

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 282 Ginebik Way		Unit number JUN 07 2022	Loc/Con 312
Municipality GLOUCESTER	Postal code	Reg. Plan number / other description 4M-1618	

B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package: <u>A1</u>	Table: <u>3.1.1.2.A (IP)</u>
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C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
☒ Zone 1 (< 5000 degree days) ☐ Zone 2 (≥ 5000 degree days)	☒ ≥ 92% AFUE ☐ ≥ 84% < 92% AFUE	☒ Gas ☐ Propane ☐ Solid Fuel ☐ Oil ☐ Electric ☐ Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = _____ m ² or 3433.3 ft ² Area of W, S & G = _____ m ² or 318.39 ft ²		☐ Log/Post&Beam ☐ ICF Above Grade ☐ ICF Basement ☐ Slab-on-ground ☐ Walkout Basement ☐ Air Conditioning ☐ Combo Unit ☐ Air Sourced Heat Pump (ASHP) ☐ Ground Sourced Heat Pump (GSHP)
W, S & G % = <u>9.3</u> Utilize window averaging: ☐ Yes ☐ No		

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)			
Airtightness test required (Refer to Design Guide Attached)		☐ Table 3.1.1.4.B Required: _____ Permitted Substitution: _____	
		☐ Table 3.1.1.4.C Required: _____ Permitted Substitution: _____	
Required: _____		Permitted Substitution: _____	
Building Component	Minimum RSI / R values or Maximum U-Value ⁽¹⁾	Building Component	Efficiency Ratings
Thermal Insulation	Nominal Effective	Windows & Doors Provide U-Value ⁽¹⁾ or ER rating	
Ceiling with Attic Space	R60	Windows/Sliding Glass Doors	25
Ceiling without Attic Space	R31	Skylights/Glazed Roofs	0.49
Exposed Floor	R31	Mechanicals	
Walls Above Grade	R22	Heating Equip.(AFUE)	96%
Basement Walls		HRV Efficiency (SRE% at 0° C)	75%
Slab (all >600mm below grade)	--	DHW Heater (EF)	0.8
Slab (edge only ≤600mm below grade)	10	DWHR (CSA B55.1 (min. 42% efficiency))	1
Slab (all ≤600mm below grade, or heated)	10	Combined Heating System	No

(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 Sandy Pollock	BCIN 33536	Signature Sandy Pollock 2021.10.14 07:08:58 -04'00'



7. Floor joist design and flush LVL beams within the floor structure are by the manufacturer.

Basement Plan – Pages # 2:

8. It is the opinion of Kollaard Associates that the proposed steel beams steel posts shown on Phoenix Homes Pages # 2 are adequate.
9. The front porch slab reinforcement described on Phoenix Homes Pages # 1 is adequate.
10. The foundation walls at the bottom of the window openings that exceed 47¼" in width (or the sum of the widths of the window openings exceed 25% of the length of the wall) are considered to be laterally unsupported as per 2012 OBC 9.15.4.3. The reinforcement around the window openings noted on Phoenix Homes Sheets # 2 are adequate.
11. The remaining proposed foundation walls conform to 2012 OBC Table 9.15.4.2.A. ensuring that the grade difference between the basement slab and the exterior grade (including the garage slab) does not exceed 7'-6½" for the full height 7'-10" foundation walls.
12. The proposed strip footings and interior pad footings shown on Phoenix Homes Page # 2 and noted on Phoenix Homes Page # 1 are adequate.
13. The details for the rear bracket supporting the landing are designed and approved by others (Estructura Inc. Dwg. # SK-1, Stamp Date: December 6, 2019).
14. Floor joist design, flush LVL beams within the floor structure and LVL lintels are by the manufacturer. The posts supporting the flush LVL lintels shown on Phoenix Homes Pages # 2 are adequate.

General Notes:

15. All gravity loads to be carried to foundation through solid blocking.
16. Truss design is by others.
17. Floor joist design, flush LVL beams within the floor structure and LVL lintels are by the manufacturer.
18. The self supporting stairs are to be designed by the stair manufacturer.
19. All dimension lumber, except non-load bearing 8 ft 2x6 studs to be No.2 grade SPF or better.
20. Non-load bearing 8 ft 2x6 studs to be No.3 or Stud grade SPF or better.
21. All guards to be as per OBC SB-7, unless otherwise mentioned and designed by others.
22. All brick lintels to be as per OBC Table 9.20.5.2.B.
23. Unless otherwise noted, LVL to be 1.8E 3000Fb LVL (Canadian Limit States bending strength of at least 39.5 MPa) with 1¾" nominal width or better.
24. Pemco Steel adjustable posts are designed and approved by the manufacturer. The adjustable steel posts are designed for a maximum allowable load of 106.8 kN at a maximum height of 9'-3".
25. All 3" x 3" x 3/16" HSS posts c/w 6" x 6" x 3/8" top and bottom bearing plates.
26. The assumed soil bearing resistance of 125 kPa is to be verified prior to construction.

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27. Note that the truss manufacturer/floor joist supplier has sized the flush LVL beams and girder trusses shown on the building drawings. The comments provided by Kollaard Associates in this report are based in part on the design indicated in the truss and floor layouts. If a different truss and/or floor layout is used in construction, comments made in this report may no longer be valid. Provide Kollaard Associates with the full truss package prior to construction.
28. Comments provided in this report are made in consideration of Part 9 and Part 4 (where applicable) of the 2012 OBC as amended.
29. This report constitutes a review of the structural information indicated on the building plans cited in this report for the client indicated above.

