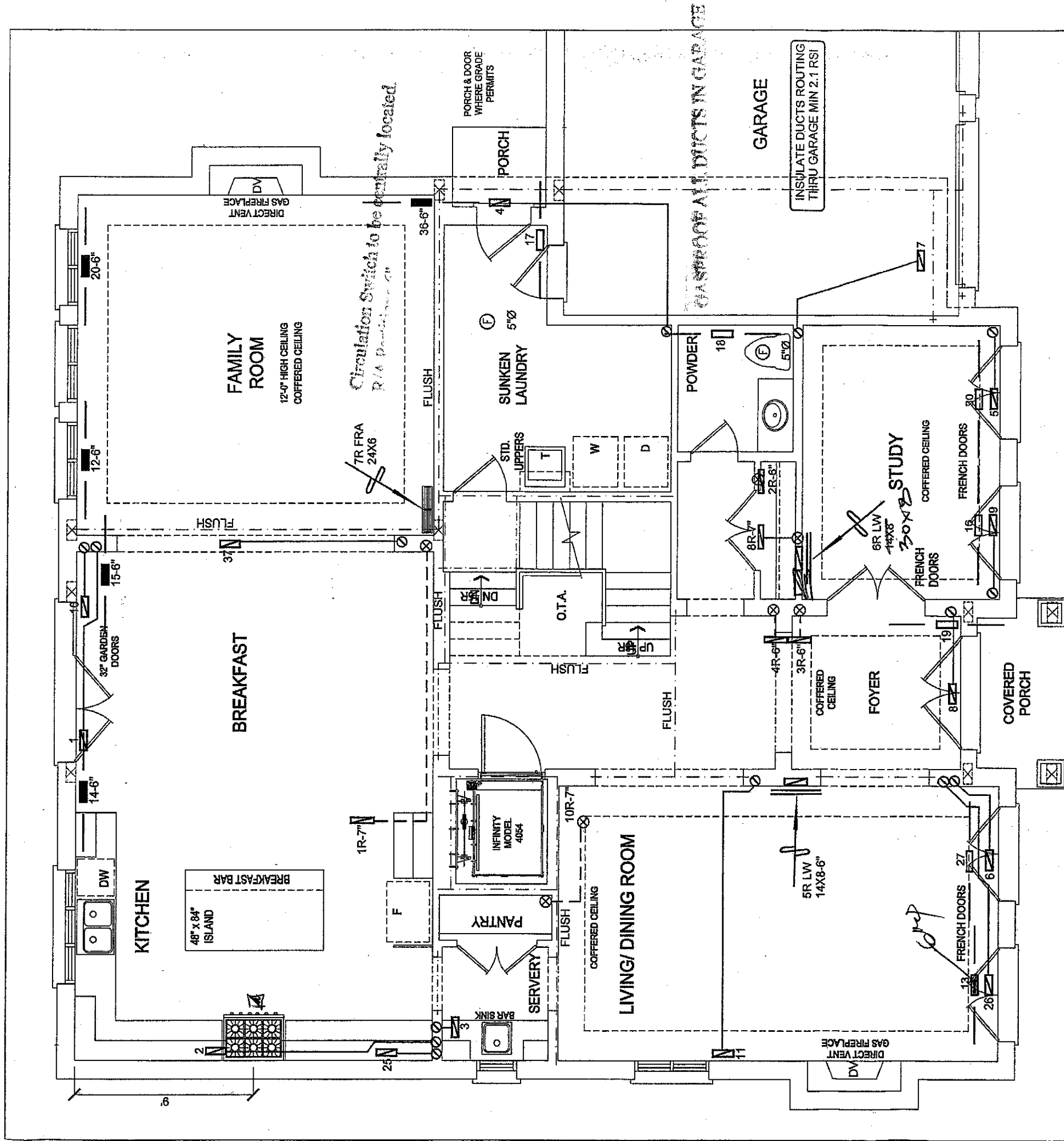
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Oakville		
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:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1542.7		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	2056.5 cm ²	
	3.57	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	73.2	73.2	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.347		
Cooling Air Leakage Rate (ACH/H):	0.100		

TYPE: GEORGIAN 3
LO# 81442

LOT 1



UNDERCUT ALL DOORS A MINIMUM OF 1/2" ON
ROOMS NOT HAVING RETURN AIR INLET

ALL BRANCH SUPPLY DUCTS
SHALL BE EQUIPPED WITH BALANCING
DAMPERS AT THE BOOT AS PER O.B.C.

I MICHAEL OROURKE HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
CORRECTNESS OF THE INFORMATION
CONTAINED HEREIN AS SHOWN ON THE
BUILDING CODE.

Michael O'Rourke
HVAC DESIGNS LTD.
March 1969

LOT 1
CSA-F280-12
PACKAGE A1

HVAC LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		14"X8" RETURN AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT		30"X8" RETURN AIR GRILLE
	SUPPLY AIR BOOT ABOVE		FRA- FLOOR RETURN AIR GRILLE
			REDUCER

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ONTARIO BUILDING CODE.

