MCCALLUM HVAC DESIGN INC

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 4502 Cor Elev. A, B and C			Lot: 4502 Cor	
			Lot/con.	
Municipality: BRAMPTON	Postal code	Plan number/ other description		

B. Individual who reviews and takes responsibility for design activities				
Name: **Doug McCallum**		Firm: **McCallum HVAC Design Inc.**		
Street address: **2 Dewside Drive Unit 208**			Unit no.	Lot/con.
Municipality: **Brampton**	Postal code: **L6R 3Y5**	Province: **Ontario**	E-mail: info@mccallumhvac.com	
Telephone number: **(905) 840-8166**	Fax number		Cell number: **(647) 229-0380**	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]

House	☒ HVAC – House	Building Structural
Small Buildings	Building Services	Plumbing – House
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings
Complex Buildings	Fire Protection	On-site Sewage Systems

Description of designer's work	**Model Certification**		**Project #:** P22161
Heating and Cooling Load Calculations Air System Design Residential mechanical ventilation Design Summary Residential System Design per CAN/CSA-F280-12 Residential New Construction - Forced Air		Builder	ROYAL PINE HOMES
		Project	FORESTSIDE ESTATES INC
		Model	Unit 4502 Cor Elev. A, B and C
		SB-12	SB 12 Performance 28

D. Declaration of Designer

I Doug McCallum 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 Division C of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: **25896**

Firm BCIN: **102614**

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:

Basis for exemption from registration:

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.

2022-06-28

Date

Signature of Designer

NOTE:

1. 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 qualifications under Subsections 3.2.4 . and 3.2.5.of Division C.
2. Schedule 1 does not require to be completed a holder of a license, temporay license, or a certificate of authorization, issed by the Ontario Associstion of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited licence to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

MCCALLUM HVAC DESIGN INC

2 Dewside Drive Unit 208, Brampton, Ontario L6R 3Y5 Tel: 905-840-8166
e-mail - info@mccallumhvac.com

Heat loss and gain calculation summary sheet

CSA-F280-M12 Standard Form No. 1

These documents issued for the use of ROYAL PINE HOMES and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.

Project No. P22161

Building Location

Address (Model):	Unit 4502 Cor Elev. A, B and C	Site:	FORESTSIDE ESTATES INC
Model:		Lot:	4502 Cor
City and Province:	BRAMPTON	Postal code:	

Calculations based on

Dimensional information based on:

Attachment:	Detached	Front facing:	North — Assumed? **Yes**
No. of Levels:	3 — Ventilated? **Included**	Air tightness:	-1 — Assumed? **Yes**
Weather location:	Brampton	Wind exposure:	**Shelterd**
HRV?	VanEE 65H	Internal shading:	**Light-translucent** — Occupants: 5
Sensible Eff. at -25C	60.0 % — Apparent Effect. at -0C 75.0 %	Units:	**Imperial**

Heating design conditions

Outdoor temp: -2.2°F Indoor temp: 72.0°F Mean soil temp: 48.2°F

Cooling design conditions

Outdoor temp: 86.0°F Indoor temp: 72.0°F Latitude: 43.68

Above grade walls

Style A:	**As per Selected OBC SB12**	SB 1	**R** 22+1.
Style B:	**Existing Walls (When Applicable)**	**R** 8.50	
Style C:			
Style D:			

Below grade walls

Style A:	**As per Selected OBC SB12**	SB 1	**R** 20ci
Style B:			
Style C:			
Style D:			

Floors on soil

Style A:	**As per Selected OBC SB12**	SB 12 F
Style B:		

Exposed floors

Style A:	**As per Selected OBC SB12**	SB 12 — **R** 31
Style B:		

Windows

Style A:	**As per Selected OBC SB12**	SB 12 I — **R** 3.57
Style B:	**Existing Windows (When Applicable)**	**R**
Style C:		
Style D:		

Ceilings

Style A:	**As per Selected OBC SB12**	SB 12 P	**R** 60.0
Style B:	**As per Selected OBC SB12**	SB 12 P	**R** 22.8
Style C:			

Doors

Style A:	**As per Selected OBC SB12**	SB 12	**R** 3.01
Style B:			
Style C:			

Skylights

Style A:	**As per Selected OBC SB12**	SB 12	**R** 2.04
Style B:			

Attached documents: **As per Shedule 1**

Notes: **Residential New Construction - Forced Air**

Calculations performed by

Name:	**Doug McCallum**	Postal code:	**L6R 3Y5**
Company:	**McCallum HVAC Design Inc.**	Telephone:	**(905) 840-8166**
Address:	**2 Dewside Drive Unit 208**	Mobile:	**(647) 229-0380**
City:	**Brampton**	E-mail	**info@mccallumhvac.com**

MCCALLUM HVAC DESIGN INC

2 Dewside Drive Unit 208, Brampton, Ontario L6R 3Y5 Tel: 905-840-8166
e-mail - info@mccallumhvac.com

Project # P22161

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 Division C of the Building Code.
I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: 25896 Firm BCIN: 102614 Doug McCallum

Project: FORESTSIDE ESTATES INC **Model:** Unit 4502 Cor Elev. A, B and C

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

For systems serving one dwelling unit & conforming to the Ontario Building Code, O.geg 159/93

Location of Installation

Lot #	Plan #
Township	BRAMPTON
Roll #	Permit #
Address	

Builder

Name	ROYAL PINE HOMES
Address	
City	
Tel	Fax

Installing Contractor

Name	
Address	
City	
Tel	Fax

Combustion Appliances 9.32.3.1(1)

a)	X	Direct vent (sealed combustion) only
b)		Positive venting induced draft (except fireplaces)
c)		Natural draft, B-vent or induced draft fireplaces
d)		Solid fuel (including fireplaces)
e)		No combustion Appliances

Heating System

X	Forced air
	Non forced air
	Electric space heat (if over 10% of heat load)

House Type 9.32.3.1(2)

I	X	Type a) or b) appliances only, no solid fuel
II		Type I except with solid fuel (including fireplace)
III		Any type c) appliance
IV		Type I or II either electric space heat
Other		Type I, II or IV no forced air

System Design Option

1		Exhaust only / forced air system
2		HRV WITH DUCTING / forced air system
3	X	HRV simplified connection to forced air system
4		HRV full ducting/not coupled to forced air system
		Part 6 design

Total Ventilation Capacity 9.32.3.3(1)

Bsmt & Master Bdrm	2	@ 21.2	cfm	42.4	cfm
Other Bedrooms	3	@ 10.6	cfm	31.8	cfm
Bathrooms & Kitchen	6	@ 10.6	cfm	63.6	cfm
Other rooms	4	@ 10.6	cfm	42.4	cfm
		Total		180.2	

Principal Ventilation Capacity 9.32.3.4(1)

Master bedroom	1	@ 31.8	cfm	31.8	cfm
Other bedrooms	3	@ 15.9	cfm	47.7	cfm
		Total		79.5	

Principal Exhaust Fan Capacity

Make	Model	Location
VanEE	65H	BASE

129 cfm 64 Sones

Heat Recovery Ventilator

Make	VanEE		
Model	65H		
	129 cfm high	64	cfm low
Sensible efficiency @ -25 deg C		60	%
Sensible efficiency @ 0 deg C		75	%

Supplemental Ventilation Capacity

Total ventilation capacity	180.2
Less principal exhaust capacity	79.5
REQUIRED supplemental vent. Capacity	100.7 cfm

Supplemental Fans 9.32.3.5.

Location	cfm	Model	Sones
ENSUITE	50	770	2.5
POWDER	50	770	2.5
		None	
		None	

all fans HVI listed Make Broan or Equiv.

Designer Certification

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name	Doug McCallum
Signature	
HRAI #	BCIN # 25896
Date	2022-06-28

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number

A. Project Information

Building number, street name	Unit number	Lot/Con
Unit 4502 Cor Elev. A, B and C		

Municipality	Postal code	Reg. Plan number / other description
BRAMPTON		

B. Compliance Option

SB-12 Prescriptive (input design package)	Package: SB 12 Performance 2	Table: [SB-12 - 3.1.1.]