We trust this letter provides sufficient information for your present purposes. If you have any questions concerning this letter please do not hesitate to contact our office.

Sincerely,
Kollaard Associates Inc.



Christopher Cogliati, P.Eng.

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City of Ottawa





Signature _____



NOTES:

STEEL
 -ALL STRUCTURAL STEEL WORK INCLUDING DESIGN OF ALL COMPONENTS SHALL BE CARRIED OUT IN ACCORDANCE WITH CAN/CSA-S16-09.
 -HOLLOW STRUCTURAL SECTIONS TO CAN/CSA G40.20 GRADE 350, CLASS C OF H.
 -STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA G40.21 GRADE 300W
 ALL WORK SHALL CONFORM OBC 2012
 CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE.
 FOR ADDITIONAL INFORMATION, SEE ENGINEERING DWGS.



No.	Revision	Date	a.

Project Name:

DEC 19 1999

N.T.S.
Drawing No.

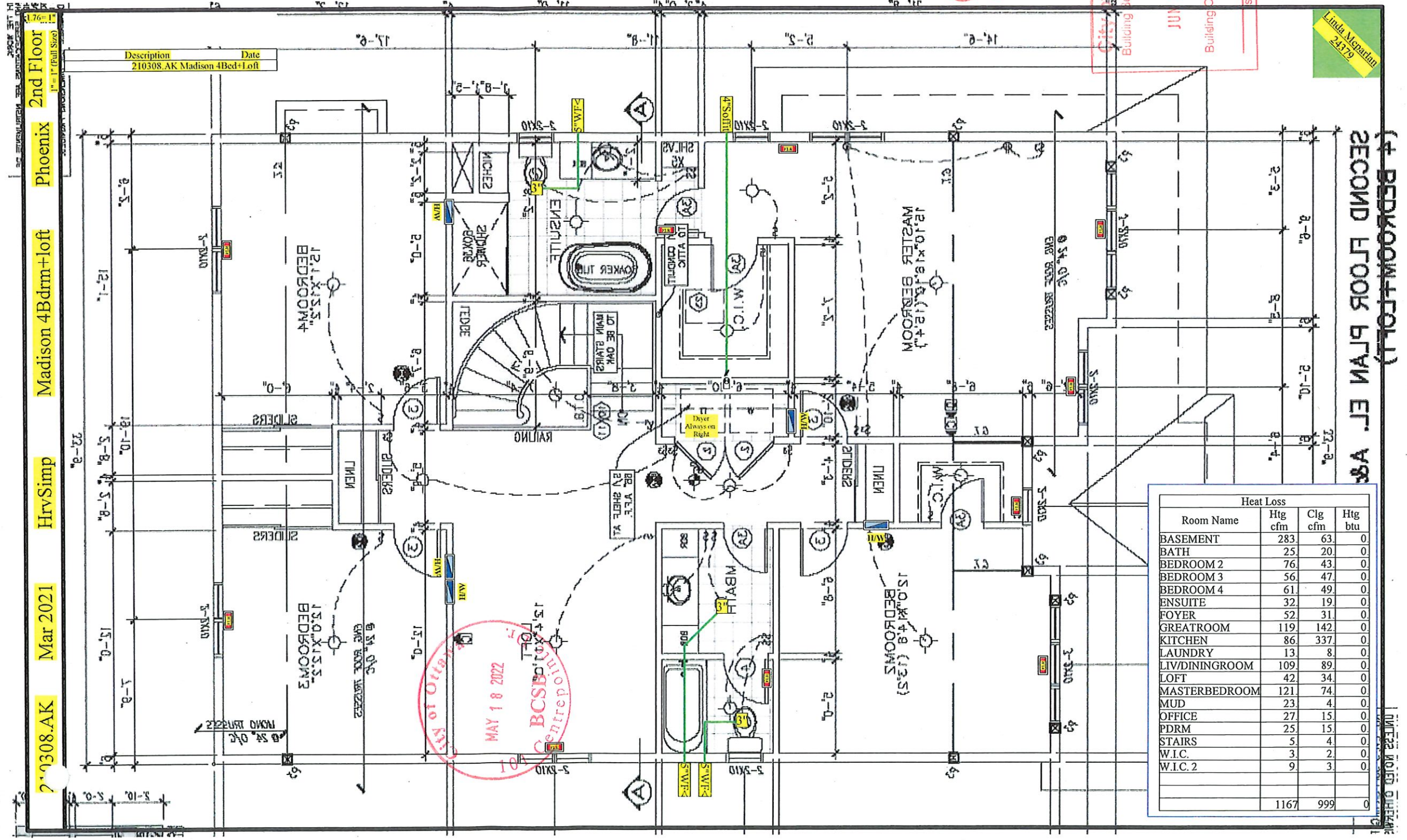
SK-1

Mechanical Design Report Low rise residential		Ottawa	
Location of Installation	Address	House Builder	
	Application Number	House Model (if applicable)	
Installing Contractor	Name		
	Address		
	City	Postal Code	
	Telephone Number	Fax Number	
SYSTEM DESIGN PARAMETERS			
Combustion Appliances 9.32.3.1.(1)		Heating System	
a) ☒ Direct vent (sealed combustion) only		☒ Forced Air	
b) ☐ Positive venting induced draft (except fireplaces)		☐ Non-Forced Air (Other -)	
c) ☐ Natural draft, B-vent or induced draft fireplace		☐ Electric Space Heat	
d) ☐ Solid Fuel (including fireplaces)		☐ Radiant Floor Heat (attach pipe details)	
e) ☐ No Combustion Appliances		☐ Geothermal (attach loop, pipe & well details)	
		☐ High Velocity Residential (attach duct details)	
