

# HOUSE DATA COMPARISON REPORT

**HOT2000**  
Natural Resources CANADA  
Version 11.10



Highlands  
9407D00380 Electric

Highlands Post  
retrofit, Jan 28,2022

## COMPONENT ANNUAL HEAT LOSS (MJ)

### ZONE 1 : ABOVE GRADE

Ceiling	23601.7	12848.1
Main Walls	48014.2	13926.9
Doors	3294.9	1652.0
Exposed floors	319.5	146.2
Southeast Windows	6438.1	4092.0
Northeast Windows	7947.3	4383.6
Northwest Windows	3371.1	1569.2
Southwest Windows	6800.4	3327.8
Slab on Grade	2839.6	
<b>ZONE 1 Totals:</b>	<b>102626.8</b>	<b>41945.9</b>
<b>INTER-ZONE Floors</b>	<b>18676.5</b>	<b>2907.5</b>

### ZONE 2 : Basement

Walls above grade	33185.4	1412.0
Southeast	893.9	1001.9
Northeast	473.8	531.0
Northwest	1036.8	1162.1
Southwest	1319.7	1479.2
Basement walls below grade	34293.1	6749.3
Basement floor header	288.3	1564.5
<b>ZONE 2 Totals:</b>	<b>71491.1</b>	<b>13900.0</b>

### ZONE 3: Crawl Space Foundation

Foundation		2325.5
<b>ZONE 3 Totals:</b>		<b>2325.5</b>
Ventilation	27356.3	8579.4

## AIR LEAKAGE AND VENTILATION SYSTEMS

House Volume (m <sup>3</sup> )	623.5	623.5
Envelope Surface Area (m <sup>2</sup> )	500.1	669.1
Natural Infiltration Rate (ACH)	0.171	0.023
Equivalent Leakage Area (cm <sup>2</sup> )	939.9	186.2
Central Ventilation Supply Rate (ACH)	0.000	0.409
Central Ventilation Exhaust Rate (ACH)	0.000	0.409

<b>Other Supply Rate (ACH)</b>	0.000	0.000
<b>Other Exhaust Rate (ACH)</b>	0.010	0.010
<b>Seasonal HRV Efficiency (%)</b>	0.0	78.8
<b>Gross Air and Vent. Energy (MJ)</b>	24850.6	10029.3
<b>Vent. Elec. Load: Heating Hrs (MJ)</b>	0.0	485.1
<b>Vent. Elec. Load: Non Htg Hrs (MJ)</b>	0.0	40.5
<b>Net Air and Vent. Energy (MJ)</b>	27356.3	8821.9

**ANNUAL SPACE HEATING SUMMARY**

<b>Design Heat Loss (Watts)</b>	22206	6327
<b>Gross Space Heat Loss (MJ)</b>	201474.2	65098.8
<b>Sensible Occupancy Heat Gain (kWh/day)</b>	2.00	3.20
<b>Usable Internal Gains (MJ)</b>	27881.1	21689.2
<b>Usable Internal Gains Fraction (%)</b>	13.8	33.3
<b>Usable Solar Gains (MJ)</b>	25713.5	11488.2
<b>Usable Solar Gains Fraction (%)</b>	12.8	17.6
<b>Vent. Electrical Contribution (MJ)</b>	0.0	242.5
<b>Auxiliary Energy Required (MJ)</b>	147879.6	29575.4
<b>SPACE + DHW ENERGY (MJ)</b>	165992.1	47758.4
<b>R-2000 SPACE + DHW TARGET (MJ)</b>	0.0	0.0

**ANNUAL SPACE COOLING SUMMARY**

<b>Design Cooling Load (Watts)</b>	4558	3668
<b>Annual Space Cooling Energy (kWh)</b>	2040.6	2774.1
<b>Seasonal COP</b>	0.726	0.853

**ANNUAL DOMESTIC WATER HEATING SUMMARY**

<b>Daily Hot Water Use (Litres/Day)</b>	192.7	189.3
<b>Domestic Water Heating Load (MJ)</b>	14649.2	14385.8
<b>Primary DHW Consumption (MJ)</b>	18112.5	17697.9
<b>Primary DHW Seasonal Efficiency (%)</b>	80.9	81.3
<b>Secondary DHW Consumption (MJ)</b>	0.0	0.0
<b>Secondary DHW Seasonal Efficiency (%)</b>	0.0	0.0
<b>Total DHW Energy Consumption (MJ)</b>	18112.5	17697.9

**LIGHTS, APPLIANCES AND FAN ENERGY SUMMARY**

Lighting and Appliances Energy (KWh)	7117.4	6022.5
PV energy delivered to house (kWh)	0.0	0.0
HRV/Exhaust Fan Energy (KWh)	11.0	157.0
Space Heating Fan Energy(KWh)	781.7	156.3
Space Cooling Fan Energy(KWh)	94.6	137.1

**ANNUAL FUEL CONSUMPTION SUMMARY**

Electricity (KWh)	55277.9	22085.0
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**ESTIMATED FUEL COSTS (Dollars)**

Electricity	0.00	0.00
Total	0.00	0.00

**ANNUAL SPACE HEATING SYSTEM PERFORMANCE**

Space Heating Load (MJ)	147879.6	29575.4
Furnace Input (MJ)	145065.3	29012.6
Pilot Light (MJ)	0.0	0.0
Indoor Fans (MJ)	2814.3	562.8
Heat Pump Input (MJ)	0.0	0.0
Total Input (MJ)	147879.6	29575.4
System COP	0.975	0.976

**AIR CONDITIONING SYSTEM PERFORMANCE**

Sensible Load (MJ)	4937.7	7566.4
Latent Load (MJ)	394.5	953.1
Air Conditioner (kWh)	1497.0	2315.7
Indoor Fan (kWh)	94.6	137.1
Ventilator (kWh)	0.0	0.0
Total A/C (kWh)	2040.6	2774.1
System COP	0.726	0.853
Average RH (%)	37.8	40.3