C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source		
[x] Zone 1 (< 5000 degree days)	[x] ≥ 92% AFUE	[x] Gas	[ ] Propane	[ ] Solid Fuel
[ ] Zone 2 (≥ 5000 degree days)	[ ] ≥ 84% < 92% AFUE	[ ] Oil	[ ] Electric	[ ] Earth Energy

Ratio of Windows,Skylights & Glass (W, S & G) to Wall Area					Other Building Conditions		
Area of Walls =	381.0	m² or	4101.0	ft²	W, S & G %= 18.87%	[ ] Log/Post&Beam	[ ] ICF Above Grade / [ ] ICF Basement
					Utilize window averaging:	[ ] Slab on ground	[ ] Walkout Basement
Area of W, S & G =	71.9	m² or	774.0	ft²	[ ] Yes [ ] No	[ ] Air conditioning	[ ] Combo unit
						[ ] Air Sourced Heat Pump	[ ] Ground Sourced Heat Pump (GSHP)

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions

[ ] ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))

[ ] Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))

[ ] Airtightness substitution(s)	[ ] Table 3.1.1.4.B	Required:	Permited substitution:
	[ ] Table 3.1.1.4.C	Required:	Permited substitution:
Airtightness test required (Refer to design guide attached)		Required:	Permited substitution:

Building Component	Minimum RSI / R values or maxium U-Value(1)		Building Component	Efficiency Ratings
Thermal Insulation	Nominal	Effective	**Windows & Doors** *Provide U-Value¹ or ER rating*	
Ceiling with Attic Space	60	59.22	Windows/Sliding Glass Doors	1.6
Ceiling without Attic Space	31	27.65	Skylights/Glazed roofs	2.8
Exposed Floor	31	29.8	**Mechanicals**	
Walls Above Grade	22+1.5ci	18.53	Heating Equip. (AFUE)	96%
Basement Walls	20ci	21.12	HRV Efficiency (SRE% at 0°C)	75%
Slab (all >600mm below grade)	X		DHW Heater (EF)	0.9
Slab (edge only ≤600mm below grade)	10		DWHR (CSA B55.1 (min. 42% efficiency)) 42%	#Showers: 2
Slab (all ≤600mm below grade, or heated)	10		Combined heating system	

(1) U-Value to be provided in either W/(m²•K) or Btu/(h•ft²•F) but not both

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work

NAME	BCIN	Signature
Doug McCallum	102614	

Form authorized by OHBA, OBOA, LMCBO. Revised December 2016

MCCALLUM HVAC DESIGN INC
2 Dewside Drive Unit 208, Brampton, Ontario L6R 3Y5 Tel: 905-840-8166
e-mail - info@mccallumhvac.com

Project # P22161

Project: FORESTSIDE ESTATES INC **Model:** Unit 4502 Cor Elev. A, B and C

Air Leakage Calculations

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL^T	HLleak
0.018	0.340	43419.0	74.2	19693.15

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG^T	HG Leak
0.018	0.1184621	43419	14.00	1296.16

Air Leakage Heat Loss/Gain Multiplier Table (Section 11)				
Level	Level Factor (LF)	Building Air Leakage	Level Conductive Heat Loss (HLclevel)	Air Leakage Heat Loss Multiplier
1	0.5	19693	5488	1.79420
2	0.3		15293	0.38632
3	0.2		15152	0.25994
4	0		0	0.00000

Levels			
1	2	3	4
(LF)	(LF)	(LF)	(LF)
1.0	0.6	0.5	0.4
	0.4	0.3	0.3
		0.2	0.2
			0.1

		Air Leakage Heat Gain Multiplier
HG LEAK	1296.16	0.05990
BUILDING CONDUCTIVE HEAT GAIN	21639.00	

Levels this Dwelling
3

Ventilation Calculations

Vent

Ventilation Heat Loss

Ventilation Heat Loss				
C	PVC	HL^T	(1-E) HRV	HLbvent
1.08	79.5	74.20	0.250	1592.70

Ventilation Heat Gain

Ventilation Heat Gain			
C	PVC	HG^T	HGbvent
1.08	79.5	14.00	1202.040

Case 1

Case 1

Ventilation Heat Loss (Exhaust only Systems)

Case 1 - Exhaust Only				
Level	LF	HLbvent	LVL Cond. HL	Multiplier
1	0.5	1593	5488	0.15
2	0.3		15293	0.03
3	0.2		15152	0.02
4	0		0	0

Ventilation Heat Gain (Exhaust Only Systems)

Case 1 - Exhaust Only		Multiplier
HGbvent	1202.040	0.06
Building Cond. HG	21639.00	

Case 2

Case 2

Ventilation Heat Loss (Direct Ducted Systems)

			Multiplier
C	HL^T	(1-E) HRV	20.03
1.08	74.20	0.25	

Ventilation Heat Gain (Direct Ducted Systems)

		Multiplier
C	HG^T	15.12
1.08	14.00	

Case 3

Case 3

Ventilation Heat Loss (Forced Air Systems)

	HLbvent	Multiplier
Total Ventilation Load	1593	0.04

Ventilation Heat Gain (Forced Air Systems)

		Vent Heat Gain	Multiplier
HGbvent	HG*1.3	1202	0.06
1202.040	1		

Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description

Province:	Brampton
Region:	ON
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):	1230

Air Leakage/Ventilation

Air Tightness Type:	Custom - DBT values	
Custom BDT Data:	ELA @ 10 Pa.	1556.241
	3	ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply:	Total Exhaust:
	0	0

Flue Size

Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0

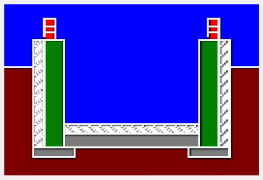
Envelope Air Leakage Rate

Heating Air Leakage Rate (ACH/H):	**0.340**
Cooling Air Leakage Rate (ACH/H):	**0.118**

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Brampton
Region:	ON
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Deep (>10 m, >33 Ft)
Foundation Dimensions	
Floor Length (m):	22.8
Floor Width (m):	5.48
Exposed Perimeter (m):	56.6
Wall Height (m):	3.05
Depth Below Grade (m):	2.44
Window Area (m^2):	1.39
Door Area (m^2):	0
Radiant Slab	
Heated Fraction of the Slab:	**0**
Fluid Temperature (°C):	**23**
Design Months	
Heating Month	**1**
Foundation Loads	
Heating Load (Watts):	**1528**



Insulation Configuration

BCIN_1

SYSTEM A

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION AND PRESSURE	
LEVEL 1 NET LOAD	15578 btu/h	**EQUIPMENT EXTERNAL STATIC PRESSURE**	0.500"W.C.
LEVEL 2 NET LOAD	21878 btu/h	**ADDITIONAL EQUIPMENT PRESSURE DROP**	0.250"W.C.
LEVEL 3 NET LOAD	20238 btu/h	**AVAILABLE DESIGN PRESSURE**	0.250"W.C.
LEVEL 4 NET LOAD	0 btu/h	**RETURN BRANCH LONGEST EFFECTIVE LENGTH**	300ft
SYSTEM HEATLOSS	57694 btu/h	**R/A PLENUM PRESSURE**	0.120"W.C.
SYSTEM HEATGAIN	40366 btu/h	**S/A PLENUM PRESSURE**	0.130"W.C.
BUILDING VOLUME Vb	43419.00 ft3	**HEATING AIR FLOW PROPORTIONING FACTOR**	0.0227 cfm/btuh
VENTILATION LOAD	1591.00 btu/h	**COOLING AIR FLOW PROPORTIONING FACTOR**	0.0325 cfm/btuh
VENTILATION PVC	79.50 cfm	**R/A TEMP. 70°F**	S/A TEMP. 129.37°F DIFFUSER LOSS 0.01°"w.c.

FURNACE/AIR HANDLER DATA				BLOWER DATA	
MAKE	LENNOX			HEATING CHECK	1314.00 CFM
MODEL	EL296UH090XE48C			SELECTED CFM	1310.00 CFM
HIGH INPUT btu/h	88000	LOW INPUT btu/h	0	COOLING CHECK	1307.00 CFM
HIGH OUTPUT btu/h	84000	LOW OUTPUT btu/h	0	COOLING AIR FLOW RATE	1310.00 CFM
E.S.P.	0.50			BLOWER TYPE ECM (BRUSHLESS DC OBC 12.3.1.5.(2))	
WATER TEMP.				A/C UNIT DATA	
AFUE	95.45%			MAKER	3.5 TON
AUX. HEAT	0			CONDENSER	3.5 TON
SB-12 PACKAGE	SB 12 Performance 28			COIL	3.5 TON
TEMP. RISE	59.37°F				