House Type 9.32.3.1.(2)		Ventilation System	
☒ I Type a) or b) appliances only, no solid fuel		☐ CAN/CSA-F326	
☐ II Type I except with solid fuel (including fireplace)		☐ HRV - Exhaust Ducts / Forced Air System	
☐ III Any Type c) appliance = Part 6 Design		☒ HRV - Simplified Connection to Forced Air System	
☐ IV Electric space heat		☐ HRV - Full Ducting / Not Coupled to Forced Air System	
☐ Other: No forced air = Option 4		☐ Part 6 Design (Other -)	
EQUIPMENT DESIGN REQUIREMENTS			
Total Ventilation Capacity 9.32.3.3.(1)		TOTAL	
Master Bedroom	1 x 10 L/s = 10 L/s		
Unfinished Basement	1 x 10 L/s = 10		
Other Habitable Rooms	12 x 5 L/s = 60		80
Principal Ventilation Capacity 9.32.3.4.(1)			
Master Bedroom	1 x 15 L/s = 15		
Other Bedrooms	3 x 7.5 L/s = 22.5		37.5
Required Supplemental Ventilation Capacity (T.V.C. less P.V.C.) =			42.5
Furnace size: GMEC960603BNA 60,000 BTU'S KJ			
Air conditioner size: GSX16030 2.5 TON KJ (If provided / applicable)			
Heating / Cooling Equipment sized according to heat loss/gain calculations of CAN/CSA F280: Yes			
Geothermal Equipment designed according to CAN/CSA-C448.2: No			
Hydronic Equipment designed according to CAN/CSA-B214: No			
Duct (and pipe) schematic attached including sizes, runs and material used: Yes			
VENTILATION EQUIPMENT			
Heat Recovery Ventilator			
Model: CLEAN COMFORT VH30100RNC HRV			
80	L/s High 40	L/s Low	

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City of Ottawa
P.V.C. Building Services Branch
JUN 07 2022
Building Code Reviewed
Signature

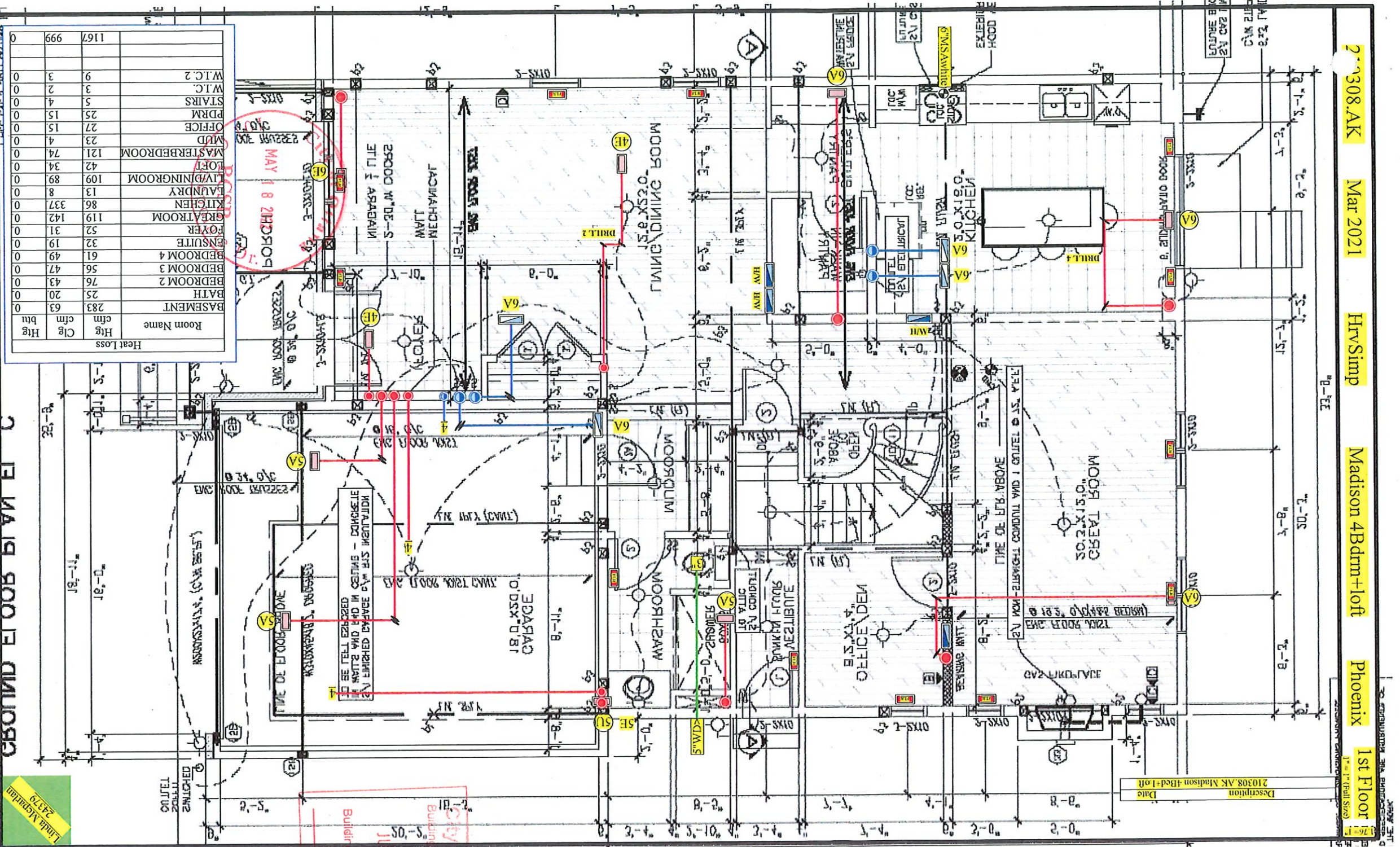
City of Ottawa
A22-003414
MAY 18 2022
282 GINEBIK
C. BCSB
CENTREPOINT