Client

GREENPARK HOMES

Project Name

TIBURTINO BUILDING CORP

OAKVILLE, ONTARIO

LOT 1

GEORGIAN 3

3830 sqft

Sheet Title

**FIRST FLOOR
HEATING
LAYOUT**

Date

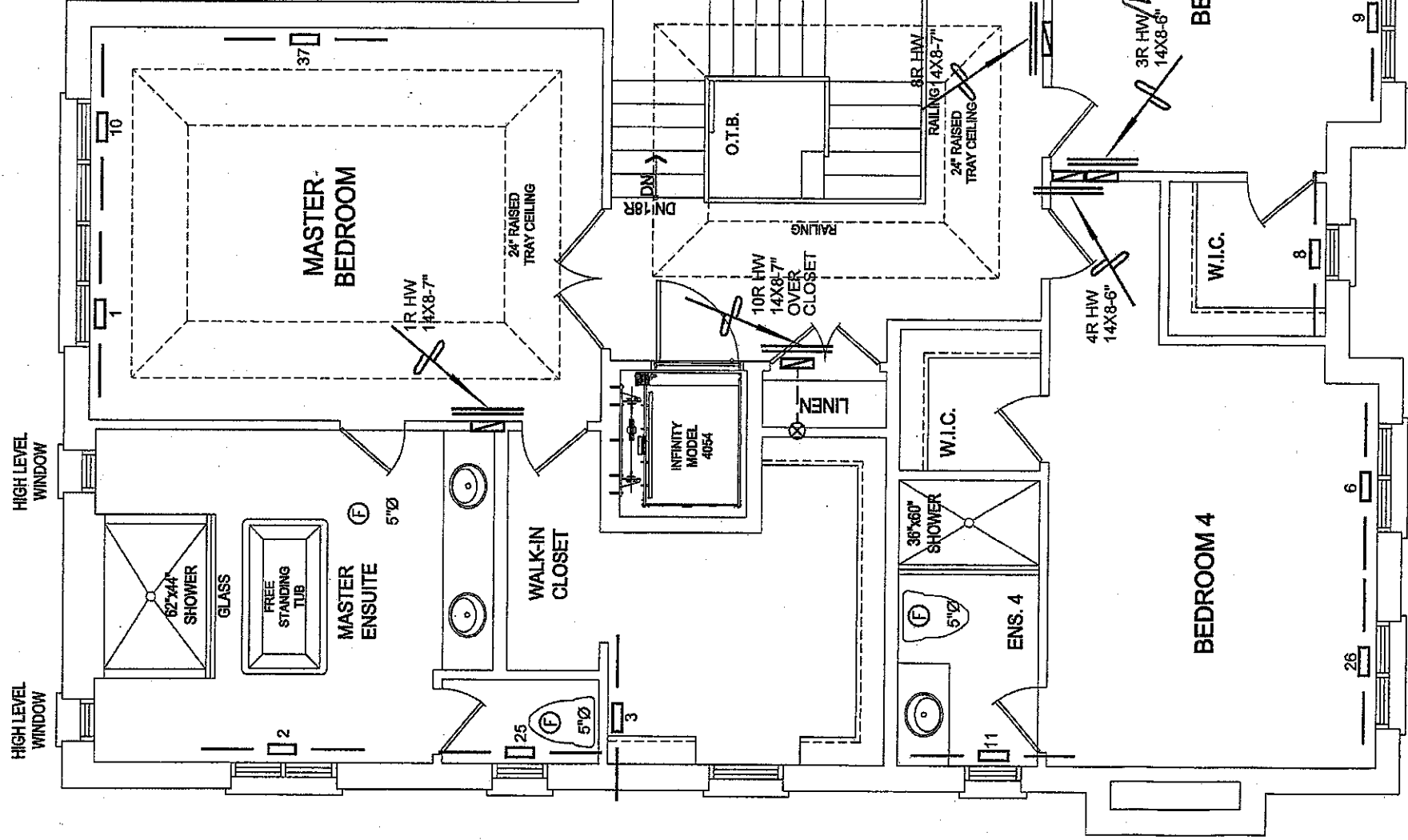
FEB/2019

Scale

3/16" = 1'-0"

BCIN# 19669

LO# 81442



UNDERCUT ALL DOORS A MINIMUM OF 1/2" ON
ROOMS NOT HAVING RETURN AIR INLET

Carbon Monoxide Alarm
required adjacent to each
sleeping area

ALL BRANCH SUPPLY DUCTS
SHALL BE EQUIPPED WITH BALANCING
DAMPERS AT THE BOOT AS PER O.B.C.

I, MICHAEL OROURKE HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
DESIGN AND CONSTRUCTION OF THE
UNDER DIVISION C. 3.2.5 OF THE
BUILDING CODE.
Michael O'Rourke
HVAC DESIGNS LTD.

LOT 1
CSA-F280-12
PACKAGE A1

HVAC LEGEND				3.
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.
	SUPPLY AIR GRILLE		14\"/>	2.
	SUPPLY AIR GRILLE 6\"/>		30\"/>	1.
	SUPPLY AIR BOOT ABOVE		FRA-FLOOR RETURN AIR GRILLE	No.
	SUPPLY AIR BOOT ABOVE		REDUCER	

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Client		Sheet Title	
GREENPARK HOMES		SECOND FLOOR	
TIBURTINO BUILDING CORP OAKVILLE, ONTARIO		HEATING LAYOUT	
LOT 1		Date	FEB/2019
GEORGIAN 3		Scale	3/16" = 1'-0"
3830 sqft		BCIN#	19669
		LO#	81442

HVAC DESIGNS LTD.
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L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdsgns.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.