SUPPLY BRANCH AND GRILL SIZING

OUTLET #	ROOM USE	BTU/H OUTLET	HEATING AIR FLOW RATE CFM	COOLING AIR FLOW RATE CFM	DUCT DESIGN PRESSURE	ACTUAL DUCT LENGTH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	DUCT SIZE ROUND	OUTLET SIZE	TRUNK
29	BASE	3116	71	29	0.13	38	125	163	0.07	6.0	4x10	B1
30	BASE	3116	71	29	0.13	30	145	175	0.07	6.0	4x10	B1
31	BASE	3116	71	29	0.13	60	185	245	0.05	6.0	4x10	C1
32	BASE	3116	71	29	0.13	34	125	159	0.08	6.0	4x10	E1
33	BASE	3116	71	29	0.13	44	165	209	0.06	6.0	4x10	E1
17	FAM RM	1960	45	66	0.13	41	135	176	0.07	6.0	4x10	B1
18	FAM RM	1960	45	66	0.13	41	165	206	0.06	6.0	4x10	A1
19	KIT/ BREAK	1878	43	58	0.13	32	155	187	0.06	5.0	4x10	A1
20	KIT/ BREAK	1878	43	58	0.13	39	115	154	0.08	5.0	4x10	B1
21	LAUND	645	15	39	0.13	11	150	161	0.07	5.0	4x10	F1
22	MUD RM	2123	48	13	0.13	21	140	161	0.07	5.0	4x10	F1
23	LIV RM	2417	55	66	0.13	64	155	219	0.05	6.0	4x10	C1
24	LIV RM	2417	55	66	0.13	60	175	235	0.05	6.0	4x10	C1
25	PWD RM	1363	31	53	0.13	47	165	212	0.06	5.0	4x10	D1
26	FOYER	3295	75	23	0.13	32	135	167	0.07	6.0	4x10	E1
27	DINING RM	972	22	47	0.13	33	145	178	0.07	5.0	4x10	E1
28	DINING RM	972	22	47	0.13	27	175	202	0.06	5.0	4x10	E1
4	PRI. ENS	947	22	28	0.13	13	130	143	0.08	5	4x10	F1
2	PRI MB	1436	33	39	0.13	31	145	176	0.07	5.0	4x10	A1
3	PRI MB	1436	33	39	0.13	39	165	204	0.06	5.0	4x10	A1
15	SHD BATH-2	431	10	4	0.13	20	185	205	0.06	5	4x10	B1
12	WIC-3	1122	25	50	0.13	52	205	257	0.05	5.0	4x10	D1
7	SHD BATH WC	853	19	12	0.13	63	165	228	0.05	5	4x10	D1
8	SHD BATH-1	193	4	2	0.13	61	155	216	0.06	5	4x10	D1
13	BD-4	1507	34	63	0.13	57	175	232	0.05	6.0	4x10	E1
14	BD-4	1507	34	63	0.13	29	205	234	0.05	6.0	4x10	E1
16	PRI WIC	97	2	2	0.13	12	130	142	0.08	5	4x10	F1

9	WIC-2	154	3	2	0.13	51	205	256	0.05	5	4x10	D1
1	BD-5	2423	55	76	0.13	38	185	223	0.05	6.0	4x10	B1
5	BDRM-2	2102	48	32	0.13	73	190	263	0.05	5.0	4x10	D1
6	BDRM-2	2102	48	32	0.13	70	185	255	0.05	5.0	4x10	D1
10	BD-3	1965	45	58	0.13	76	185	261	0.05	6.0	4x10	C1
11	BD-3	1965	45	58	0.13	71	165	236	0.05	6.0	4x10	C1

RETURN BRANCH AND GRILL SIZING

R/A INLET #	INLET AIR VOLUME CFM	DUCT DESIGN PRESSURE	ACTUAL DUCT LENGTH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	DUCT SIZE ROUND	INLET SIZE	TRUNK
1R	75	0.12	27	120	147	0.07	6	14x8	Y1
2R	140	0.12	63	120	183	0.05	8	14x8	X1
3R	60	0.12	70	130	200	0.05	6	14x8	W1
4R	140	0.12	66	140	206	0.05	8	14x8	V1
5R	345	0.12	63	160	223	0.04	11.5	30X8	X1
6R	300	0.12	29	160	189	0.05	10.5	30X8	Y1
7R	140	0.12	59	160	219	0.05	8	14x8	V1
8R	110	0.12	50	170	220	0.05	7	FLC	W1

RETURN TRUNK DUCT SIZING

TRUNK	CFM	PRESSURE	ROUND	RECT. SIZE	SIZE ALTERNATE
DROP	1310	0.04		0	
Z1	1310	0.04	18.5	32x10	32x10
Y1	375	0.05	11.5	14x8	20x6
X1	935	0.04	16.5	32x8	24x10
W1	450	0.05	12	16x8	22x6
V1	280	0.05	10	12x8	16x6

SUPPLY TRUNK DUCT SIZING

TRUNK	CFM	PRESSURE	ROUND	RECT. SIZE	SIZE ALTERNATE
A1	154	0.06	8	10x8	
B1	449	0.05	12	16x8	22x6
C1	271	0.05	10	12x8	16x6
D1	449	0.05	12	16x8	22x6
E1	778	0.05	15	26x8	20x10
F1	1314	0.05	18	30x10	30x10

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

WEATHER DATA [Brampton] [43.68] [-2.20] [86.00] [51.80] [48.20] [74.20] [14.00]

LEVEL 1

BASE	TOTALS H.L.: 15578 btuh	H.G.: 4502 btuh	AREA: 1349 ft2	Above Grade: 2	GROSS EXP. WALL	NEW 372 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 186 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	21.12		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	3.5	0 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.7	237 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 9.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 6.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	164 btuh	37.3	0 btuh	0	0	0	0	18.3	110 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	249 btuh	14.9	0 btuh	0	0	0	0	21.2	127 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		5214 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	5488 btuh	LOSS	1.7942	9847 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	243.3 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	613 btuh	GAIN	0.0599	37 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	34 btuh	0	0 btuh	50%	2779 btuh	GAIN	0%	0 btuh

LEVEL 2

FAM RM	TOTALS H.L.: 3920 btuh	H.G.: 4061 btuh	AREA: 236 ft2	C.Height: 11	GROSS EXP. WALL	NEW 385 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 35 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1205 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	227 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 45.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	822 btuh	37.3	0 btuh	0	0	0	0	18.3	713 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1247 btuh	14.9	0 btuh	0	0	0	0	21.2	828 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	2740 btuh	LOSS	0.3863	1059 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	121.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	2302 btuh	GAIN	0.0599	138 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	128 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

KIT/BREAK	TOTALS H.L.: 3755 btuh	H.G.: 3591 btuh	AREA: 320 ft2	C.Height: 11	GROSS EXP. WALL	NEW 374 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 34 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1181 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	223 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 12.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 67.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	219 btuh	37.3	0 btuh	0	0	0	0	18.3	1224 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	332 btuh	14.9	0 btuh	0	0	0	0	21.2	1423 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	2625 btuh	LOSS	0.3863	1014 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	116.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	1978 btuh	GAIN	0.0599	118 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	110 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

LAUND	TOTALS H.L.: 645 btuh	H.G.: 1199 btuh	AREA: 55 ft2	C.Height: 11	GROSS EXP. WALL	NEW 77 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 7 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	268 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	51 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 10.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	183 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	277 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	451 btuh	LOSS	0.3863	174 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	20.0 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	328 btuh	GAIN	0.0599	20 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	18 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

MUD RM	TOTALS H.L.: 2123 btuh	H.G.: 407 btuh	AREA: 50 ft2	C.Height: 11	GROSS EXP. WALL	NEW 154 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 14 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

LOSS	4.0	448 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	85 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 42.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	1035 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	195 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	1484 btuh	LOSS	0.3863	573 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	65.8 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	280 btuh	GAIN	0.0599	17 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	16 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

LIV RM	TOTALS H.L.: 4833 btuh			H.G.: 4065 btuh					AREA: 177 ft2		C.Height: 11		GROSS EXP. WALL		NEW 473 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 43 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1478 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	279 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 52.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 52 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	950 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	950 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1441 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	586 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	3378 btuh	LOSS	0.3863	1305 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	149.7 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	2305 btuh	GAIN	0.0599	138 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	128 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

PWD RM	TOTALS H.L.: 1363 btuh			H.G.: 1633 btuh					AREA: 59 ft2		C.Height: 11		GROSS EXP. WALL		NEW 99 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 9 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	240 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	45 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	713 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1080 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	953 btuh	LOSS	0.3863	368 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	42.2 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	1126 btuh	GAIN	0.0599	67 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	63 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

FOYER	TOTALS H.L.: 3295 btuh			H.G.: 722 btuh					AREA: 229 ft2		C.Height: 11		GROSS EXP. WALL		NEW 330 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 30 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1121 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	212 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 42.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 8 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	1035 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	146 btuh	37.3	0 btuh
GAIN	4.7	195 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	90 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	2303 btuh	LOSS	0.3863	890 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	102.1 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	497 btuh	GAIN	0.0599	30 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	28 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