Heat Loss			
Room Name	Htg cfm	Clg cfm	Htg btu
BASEMENT	283.	63.	0
BATH	25.	20.	0
BEDROOM 2	76.	43.	0
BEDROOM 3	56.	47.	0
BEDROOM 4	61.	49.	0
ENSUITE	32.	19.	0
FOYER	52.	31.	0
GREATROOM	119.	142.	0
KITCHEN	86.	337.	0
LAUNDRY	13.	8.	0
LIV/DININGROOM	109.	89.	0
LOFT	42.	34.	0
MASTERBEDROOM	121.	74.	0
MUD	23.	4.	0
OFFICE	27.	15.	0
PDRM	25.	15.	0
STAIRS	5.	4.	0
W.I.C.	3.	2.	0
W.I.C. 2	9.	3.	0
	1167.	999.	0

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Suzanne



210308.AK

Mar 2021

HrvSimp

Madison 4Bdrm+loft

Phoenix

1st Floor

Room Name		Htg	Cig	blu
BASEMENT	283	63	0	0
BEDROOM 1	25	20	0	0
BEDROOM 2	76	43	0	0
BEDROOM 3	56	47	0	0
BEDROOM 4	61	49	0	0
ENSUITE	32	19	0	0
FOYER	52	31	0	0
GREATROOM	119	142	0	0
KITCHEN	86	337	0	0
LAUNDRY	13	8	0	0
LIVINGROOM	109	89	0	0
LOFT	42	34	0	0
MASTERBEDROOM	121	74	0	0
MUD	23	4	0	0
OFFICE	27	15	0	0
PDRM	25	15	0	0
STAIRS	5	2	0	0
W.I.C.	9	3	0	0
W.I.C. 2	1167	999	0	0

210308.AK

Mar 2021

HrvSimp

Madison 4Bdrm+loft

Phoenix

Basement

Unit 210308 AK Madison 4Bdrm+loft
Description
Date
10'x23' CAE @ 63" Plenum
Unit 210308 AK Madison 4Bdrm+loft

