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Plan No. _____	
Date _____	
Calculated by _____	
Signature _____	

HRAI / OEL Residential Heat Loss and Heat Gain Calculations Page 1.

GENERAL INFORMATION

Submitted

For: Name _____
 Address _____
 City and Province _____ Phone _____

By: Name _____
 Address _____
 City and Province _____ Phone _____

Supply Authority _____

SECTION A DESIGN CONDITIONS	
Heat Loss	Heat Gain
Outdoor Design Temperature Heating _____ °F / °C	Outdoor Design Temperature Cooling _____ °F / °C
Mean Soil Temperature _____ °F / °C	Summer Mean Daily Temperature Range _____ °F / °C
Indoor Design Temperature _____ °F / °C	North Latitude _____ °N
	Indoor Design Temperature _____ °F / °C
Remarks _____	

SECTION B HEAT LOSS SUMMARY	SECTION C HEAT GAIN SUMMARY
Total Heat Loss (Section 21) _____ Btuh / kw	Total Heat Gain (Section 22) _____ Btuh / kw
Ventilation Heat Loss (Section 19) _____ Btuh / kw	Ventilation Heat Gain (Section 20) _____ Btuh / kw
Sub Total Heat Loss (Section 17) _____ Btuh / kw	Sub Total Heat Gain (Section 18) _____ Btuh / kw
Heated Area (from Air Leakage Aflb) _____ ft ² / m ²	Cooled Area (from Air Leakage Aflb) _____ ft ² / m ²

SECTION D EQUIPMENT SUMMARY

Make _____ Model _____ Type _____

Heating Input (Btuh / kw) _____ Heating Output (Btuh / kw) _____ Efficiency _____

Cooling (Btuh / kw) _____ Cooling CFM / L/s _____ Heating CFM / L/s _____

SECTION E heating and cooling requirements for each room note: shaded areas for inspection only

room or area name and identify carefully	heat gain		heat loss		room or area name and identify carefully	heat gain		heat loss		
	calculated watts/ Btuh		calculated watts/ Btuh	installed watts/ Btuh		calculated watts/ Btuh		calculated watts/ Btuh	installed watts/ Btuh	
Installed Capacity Approval					Installed cooling capacity	TOTALS				
Inspected by: _____		Date: _____								
		Inspection O / N _____								

HEAT LOSS ΔT		HEAT GAIN ΔT		BASEMENT $\Delta T = (T_{ih} - T_{sm}) \times F_{sc} = (\quad - \quad) \times \quad = \quad$				
COMPONENTS	STRUCTURE	R-VALUE Col 1	$\frac{HL \Delta T}{R}$ Col 2	SC Col 3	$\frac{(HG \Delta T + SC)}{R}$ Col 4	L- W- H- A-	RM	
							HEAT LOSS	HEAT GAIN
1. GROSS EXPOSED WALLS								
2. WINDOWS, PATIO GLASS, GLASS DOORS AND SKYLIGHTS					CLF =			
					CLF =			
					CLF =			
					CLF =			
					CLF =			
3. OTHER EXPOSED DOORS								
4. NET EXPOSED WALLS								
5. HEADER AREAS								
6. EXPOSED CEILINGS								
7. EXPOSED FLOORS								
8. OTHER								
9. BELOW GRADE HEAT LOSS	WALLS	DEPTH	FACTOR X BASEMENT $\Delta T = BGHLM$			X PER		
		1	X	=				
	2	X	=					
	FLOORS	DEPTH	FACTOR X BASEMENT $\Delta T = BGHLM$			X AREA		
		1	X	=				
2	X	=						
10. TOTAL CONDUCTIVE	HEAT LOSS							
	HEAT GAIN							
11. AIR LEAKAGE	HEAT LOSS AIR LEAKAGE MULTIPLIER							
	HEAT GAIN AIR LEAKAGE MULTIPLIER							
12. INTERNAL HEAT GAIN (PEOPLE AND APPLIANCES)								
13. NET LOADS (ADD SECTIONS 10 + 11 + 12)								
14. DUCT/PIPE HEAT LOSS/GAIN THROUGH UNCONDITIONED SPACES						LOSS		
						GAIN		
15. TOTAL HEAT LOSS FOR EACH ROOM (ADD SECTIONS 13 + 14)								
16. TOTAL HEAT GAIN FOR EACH ROOM (ADD SECTIONS (13 + 14) x 1.3)								
17. SUB TOTAL HEAT LOSS (WHOLE HOUSE)						21. TOTAL HEAT LOSS		
18. SUB TOTAL HEAT GAIN (WHOLE HOUSE)								
19. VENTILATION HEAT LOSS (WHOLE HOUSE)						22. TOTAL HEAT GAIN		
20. VENTILATION HEAT GAIN (WHOLE HOUSE)								