DINING RM	TOTALS H.L.: 1944 btuh			H.G.: 2924 btuh					AREA: 217 ft2		C.Height: 11		GROSS EXP. WALL		NEW 154 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 14 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	408 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	77 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 52.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	950 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1441 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

TOTAL HEATLOSS: 57694 BTUH
TOTAL HEATGAIN: 40366 BTUH

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	1359 btuh	LOSS	0.3863	525 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	60.2 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	1518 btuh	GAIN	0.0599	91 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	84 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

LEVEL 3

PRI. ENS	TOTALS H.L.: 947 btuh				H.G.: 862 btuh				AREA: 98 ft2			C.Height: 9		GROSS EXP. WALL		NEW 90 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 10 ft		EXIST: 0 ft		NEW: 98 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	292 btuh	8.7	0 btuh	1.3	123 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	55 btuh	1.6	0 btuh	0.7	68 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 17.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	311 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	471 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	726 btuh	LOSS	0.2599	189 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	32.2 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	594 btuh	GAIN	0.0599	36 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	33 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

PRI MB	TOTALS H.L.: 2871 btuh				H.G.: 2432 btuh				AREA: 306 ft2			C.Height: 9		GROSS EXP. WALL		NEW 315 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 35 ft		EXIST: 0 ft		NEW: 306 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	1105 btuh	8.7	0 btuh	1.3	383 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	209 btuh	1.6	0 btuh	0.7	212 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	713 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	828 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	2201 btuh	LOSS	0.2599	572 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	97.6 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	1249 btuh	GAIN	0.0599	75 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	69 btuh	2	478 btuh	0%	0 btuh	GAIN	0%	0 btuh

SHD BATH-2	TOTALS H.L.: 431 btuh				H.G.: 131 btuh				AREA: 62 ft2			C.Height: 9		GROSS EXP. WALL		NEW 63 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 7 ft		EXIST: 0 ft		NEW: 62 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	252 btuh	8.7	0 btuh	1.3	78 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	48 btuh	1.6	0 btuh	0.7	43 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	330 btuh	LOSS	0.2599	86 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	14.6 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	91 btuh	GAIN	0.0599	5 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	5 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

WIC-3	TOTALS H.L.: 1122 btuh				H.G.: 1531 btuh				AREA: 46 ft2			C.Height: 9		GROSS EXP. WALL		NEW 72 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 8 ft		EXIST: 0 ft		NEW: 46 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	144 btuh	8.7	0 btuh	1.3	58 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	27 btuh	1.6	0 btuh	0.7	32 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 36.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	658 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	997 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	860 btuh	LOSS	0.2599	224 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	38.1 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	1056 btuh	GAIN	0.0599	63 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	59 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

SHD BATH WC	TOTALS H.L.: 853 btuh				H.G.: 368 btuh				AREA: 40 ft2			C.Height: 9		GROSS EXP. WALL		NEW 63 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

	NEW: 7 ft		EXIST: 0 ft		NEW: 40 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 38 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*196 btuh*	8.7	*0 btuh*	1.3	*50 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*95 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*37 btuh*	1.6	*0 btuh*	0.7	*28 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*10 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 14 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*256 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*0 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*158 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	597 btuh	LOSS	0.2599	155 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	26.5 btuh	239		5558		LOSS	10%	75 btuh
TOTAL CONDUCTIVE			GAIN	233 btuh	GAIN	0.0599	14 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	13 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	23 btuh

SHD BATH-1	*TOTALS H.L.: 193 btuh*				*H.G.: 57 btuh*				AREA: 38 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 0 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 0 ft		EXIST: 0 ft		NEW: 38 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 35 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*0 btuh*	8.7	*0 btuh*	1.3	*48 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*87 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*0 btuh*	1.6	*0 btuh*	0.7	*26 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*9 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*0 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*0 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	135 btuh	LOSS	0.2599	35 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	6.0 btuh	239		5558		LOSS	10%	17 btuh
TOTAL CONDUCTIVE			GAIN	36 btuh	GAIN	0.0599	2 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	2 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	4 btuh

BD-4	*TOTALS H.L.: 3014 btuh*				*H.G.: 3866 btuh*				AREA: 209 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 198 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 22 ft		EXIST: 0 ft		NEW: 209 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*440 btuh*	8.7	*0 btuh*	1.3	*262 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*0 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*83 btuh*	1.6	*0 btuh*	0.7	*145 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*0 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 88.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*1608 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*2438 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*0 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	2311 btuh	LOSS	0.2599	601 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	102.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	2666 btuh	GAIN	0.0599	160 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	148 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

PRI WIC	*TOTALS H.L.: 97 btuh*				*H.G.: 61 btuh*				AREA: 60 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 0 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 0 ft		EXIST: 0 ft		NEW: 60 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*0 btuh*	8.7	*0 btuh*	1.3	*75 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*0 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*0 btuh*	1.6	*0 btuh*	0.7	*42 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*0 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*0 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*0 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	75 btuh	LOSS	0.2599	19 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	3.3 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	42 btuh	GAIN	0.0599	3 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	2 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

WIC-2	*TOTALS H.L.: 154 btuh*				*H.G.: 53 btuh*				AREA: 40 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 0 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 0 ft		EXIST: 0 ft		NEW: 40 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 23 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*0 btuh*	8.7	*0 btuh*	1.3	*50 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*57 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*0 btuh*	1.6	*0 btuh*	0.7	*28 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*6 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	

LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	107 btuh	LOSS	0.2599	28 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	4.7 btuh	239		5558		LOSS	10%	14 btuh
TOTAL CONDUCTIVE			GAIN	34 btuh	GAIN	0.0599	2 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	2 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	3 btuh

BD-5	TOTALS H.L.: 2423 btuh			H.G.: 2345 btuh				AREA: 233 ft2			C.Height: 9		GROSS EXP. WALL		NEW 252 ft		EXIST 0 ft		
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 28 ft		EXIST: 0 ft		NEW: 233 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	853 btuh	8.7	0 btuh	1.3	292 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	161 btuh	1.6	0 btuh	0.7	161 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	713 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1080 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	1858 btuh	LOSS	0.2599	483 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	82.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	1403 btuh	GAIN	0.0599	84 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	78 btuh	1	239 btuh	0%	0 btuh	GAIN	0%	0 btuh

BDRM-2	TOTALS H.L.: 4204 btuh			H.G.: 1997 btuh				AREA: 311 ft2			C.Height: 9		GROSS EXP. WALL		NEW 306 ft		EXIST 0 ft		
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 34 ft		EXIST: 0 ft		NEW: 311 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 240 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	1021 btuh	8.7	0 btuh	1.3	390 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	598 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	193 btuh	1.6	0 btuh	0.7	215 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	64 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 51 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	932 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	574 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	2940 btuh	LOSS	0.2599	764 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	130.3 btuh	239		5558		LOSS	10%	370 btuh
TOTAL CONDUCTIVE			GAIN	1047 btuh	GAIN	0.0599	63 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	58 btuh	1	239 btuh	0%	0 btuh	GAIN	10%	129 btuh

BD-3	TOTALS H.L.: 3929 btuh			H.G.: 3559 btuh				AREA: 241 ft2			C.Height: 9		GROSS EXP. WALL		NEW 324 ft		EXIST 0 ft		
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 36 ft		EXIST: 0 ft		NEW: 241 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	901 btuh	8.7	0 btuh	1.3	302 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	170 btuh	1.6	0 btuh	0.7	167 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 48.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 51 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	877 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	932 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1330 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	574 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	3012 btuh	LOSS	0.2599	783 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	133.5 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	2241 btuh	GAIN	0.0599	134 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	125 btuh	1	239 btuh	0%	0 btuh	GAIN	0%	0 btuh

LEVEL 4

MCCALLUM HVAC DESIGN INC

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 4502 Cor Elev. A, B and C			Lot: 4502 Cor	
			Lot/con.	
Municipality: BRAMPTON	Postal code	Plan number/ other description		

B. Individual who reviews and takes responsibility for design activities				
Name: **Doug McCallum**		Firm: **McCallum HVAC Design Inc.**		
Street address: **2 Dewside Drive Unit 208**			Unit no.	Lot/con.
Municipality: **Brampton**	Postal code: **L6R 3Y5**	Province: **Ontario**	E-mail: info@mccallumhvac.com	
Telephone number: **(905) 840-8166**	Fax number		Cell number: **(647) 229-0380**	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]

House	☒ HVAC – House	Building Structural
Small Buildings	Building Services	Plumbing – House
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings
Complex Buildings	Fire Protection	On-site Sewage Systems

Description of designer's work	**Model Certification**		**Project #:** P22161
Heating and Cooling Load Calculations Air System Design Residential mechanical ventilation Design Summary Residential System Design per CAN/CSA-F280-12 Residential New Construction - Forced Air		Builder	ROYAL PINE HOMES
		Project	FORESTSIDE ESTATES INC
		Model	Unit 4502 Cor Elev. A, B and C
		SB-12	SB 12 Performance 28

D. Declaration of Designer

I Doug McCallum 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 Division C of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: **25896**

Firm BCIN: **102614**

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:

Basis for exemption from registration:

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.