MAY 18 2022

JUN 07 2022

Building Code Reviewed

Signature

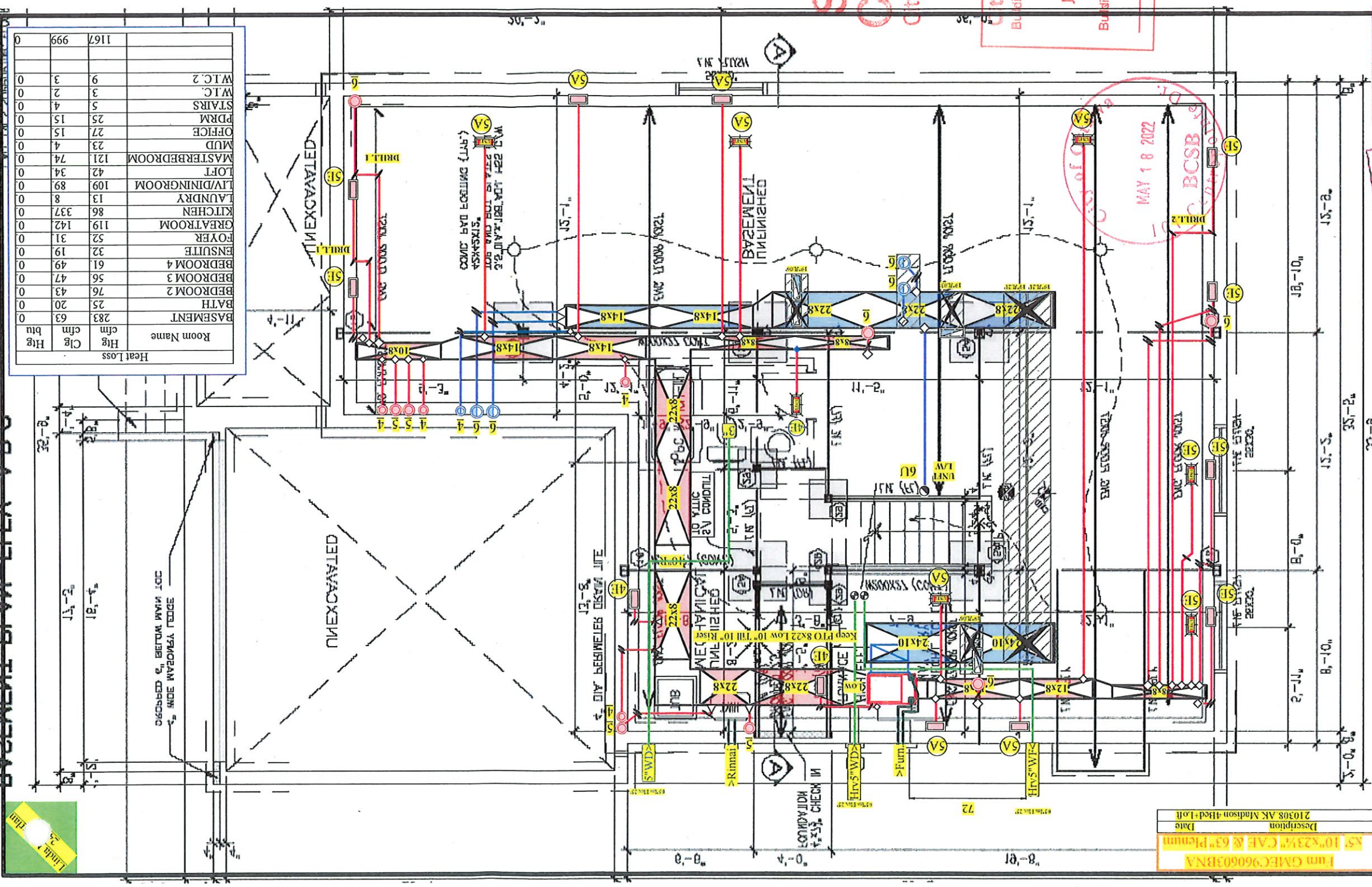
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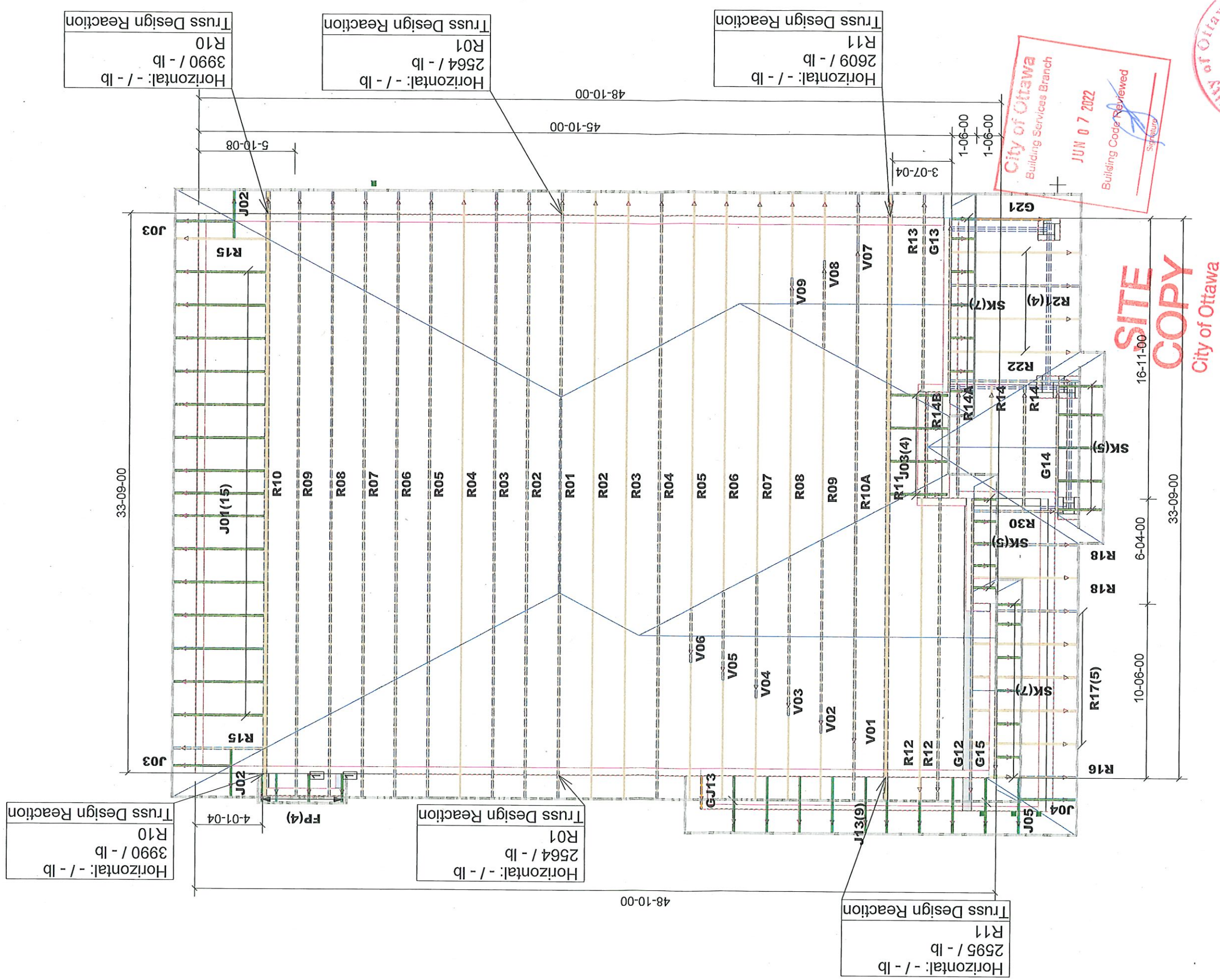
City of Ottawa
Building Services Branch

Room Name	Htg cfm	Clg cfm	Htg btu
BASEMENT	283	63	0
BATH	25	20	0
BEDROOM 2	76	43	0
BEDROOM 3	56	47	0
BEDROOM 4	61	49	0
ENSUITE	32	19	0
FOYER	52	31	0
GREATROOM	119	142	0
KITCHEN	86	337	0
LAUNDRY	13	8	0
LIVINGROOM	109	89	0
LOFT	42	34	0
MASTERBEDROOM	121	74	0
MUD	23	4	0
OFFICE	27	15	0
PDRM	25	15	0
STAIRS	5	4	0
W.C.	3	2	0
W.C. 2	9	3	0
	1167	999	0

UNIT 210308 MADISON 4BDRM+LOFT

210308.AK





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LAYOUT MIRRORED FOR LOT PW-312



THIS DESIGN COMPLIES WITH:

- PART 4 OR 9 OF OBC 2012 Reg. 332/12 (2019 Amendment)
- CSA S86-09
- CCMC ACCEPTANCE 11996-L, 0319-L, 13210-L
- CANADA 2014

HURRICANE AND SEISMIC TIES:

- ANY TIES SPECIFIED ON THIS LAYOUT FOR UPLIFT OR SEISMIC CONNECTIONS MUST BE REVIEWED AND APPROVED BY THE BUILDING DESIGNER/ENGINEER, AS STATED IN THE TPIC 2014. THE TRANSFER OF THESE LOADS TO THE ENTIRE STRUCTURE BELOW HAS NOT BEEN ANALYZED.

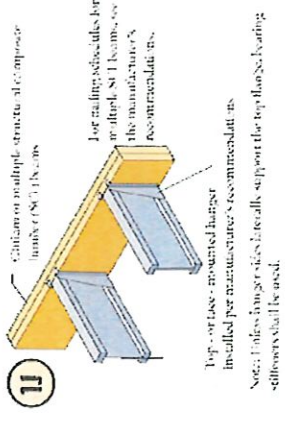
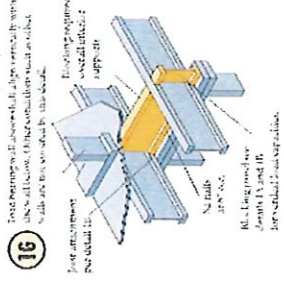
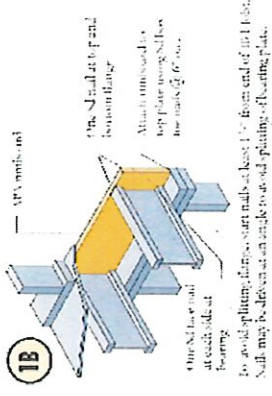
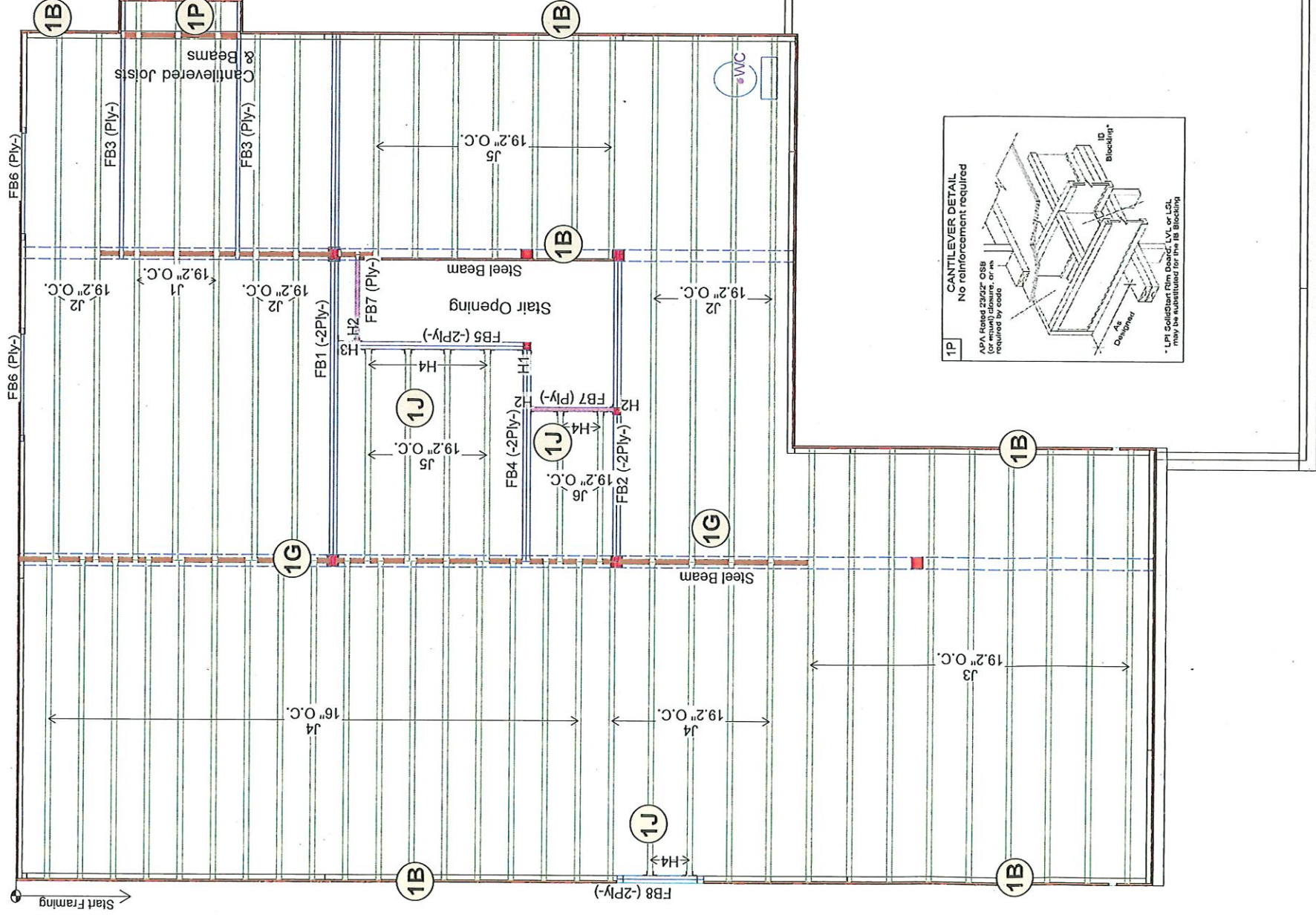
Member	Load Type	PT 9	PT 4
Top Chord	Shw	37.1	50
	Dead	5	5-10
Bot Chord	Live	0	10
	Dead	7	7