2022-06-28

Date

Signature of Designer

NOTE:

1. 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 qualifications under Subsections 3.2.4 . and 3.2.5.of Division C.
2. Schedule 1 does not require to be completed a holder of a license, temporay license, or a certificate of authorization, issed by the Ontario Associstion of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited licence to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

MCCALLUM HVAC DESIGN INC

2 Dewside Drive Unit 208, Brampton, Ontario L6R 3Y5 Tel: 905-840-8166
e-mail - info@mccallumhvac.com

Heat loss and gain calculation summary sheet

CSA-F280-M12 Standard Form No. 1

These documents issued for the use of ROYAL PINE HOMES and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.

Project No. P22161

Building Location

Address (Model):	Unit 4502 Cor Elev. A, B and C	Site:	FORESTSIDE ESTATES INC
Model:		Lot:	4502 Cor
City and Province:	BRAMPTON	Postal code:	

Calculations based on

Dimensional information based on:

Attachment:	Detached	Front facing:	North — Assumed? **Yes**
No. of Levels:	3 — Ventilated? **Included**	Air tightness:	-1 — Assumed? **Yes**
Weather location:	Brampton	Wind exposure:	**Shelterd**
HRV?	VanEE 65H	Internal shading:	**Light-translucent** — Occupants: 5
Sensible Eff. at -25C	60.0 % — Apparent Effect. at -0C 75.0 %	Units:	**Imperial**

Heating design conditions

Outdoor temp: -2.2°F Indoor temp: 72.0°F Mean soil temp: 48.2°F

Cooling design conditions

Outdoor temp: 86.0°F Indoor temp: 72.0°F Latitude: 43.68

Above grade walls

Style A:	**As per Selected OBC SB12**	SB 1	**R** 22+1.
Style B:	**Existing Walls (When Applicable)**	**R** 8.50	
Style C:			
Style D:			

Below grade walls

Style A:	**As per Selected OBC SB12**	SB 1	**R** 20ci
Style B:			
Style C:			
Style D:			

Floors on soil

Style A:	**As per Selected OBC SB12**	SB 12 F
Style B:		

Exposed floors

Style A:	**As per Selected OBC SB12**	SB 12 — **R** 31
Style B:		

Windows

Style A:	**As per Selected OBC SB12**	SB 12 I — **R** 3.57
Style B:	**Existing Windows (When Applicable)**	**R**
Style C:		
Style D:		

Ceilings

Style A:	**As per Selected OBC SB12**	SB 12 P	**R** 60.0
Style B:	**As per Selected OBC SB12**	SB 12 P	**R** 22.8
Style C:			

Doors

Style A:	**As per Selected OBC SB12**	SB 12	**R** 3.01
Style B:			
Style C:			

Skylights

Style A:	**As per Selected OBC SB12**	SB 12	**R** 2.04
Style B:			

Attached documents: **As per Shedule 1**

Notes: **Residential New Construction - Forced Air**

Calculations performed by

Name:	**Doug McCallum**	Postal code:	**L6R 3Y5**
Company:	**McCallum HVAC Design Inc.**	Telephone:	**(905) 840-8166**
Address:	**2 Dewside Drive Unit 208**	Mobile:	**(647) 229-0380**
City:	**Brampton**	E-mail	**info@mccallumhvac.com**

MCCALLUM HVAC DESIGN INC

2 Dewside Drive Unit 208, Brampton, Ontario L6R 3Y5 Tel: 905-840-8166
e-mail - info@mccallumhvac.com

Project # P22161

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 Division C of the Building Code.
I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: 25896 Firm BCIN: 102614 Doug McCallum

Project: FORESTSIDE ESTATES INC **Model:** Unit 4502 Cor Elev. A, B and C

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

For systems serving one dwelling unit & conforming to the Ontario Building Code, O.geg 159/93

Location of Installation

Lot #	Plan #
Township	BRAMPTON
Roll #	Permit #
Address	

Builder

Name	ROYAL PINE HOMES
Address	
City	
Tel	Fax

Installing Contractor

Name	
Address	
City	
Tel	Fax

Combustion Appliances 9.32.3.1(1)

a)	X	Direct vent (sealed combustion) only
b)		Positive venting induced draft (except fireplaces)
c)		Natural draft, B-vent or induced draft fireplaces
d)		Solid fuel (including fireplaces)
e)		No combustion Appliances

Heating System

X	Forced air
	Non forced air
	Electric space heat (if over 10% of heat load)

House Type 9.32.3.1(2)

I	X	Type a) or b) appliances only, no solid fuel
II		Type I except with solid fuel (including fireplace)
III		Any type c) appliance
IV		Type I or II either electric space heat
Other		Type I, II or IV no forced air

System Design Option

1		Exhaust only / forced air system
2		HRV WITH DUCTING / forced air system
3	X	HRV simplified connection to forced air system
4		HRV full ducting/not coupled to forced air system
		Part 6 design

Total Ventilation Capacity 9.32.3.3(1)

Bsmt & Master Bdrm	2	@ 21.2	cfm	42.4	cfm
Other Bedrooms	3	@ 10.6	cfm	31.8	cfm
Bathrooms & Kitchen	6	@ 10.6	cfm	63.6	cfm
Other rooms	4	@ 10.6	cfm	42.4	cfm
		Total		180.2	

Principal Ventilation Capacity 9.32.3.4(1)

Master bedroom	1	@ 31.8	cfm	31.8	cfm
Other bedrooms	3	@ 15.9	cfm	47.7	cfm
		Total		79.5	

Principal Exhaust Fan Capacity

Make	Model	Location
VanEE	65H	BASE

129 cfm 64 Sones

Heat Recovery Ventilator

Make	VanEE		
Model	65H		
	129 cfm high	64	cfm low
Sensible efficiency @ -25 deg C		60	%
Sensible efficiency @ 0 deg C		75	%

Supplemental Ventilation Capacity

Total ventilation capacity	180.2
Less principal exhaust capacity	79.5
REQUIRED supplemental vent. Capacity	100.7 cfm

Supplemental Fans 9.32.3.5.

Location	cfm	Model	Sones
ENSUITE	50	770	2.5
POWDER	50	770	2.5
		None	
		None	

all fans HVI listed Make Broan or Equiv.

Designer Certification

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name	Doug McCallum
Signature	
HRAI #	BCIN # 25896
Date	2022-06-28

MCCALLUM HVAC DESIGN INC
2 Dewside Drive Unit 208, Brampton, Ontario L6R 3Y5 Tel: 905-840-8166
e-mail - info@mccallumhvac.com

Project # P22161

Project: FORESTSIDE ESTATES INC **Model:** Unit 4502 Cor Elev. A, B and C

Air Leakage Calculations

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL^T	HLleak
0.018	0.340	43419.0	74.2	19693.15

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG^T	HG Leak
0.018	0.1184621	43419	14.00	1296.16

Air Leakage Heat Loss/Gain Multiplier Table (Section 11)				
Level	Level Factor (LF)	Building Air Leakage	Level Conductive Heat Loss (HLclevel)	Air Leakage Heat Loss Multiplier
1	0.5	19693	5488	1.79420
2	0.3		15293	0.38632
3	0.2		15152	0.25994
4	0		0	0.00000

Levels			
1	2	3	4
(LF)	(LF)	(LF)	(LF)
1.0	0.6	0.5	0.4
	0.4	0.3	0.3
		0.2	0.2
			0.1

		Air Leakage Heat Gain Multiplier
HG LEAK	1296.16	0.05990
BUILDING CONDUCTIVE HEAT GAIN	21639.00	

Levels this Dwelling
3

Ventilation Calculations

Vent

Ventilation Heat Loss

Ventilation Heat Loss				
C	PVC	HL^T	(1-E) HRV	HLbvent
1.08	79.5	74.20	0.250	1592.70

Ventilation Heat Gain

Ventilation Heat Gain			
C	PVC	HG^T	HGbvent
1.08	79.5	14.00	1202.040

Case 1

Case 1

Ventilation Heat Loss (Exhaust only Systems)