TYPICAL SPACING = 24.0 IN C/C

JOB: PHOENIX HOMES
MADISON "A"
PMADA-4



DATE: 16/12/2020



Products				
PlotID	Length	Product	Piles	Net Qty
J1	24' 0"	9 1/2 IB400	1	3
J2	22' 0"	9 1/2 IB400	1	8
J3	18' 0"	9 1/2 IB400	1	9
J4	14' 0"	9 1/2 IB400	1	22
J5	10' 0"	9 1/2 IB400	1	11
J6	6' 0"	9 1/2 IB400	1	2
FB1 (-2Ply-)	22' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	2
FB2 (-2Ply-)	14' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	2
FB3 (Ply-)	12' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	1
FB4 (-2Ply-)	10' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	2
FB5 (-2Ply-)	8' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	2
FB6 (Ply-)	6' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	1
FB7 (Ply-)	4' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	1
FB8 (-2Ply-)	4' 0"	1 3/4" x 9 1/2" (1.8E 3000)	WestFraser LVL	2
R1	12' 0"	1 1/8" x 9 1/2" APA Rim Board		14
bx1	37' 0"	9 1/2 IB400	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1	USP	HD410IF
H2	3	USP	HUS179
H3	1	USP	THD410
H4	8		IHFL25925

Design Assumptions	
Building Code:	OBC 2012 (2019 Amendment)
Floor Loads:	40.000 lb/ft ² Live Load 25.000 lb/ft ² Dead Load
Building Type	Residential - HSB (NBCC Part 9)
Deflection Criteria:	
Floor Joist:	L/360.000 Live & L/240.000 Total
Floor Beams:	L/360.000 Live & L/240.000 Total
Blocking:	None
Subfloor:	3/4" OSB
Ceiling:	None
Additional Load:	None

City of Ottawa
Building Services Branch

JUN 07 2022

Building Code Reviewed

PHOENIX HOMES

PWY2-269

Pathways
Ottawa, ON.

Ground Floor Framing

Elevation A Standard



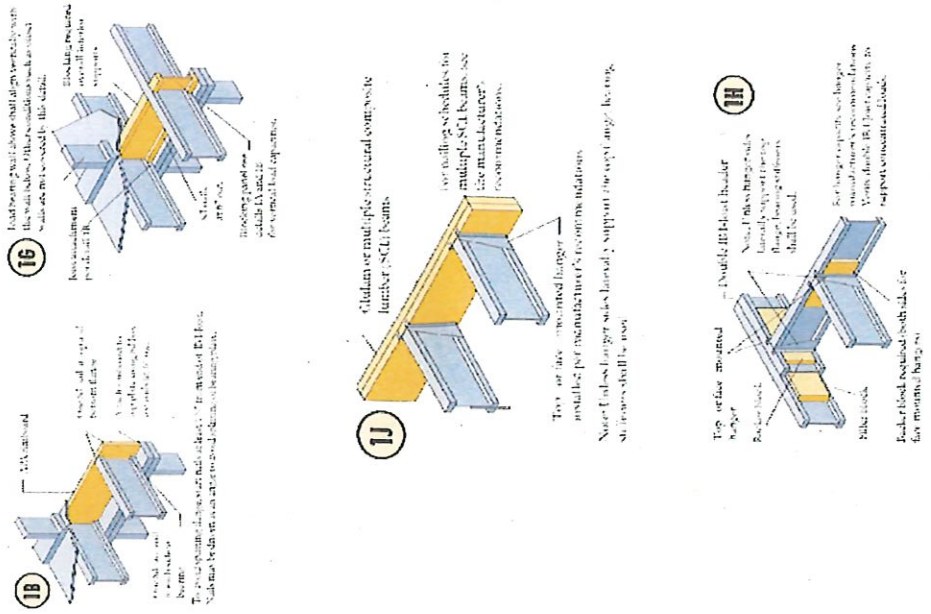
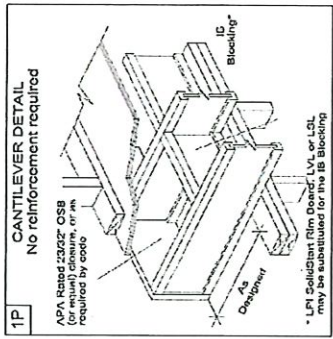
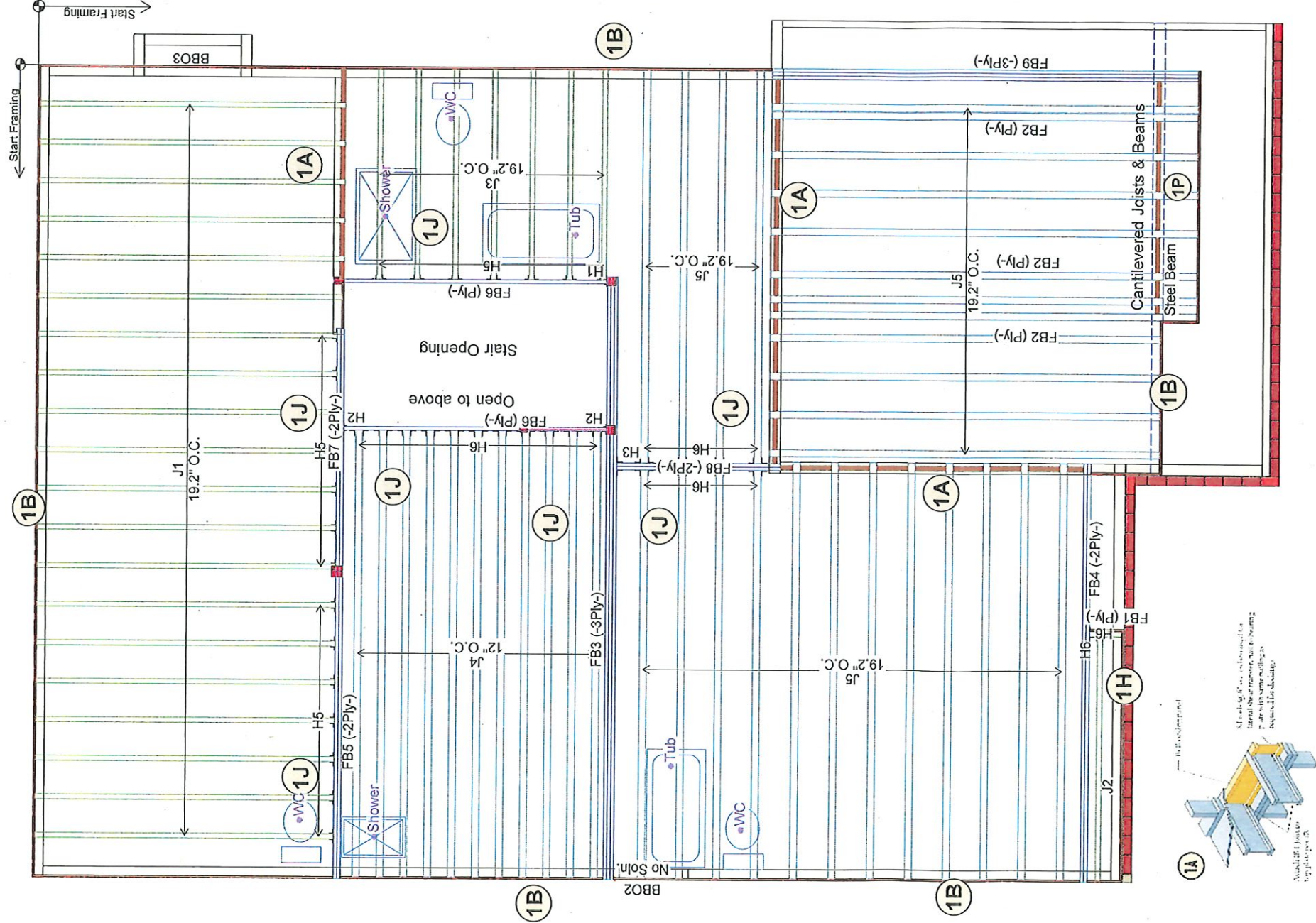
(905) 571-2477