Case 1 - Exhaust Only				
Level	LF	HLbvent	LVL Cond. HL	Multiplier
1	0.5	1593	5488	0.15
2	0.3		15293	0.03
3	0.2		15152	0.02
4	0		0	0

Ventilation Heat Gain (Exhaust Only Systems)

Case 1 - Exhaust Only		Multiplier
HGbvent	1202.040	0.06
Building Cond. HG	21639.00	

Case 2

Case 2

Ventilation Heat Loss (Direct Ducted Systems)

			Multiplier
C	HL^T	(1-E) HRV	20.03
1.08	74.20	0.25	

Ventilation Heat Gain (Direct Ducted Systems)

		Multiplier
C	HG^T	15.12
1.08	14.00	

Case 3

Case 3

Ventilation Heat Loss (Forced Air Systems)

	HLbvent	Multiplier
Total Ventilation Load	1593	0.04

Ventilation Heat Gain (Forced Air Systems)

		Vent Heat Gain	Multiplier
HGbvent	HG*1.3	1202	0.06
1202.040	1		

Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description

Province:	Brampton
Region:	ON
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):	1230

Air Leakage/Ventilation

Air Tightness Type:	Custom - DBT values	
Custom BDT Data:	ELA @ 10 Pa.	1556.241
	3	ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply:	Total Exhaust:
	0	0

Flue Size

Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0

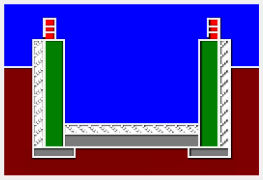
Envelope Air Leakage Rate

Heating Air Leakage Rate (ACH/H):	**0.340**
Cooling Air Leakage Rate (ACH/H):	**0.118**

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Brampton
Region:	ON
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Deep (>10 m, >33 Ft)
Foundation Dimensions	
Floor Length (m):	22.8
Floor Width (m):	5.48
Exposed Perimeter (m):	56.6
Wall Height (m):	3.05
Depth Below Grade (m):	2.44
Window Area (m^2):	1.39
Door Area (m^2):	0
Radiant Slab	
Heated Fraction of the Slab:	**0**
Fluid Temperature (°C):	**23**
Design Months	
Heating Month	**1**
Foundation Loads	
Heating Load (Watts):	**1528**



Insulation Configuration

BCIN_1

SYSTEM A

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION AND PRESSURE	
LEVEL 1 NET LOAD	15578 btu/h	**EQUIPMENT EXTERNAL STATIC PRESSURE**	0.500"W.C.
LEVEL 2 NET LOAD	21878 btu/h	**ADDITIONAL EQUIPMENT PRESSURE DROP**	0.250"W.C.
LEVEL 3 NET LOAD	20238 btu/h	**AVAILABLE DESIGN PRESSURE**	0.250"W.C.
LEVEL 4 NET LOAD	0 btu/h	**RETURN BRANCH LONGEST EFFECTIVE LENGTH**	300ft
SYSTEM HEATLOSS	57694 btu/h	**R/A PLENUM PRESSURE**	0.120"W.C.
SYSTEM HEATGAIN	40366 btu/h	**S/A PLENUM PRESSURE**	0.130"W.C.
BUILDING VOLUME Vb	43419.00 ft3	**HEATING AIR FLOW PROPORTIONING FACTOR**	0.0227 cfm/btuh
VENTILATION LOAD	1591.00 btu/h	**COOLING AIR FLOW PROPORTIONING FACTOR**	0.0325 cfm/btuh
VENTILATION PVC	79.50 cfm	**R/A TEMP. 70°F**	S/A TEMP. 129.37°F DIFFUSER LOSS 0.01°"w.c.

FURNACE/AIR HANDLER DATA				BLOWER DATA	
MAKE	LENNOX			HEATING CHECK	1314.00 CFM
MODEL	EL296UH090XE48C			SELECTED CFM	1310.00 CFM
HIGH INPUT btu/h	88000	LOW INPUT btu/h	0	COOLING CHECK	1307.00 CFM
HIGH OUTPUT btu/h	84000	LOW OUTPUT btu/h	0	COOLING AIR FLOW RATE	1310.00 CFM
E.S.P.	0.50			BLOWER TYPE ECM (BRUSHLESS DC OBC 12.3.1.5.(2))	
WATER TEMP.				A/C UNIT DATA	
AFUE	95.45%			MAKER	3.5 TON
AUX. HEAT	0			CONDENSER	3.5 TON
SB-12 PACKAGE	SB 12 Performance 28			COIL	3.5 TON
TEMP. RISE	59.37°F				

SUPPLY BRANCH AND GRILL SIZING

OUTLET #	ROOM USE	BTU/H OUTLET	HEATING AIR FLOW RATE CFM	COOLING AIR FLOW RATE CFM	DUCT DESIGN PRESSURE	ACTUAL DUCT LENGTH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	DUCT SIZE ROUND	OUTLET SIZE	TRUNK
29	BASE	3116	71	29	0.13	38	125	163	0.07	6.0	4x10	B1
30	BASE	3116	71	29	0.13	30	145	175	0.07	6.0	4x10	B1
31	BASE	3116	71	29	0.13	60	185	245	0.05	6.0	4x10	C1
32	BASE	3116	71	29	0.13	34	125	159	0.08	6.0	4x10	E1
33	BASE	3116	71	29	0.13	44	165	209	0.06	6.0	4x10	E1
17	FAM RM	1960	45	66	0.13	41	135	176	0.07	6.0	4x10	B1
18	FAM RM	1960	45	66	0.13	41	165	206	0.06	6.0	4x10	A1
19	KIT/ BREAK	1878	43	58	0.13	32	155	187	0.06	5.0	4x10	A1
20	KIT/ BREAK	1878	43	58	0.13	39	115	154	0.08	5.0	4x10	B1
21	LAUND	645	15	39	0.13	11	150	161	0.07	5.0	4x10	F1
22	MUD RM	2123	48	13	0.13	21	140	161	0.07	5.0	4x10	F1
23	LIV RM	2417	55	66	0.13	64	155	219	0.05	6.0	4x10	C1
24	LIV RM	2417	55	66	0.13	60	175	235	0.05	6.0	4x10	C1
25	PWD RM	1363	31	53	0.13	47	165	212	0.06	5.0	4x10	D1
26	FOYER	3295	75	23	0.13	32	135	167	0.07	6.0	4x10	E1
27	DINING RM	972	22	47	0.13	33	145	178	0.07	5.0	4x10	E1
28	DINING RM	972	22	47	0.13	27	175	202	0.06	5.0	4x10	E1
4	PRI. ENS	947	22	28	0.13	13	130	143	0.08	5	4x10	F1
2	PRI MB	1436	33	39	0.13	31	145	176	0.07	5.0	4x10	A1
3	PRI MB	1436	33	39	0.13	39	165	204	0.06	5.0	4x10	A1
15	SHD BATH-2	431	10	4	0.13	20	185	205	0.06	5	4x10	B1
12	WIC-3	1122	25	50	0.13	52	205	257	0.05	5.0	4x10	D1
7	SHD BATH WC	853	19	12	0.13	63	165	228	0.05	5	4x10	D1
8	SHD BATH-1	193	4	2	0.13	61	155	216	0.06	5	4x10	D1
13	BD-4	1507	34	63	0.13	57	175	232	0.05	6.0	4x10	E1
14	BD-4	1507	34	63	0.13	29	205	234	0.05	6.0	4x10	E1
16	PRI WIC	97	2	2	0.13	12	130	142	0.08	5	4x10	F1

9	WIC-2	154	3	2	0.13	51	205	256	0.05	5	4x10	D1
1	BD-5	2423	55	76	0.13	38	185	223	0.05	6.0	4x10	B1
5	BDRM-2	2102	48	32	0.13	73	190	263	0.05	5.0	4x10	D1
6	BDRM-2	2102	48	32	0.13	70	185	255	0.05	5.0	4x10	D1
10	BD-3	1965	45	58	0.13	76	185	261	0.05	6.0	4x10	C1
11	BD-3	1965	45	58	0.13	71	165	236	0.05	6.0	4x10	C1

RETURN BRANCH AND GRILL SIZING

R/A INLET #	INLET AIR VOLUME CFM	DUCT DESIGN PRESSURE	ACTUAL DUCT LENGTH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	DUCT SIZE ROUND	INLET SIZE	TRUNK
1R	75	0.12	27	120	147	0.07	6	14x8	Y1
2R	140	0.12	63	120	183	0.05	8	14x8	X1
3R	60	0.12	70	130	200	0.05	6	14x8	W1
4R	140	0.12	66	140	206	0.05	8	14x8	V1
5R	345	0.12	63	160	223	0.04	11.5	30X8	X1
6R	300	0.12	29	160	189	0.05	10.5	30X8	Y1
7R	140	0.12	59	160	219	0.05	8	14x8	V1
8R	110	0.12	50	170	220	0.05	7	FLC	W1

RETURN TRUNK DUCT SIZING

TRUNK	CFM	PRESSURE	ROUND	RECT. SIZE	SIZE ALTERNATE
DROP	1310	0.04		0	
Z1	1310	0.04	18.5	32x10	32x10
Y1	375	0.05	11.5	14x8	20x6
X1	935	0.04	16.5	32x8	24x10
W1	450	0.05	12	16x8	22x6
V1	280	0.05	10	12x8	16x6

SUPPLY TRUNK DUCT SIZING

TRUNK	CFM	PRESSURE	ROUND	RECT. SIZE	SIZE ALTERNATE
A1	154	0.06	8	10x8	
B1	449	0.05	12	16x8	22x6
C1	271	0.05	10	12x8	16x6
D1	449	0.05	12	16x8	22x6
E1	778	0.05	15	26x8	20x10
F1	1314	0.05	18	30x10	30x10

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

WEATHER DATA [Brampton] [43.68] [-2.20] [86.00] [51.80] [48.20] [74.20] [14.00]

LEVEL 1

BASE	TOTALS H.L.: 15578 btuh	H.G.: 4502 btuh	AREA: 1349 ft2	Above Grade: 2	GROSS EXP. WALL	NEW 372 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 186 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	21.12		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	3.5	0 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.7	237 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 9.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 6.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	164 btuh	37.3	0 btuh	0	0	0	0	18.3	110 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	249 btuh	14.9	0 btuh	0	0	0	0	21.2	127 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		5214 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	5488 btuh	LOSS	1.7942	9847 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	243.3 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	613 btuh	GAIN	0.0599	37 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	34 btuh	0	0 btuh	50%	2779 btuh	GAIN	0%	0 btuh

LEVEL 2

FAM RM	TOTALS H.L.: 3920 btuh	H.G.: 4061 btuh	AREA: 236 ft2	C.Height: 11	GROSS EXP. WALL	NEW 385 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 35 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1205 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	227 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 45.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	822 btuh	37.3	0 btuh	0	0	0	0	18.3	713 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1247 btuh	14.9	0 btuh	0	0	0	0	21.2	828 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	2740 btuh	LOSS	0.3863	1059 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	121.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	2302 btuh	GAIN	0.0599	138 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	128 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

KIT/BREAK	TOTALS H.L.: 3755 btuh	H.G.: 3591 btuh	AREA: 320 ft2	C.Height: 11	GROSS EXP. WALL	NEW 374 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 34 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1181 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	223 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 12.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 67.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	219 btuh	37.3	0 btuh	0	0	0	0	18.3	1224 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	332 btuh	14.9	0 btuh	0	0	0	0	21.2	1423 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	2625 btuh	LOSS	0.3863	1014 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	116.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	1978 btuh	GAIN	0.0599	118 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	110 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

LAUND	TOTALS H.L.: 645 btuh	H.G.: 1199 btuh	AREA: 55 ft2	C.Height: 11	GROSS EXP. WALL	NEW 77 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 7 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	268 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	51 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 10.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	183 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	277 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

FUND. CONDUCTIVE HEATLOSS		0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE	LOSS	451 btuh	LOSS	0.3863	174 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	20.0 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE	GAIN	328 btuh	GAIN	0.0599	20 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	18 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

MUD RM	TOTALS H.L.: 2123 btuh	H.G.: 407 btuh	AREA: 50 ft2	C.Height: 11	GROSS EXP. WALL	NEW 154 ft	EXIST 0 ft

	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 14 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

LOSS	4.0	448 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	85 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 42.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	1035 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	195 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	1484 btuh	LOSS	0.3863	573 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	65.8 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	280 btuh	GAIN	0.0599	17 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	16 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

LIV RM	TOTALS H.L.: 4833 btuh			H.G.: 4065 btuh					AREA: 177 ft2		C.Height: 11		GROSS EXP. WALL		NEW 473 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 43 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1478 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	279 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 52.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 52 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	950 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	950 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1441 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	586 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	3378 btuh	LOSS	0.3863	1305 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	149.7 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	2305 btuh	GAIN	0.0599	138 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	128 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

PWD RM	TOTALS H.L.: 1363 btuh			H.G.: 1633 btuh					AREA: 59 ft2		C.Height: 11		GROSS EXP. WALL		NEW 99 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 9 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	240 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	45 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	713 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1080 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	953 btuh	LOSS	0.3863	368 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	42.2 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	1126 btuh	GAIN	0.0599	67 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	63 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

FOYER	TOTALS H.L.: 3295 btuh			H.G.: 722 btuh					AREA: 229 ft2		C.Height: 11		GROSS EXP. WALL		NEW 330 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 30 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	1121 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	212 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 42.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 8 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	1035 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	146 btuh	37.3	0 btuh
GAIN	4.7	195 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	90 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	2303 btuh	LOSS	0.3863	890 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	102.1 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	497 btuh	GAIN	0.0599	30 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	28 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

DINING RM	TOTALS H.L.: 1944 btuh			H.G.: 2924 btuh					AREA: 217 ft2		C.Height: 11		GROSS EXP. WALL		NEW 154 ft		EXIST 0 ft			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 14 ft		EXIST: 0 ft		NEW: 0		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	408 btuh	8.7	0 btuh	1.3	0 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	77 btuh	1.6	0 btuh	0.7	0 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 52.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	950 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1441 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh

TOTAL HEATLOSS: 57694 BTUH
TOTAL HEATGAIN: 40366 BTUH

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	1359 btuh	LOSS	0.3863	525 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	60.2 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	1518 btuh	GAIN	0.0599	91 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	84 btuh	0	0 btuh	10%	556 btuh	GAIN	0%	0 btuh

LEVEL 3

PRI. ENS	TOTALS H.L.: 947 btuh				H.G.: 862 btuh				AREA: 98 ft2			C.Height: 9		GROSS EXP. WALL		NEW 90 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 10 ft		EXIST: 0 ft		NEW: 98 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	292 btuh	8.7	0 btuh	1.3	123 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	55 btuh	1.6	0 btuh	0.7	68 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 17.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	311 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	471 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	726 btuh	LOSS	0.2599	189 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	32.2 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	594 btuh	GAIN	0.0599	36 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	33 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

PRI MB	TOTALS H.L.: 2871 btuh				H.G.: 2432 btuh				AREA: 306 ft2			C.Height: 9		GROSS EXP. WALL		NEW 315 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 35 ft		EXIST: 0 ft		NEW: 306 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	1105 btuh	8.7	0 btuh	1.3	383 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	209 btuh	1.6	0 btuh	0.7	212 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	713 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	828 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	2201 btuh	LOSS	0.2599	572 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	97.6 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	1249 btuh	GAIN	0.0599	75 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	69 btuh	2	478 btuh	0%	0 btuh	GAIN	0%	0 btuh

SHD BATH-2	TOTALS H.L.: 431 btuh				H.G.: 131 btuh				AREA: 62 ft2			C.Height: 9		GROSS EXP. WALL		NEW 63 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 7 ft		EXIST: 0 ft		NEW: 62 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	252 btuh	8.7	0 btuh	1.3	78 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	48 btuh	1.6	0 btuh	0.7	43 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	330 btuh	LOSS	0.2599	86 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	14.6 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	91 btuh	GAIN	0.0599	5 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	5 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

WIC-3	TOTALS H.L.: 1122 btuh				H.G.: 1531 btuh				AREA: 46 ft2			C.Height: 9		GROSS EXP. WALL		NEW 72 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 8 ft		EXIST: 0 ft		NEW: 46 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	144 btuh	8.7	0 btuh	1.3	58 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	27 btuh	1.6	0 btuh	0.7	32 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 36.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	658 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	997 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS			0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE		LOSS	860 btuh	LOSS	0.2599	224 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	38.1 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE		GAIN	1056 btuh	GAIN	0.0599	63 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	59 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

SHD BATH WC	TOTALS H.L.: 853 btuh				H.G.: 368 btuh				AREA: 40 ft2			C.Height: 9		GROSS EXP. WALL		NEW 63 ft		EXIST 0 ft	
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		