Page 1

This layout should only be used for the placement of the Joists/Beams. It is the responsibility of the project engineer to ensure the overall stability of the structure.

All product names are trademarks of their respective owners.

1/21/2022



Products			Plies		Net Qty
PlotID	Length	Product			
J1	14' 0"	9 1/2 IB400	1		20
J2	12' 0"	9 1/2 IB400	1		1
J3	10' 0"	9 1/2 IB400	1		7
J4	20' 0"	9 1/2 IB800	1		11
J5	18' 0"	9 1/2 IB800	1		25
FB1 (Ply-)	2' 0"	9 1/2 IB400	1		1
FB2 (Ply-)	18' 0"	9 1/2 IB800	1		3
FB3 (-3Ply-)	26' 0"	1 3/4" x 9 1/2" (1.8E 3000) WestFraser LVL	3		3
FB4 (-2Ply-)	18' 0"	1 3/4" x 9 1/2" (1.8E 3000) WestFraser LVL	2		2
FB5 (-2Ply-)	14' 0"	1 3/4" x 9 1/2" (1.8E 3000) WestFraser LVL	2		2
FB6 (Ply-)	12' 0"	1 3/4" x 9 1/2" (1.8E 3000) WestFraser LVL	1		2
FB7 (-2Ply-)	12' 0"	1 3/4" x 9 1/2" (1.8E 3000) WestFraser LVL	2		2
FB8 (-2Ply-)	8' 0"	1 3/4" x 9 1/2" (1.8E 3000) WestFraser LVL	2		2
FB9 (-3Ply-)	18' 0"	1 3/4" x 11 7/8" (1.8E 3000) WestFraser LVL	3		3
R1	12' 0"	1 1/8" x 9 1/2" APA Rim Board	1		13
bxx1	39' 0"	9 1/2 IB400	1		1

Connector Summary		
PlotID	Qty	Product
H1	1	USP HD17925IF
H2	2	USP HUS179
H3	1	USP THD410
H5	21	IHFL25925
H6	21	IHFL35925

Design Assumptions	
Building Code:	OBC 2012 (2019 Amendment)
Floor Loads:	40,000 lb/ft² Live Load 25,000 lb/ft² Dead Load
Building Type	Residential - HSB (NBCC Part 9)
Deflection Criteria:	
Floor Joist:	L/360,000 Live & L/240,000 Total
Floor Beams:	L/360,000 Live & L/240,000 Total
Blocking:	None
Subfloor:	3/4" OSB
Ceiling:	1/2" Gypsum
Additional Load:	None



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