HEATLOSS/GAIN CALCULATIONS CSA-F280-12

ADDRESS/MODEL: Unit 4502 Cor Elev. A, B and C
PROJECT #: P22161
COMPLIANCE PACKAGE: SB 12

CLIENT: ROYAL PINE HOMES
GTA: 3355
LOT: 4502 Cor
SITE: FORESTSIDE ESTATES INC

MCCALLUM HVAC DESIGN INC

	NEW: 7 ft		EXIST: 0 ft		NEW: 40 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 38 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*196 btuh*	8.7	*0 btuh*	1.3	*50 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*95 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*37 btuh*	1.6	*0 btuh*	0.7	*28 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*10 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 14 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*256 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*0 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*158 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	597 btuh	LOSS	0.2599	155 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	26.5 btuh	239		5558		LOSS	10%	75 btuh
TOTAL CONDUCTIVE			GAIN	233 btuh	GAIN	0.0599	14 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	13 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	23 btuh

SHD BATH-1	*TOTALS H.L.: 193 btuh*				*H.G.: 57 btuh*				AREA: 38 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 0 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 0 ft		EXIST: 0 ft		NEW: 38 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 35 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*0 btuh*	8.7	*0 btuh*	1.3	*48 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*87 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*0 btuh*	1.6	*0 btuh*	0.7	*26 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*9 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*0 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*0 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	135 btuh	LOSS	0.2599	35 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	6.0 btuh	239		5558		LOSS	10%	17 btuh
TOTAL CONDUCTIVE			GAIN	36 btuh	GAIN	0.0599	2 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	2 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	4 btuh

BD-4	*TOTALS H.L.: 3014 btuh*				*H.G.: 3866 btuh*				AREA: 209 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 198 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 22 ft		EXIST: 0 ft		NEW: 209 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*440 btuh*	8.7	*0 btuh*	1.3	*262 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*0 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*83 btuh*	1.6	*0 btuh*	0.7	*145 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*0 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 88.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*1608 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*2438 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*0 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	2311 btuh	LOSS	0.2599	601 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	102.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	2666 btuh	GAIN	0.0599	160 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	148 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

PRI WIC	*TOTALS H.L.: 97 btuh*				*H.G.: 61 btuh*				AREA: 60 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 0 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 0 ft		EXIST: 0 ft		NEW: 60 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*0 btuh*	8.7	*0 btuh*	1.3	*75 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*0 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*0 btuh*	1.6	*0 btuh*	0.7	*42 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*0 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	
LOSS	24.7	*0 btuh*	24.7	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*	0	0	0	0	18.3	*0 btuh*	37.3	*0 btuh*	18.3	*0 btuh*	37.3	*0 btuh*
GAIN	4.7	*0 btuh*	4.7	*0 btuh*	27.7	*0 btuh*	14.9	*0 btuh*	0	0	0	0	21.2	*0 btuh*	14.9	*0 btuh*	11.3	*0 btuh*	14.9	*0 btuh*
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	75 btuh	LOSS	0.2599	19 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	3.3 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	42 btuh	GAIN	0.0599	3 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	2 btuh	0	0 btuh	0%	0 btuh	GAIN	0%	0 btuh

WIC-2	*TOTALS H.L.: 154 btuh*				*H.G.: 53 btuh*				AREA: 40 ft2		C.Height: 9		GROSS EXP. WALL		*NEW 0 ft*		*EXIST 0 ft*			
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT			
	NEW: 0 ft		EXIST: 0 ft		NEW: 40 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 23 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2	
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03	
LOSS	4.0	*0 btuh*	8.7	*0 btuh*	1.3	*50 btuh*	3.2	*0 btuh*	2.7	*0 btuh*	3.4	*0 btuh*	2.5	*57 btuh*	3.4	*0 btuh*	36.4	*0 btuh*	37	*0 btuh*
GAIN	0.8	*0 btuh*	1.6	*0 btuh*	0.7	*28 btuh*	1.8	*0 btuh*	1.5	*0 btuh*	1.9	*0 btuh*	0.3	*6 btuh*	0.4	*0 btuh*	89.7	*0 btuh*	14.7	*0 btuh*
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS			
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2	
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99	

LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	107 btuh	LOSS	0.2599	28 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	4.7 btuh	239		5558		LOSS	10%	14 btuh
TOTAL CONDUCTIVE			GAIN	34 btuh	GAIN	0.0599	2 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	2 btuh	0	0 btuh	0%	0 btuh	GAIN	10%	3 btuh

BD-5	TOTALS H.L.: 2423 btuh			H.G.: 2345 btuh				AREA: 233 ft2			C.Height: 9		GROSS EXP. WALL		NEW 252 ft		EXIST 0 ft		
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 28 ft		EXIST: 0 ft		NEW: 233 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	853 btuh	8.7	0 btuh	1.3	292 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	161 btuh	1.6	0 btuh	0.7	161 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 39.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	713 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	0 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1080 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	0 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	1858 btuh	LOSS	0.2599	483 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	82.4 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	1403 btuh	GAIN	0.0599	84 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	78 btuh	1	239 btuh	0%	0 btuh	GAIN	0%	0 btuh

BDRM-2	TOTALS H.L.: 4204 btuh			H.G.: 1997 btuh				AREA: 311 ft2			C.Height: 9		GROSS EXP. WALL		NEW 306 ft		EXIST 0 ft		
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 34 ft		EXIST: 0 ft		NEW: 311 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 240 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	1021 btuh	8.7	0 btuh	1.3	390 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	598 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	193 btuh	1.6	0 btuh	0.7	215 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	64 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 51 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	0 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	932 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	0 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	574 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	2940 btuh	LOSS	0.2599	764 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	130.3 btuh	239		5558		LOSS	10%	370 btuh
TOTAL CONDUCTIVE			GAIN	1047 btuh	GAIN	0.0599	63 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	58 btuh	1	239 btuh	0%	0 btuh	GAIN	10%	129 btuh

BD-3	TOTALS H.L.: 3929 btuh			H.G.: 3559 btuh				AREA: 241 ft2			C.Height: 9		GROSS EXP. WALL		NEW 324 ft		EXIST 0 ft		
	EXPOSED WALLS				EXPOSED CEILING W/ATTIC				EXPOSED CEILING NO ATTIC				EXPOSED FLOORS				SKYLIGHT		
	NEW: 36 ft		EXIST: 0 ft		NEW: 241 ft2		EXIST: 0		NEW: 0		EXIST: 0		NEW: 0 ft2		EXIST: 0 ft2		NEW: 0.0 ft2		EXIST: 0.0 ft2
Eff. R-V	18.53		8.50		59.22		22.86		27.65		22.05		29.80		22.05		2.04		2.03
LOSS	4.0	901 btuh	8.7	0 btuh	1.3	302 btuh	3.2	0 btuh	2.7	0 btuh	3.4	0 btuh	2.5	0 btuh	3.4	0 btuh	36.4	0 btuh	37	0 btuh
GAIN	0.8	170 btuh	1.6	0 btuh	0.7	167 btuh	1.8	0 btuh	1.5	0 btuh	1.9	0 btuh	0.3	0 btuh	0.4	0 btuh	89.7	0 btuh	14.7	0 btuh
	DOORS				EAST/WEST WINDOWS				SE/SW WINDOWS				SOUTH WINDOWS				NORTH WINDOWS		
	NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 48.0 ft2		EXIST: 0.0 ft2		NEW:		EXIST:		NEW: 0.0 ft2		EXIST: 0.0 ft2		NEW: 51 ft2		EXIST: 0 ft2
Eff. R-V	3.01		3.01		4.06		1.99		0		0		4.06		1.99		4.06		1.99
LOSS	24.7	0 btuh	24.7	0 btuh	18.3	877 btuh	37.3	0 btuh	0	0	0	0	18.3	0 btuh	37.3	0 btuh	18.3	932 btuh	37.3	0 btuh
GAIN	4.7	0 btuh	4.7	0 btuh	27.7	1330 btuh	14.9	0 btuh	0	0	0	0	21.2	0 btuh	14.9	0 btuh	11.3	574 btuh	14.9	0 btuh
FUND. CONDUCTIVE HEATLOSS				0 btuh	AIR LEAKAGE NEW			AIR LEAKAGE EXIST			VENTILATION CASE 3			H.G. PEOPLE		APP. LOAD		DUCT PIPE L.		
TOTAL CONDUCTIVE			LOSS	3012 btuh	LOSS	0.2599	783 btuh	LOSS	0.0000	0 btuh	LOSS	0.0	133.5 btuh	239		5558		LOSS	0%	0 btuh
TOTAL CONDUCTIVE			GAIN	2241 btuh	GAIN	0.0599	134 btuh	GAIN	0.0000	0 btuh	GAIN	0.06	125 btuh	1	239 btuh	0%	0 btuh	GAIN	0%	0 btuh

LEVEL 4