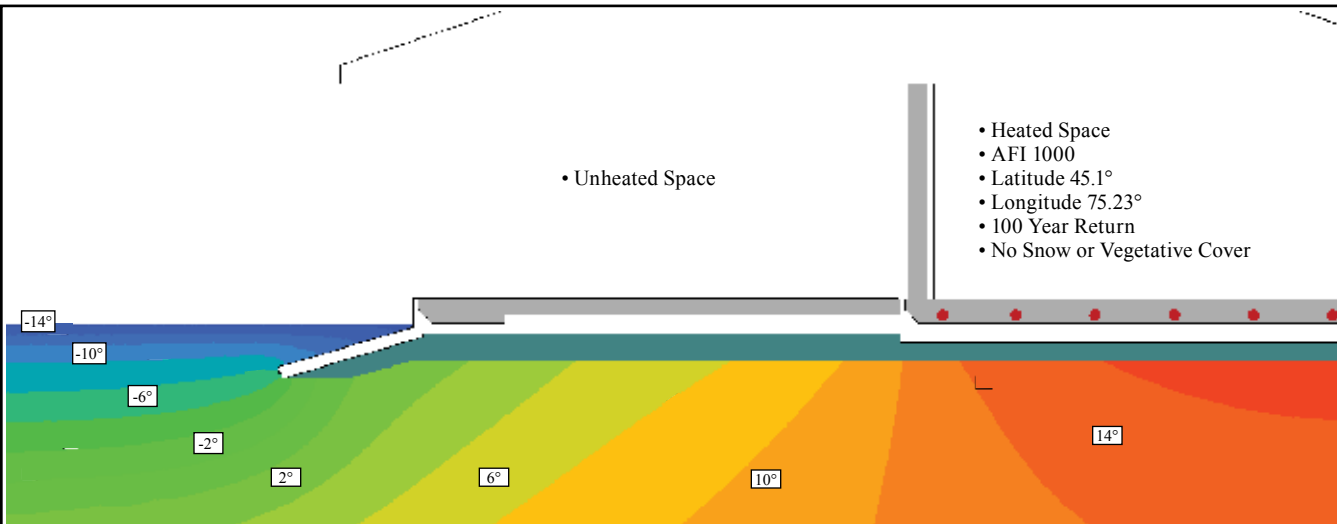


LEGALETT



DESIGN PARAMETERS

Latitude:	45.1°
Longitude:	75.23°
Building location:	Chesterville, ON
Building location elevation:	75.6 m. / 248 ft.
Nearest weather station:	Kemptville, ON
Nearest weather station elevation:	99.4 m. / 326 ft.
Nearest weather station average AFI in °C_Days:	1000
Design AFI:	1390
Design outdoor temperature:	-23° C / -9.4° F
Mean soil design temperature:	9° C / 48° F
Existing simulation ground temperature based on AFI:	8° C / 46° F
Building Area:	931 m² / 3,055 sq. ft.
Building perimeter:	95.7 m. / 314 ft.



THE TEAM

Developer/Owner: **Steven Simpson - Owner.**

Architect: **Tucker Architectural Design Co. / Chesterville, ON / (613) 774-5637**
 Builder:

Legalett installer: **Matt Donohue - Maple Ridge Media / Carp, ON / (877) 273-5536.**
 Legalett Service Representative: **Matt Donohue - Maple Ridge Media /Carp, ON / (877) 273-5536.**

BUILDING ISSUES

• It was apparent that the workshop was an ideal design for the conventional 8" slab. The unheated storage area attached to the rear of the heated shop was a unique design, but posed no problem for the Legalett engineers / designers.

We set out to show Steven Simpson that Legalett would provide the simplest heating / foundation system to be used with ICF walls. We provided the quotes and secured the contract to build the total package. This one project demonstrates the flexibility that is now available with the Legalett designs - we can handle almost any proposal / design!

Matt Donohue - (Maple Ridge Media)

WHY LEGALETT ?

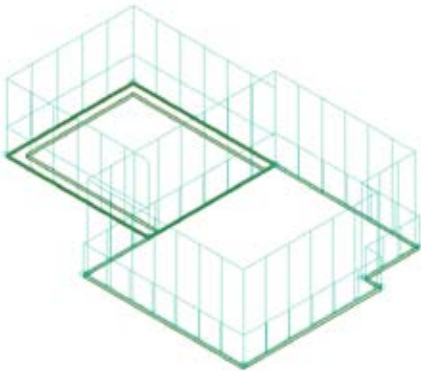
• "It is an 'awesome' system that my family and I have truly enjoyed from the first winter on through to this moment".

We chose to install the electric inserts and we are more than pleased with the small hydro bills. Maple Ridge did add the extra conduit lines so that we could revert to hot water inserts in the future if necessary.

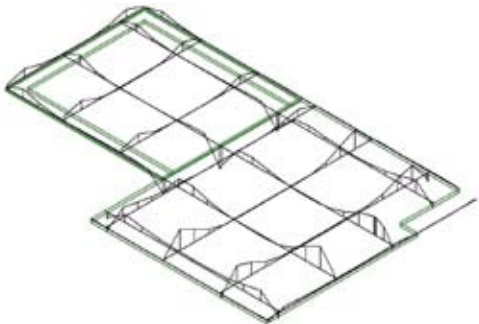
In retrospect, If we were making the decision today we would still chose Legalett but might be tempted to eliminate the basement and go with a slab-on-grade like Maple Ridge's own building.

Steven Simpson - (Owner)

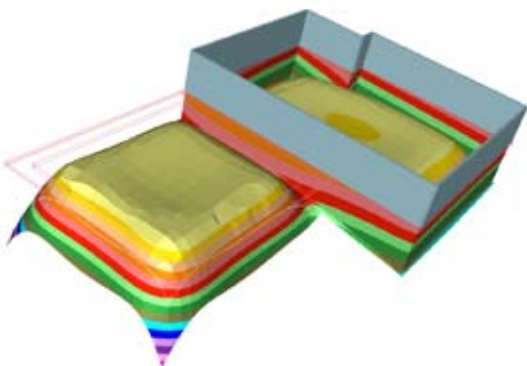
STRUCTURAL



Loads



Moment Diagram



Soil Bearing Pressure

ENERGY

LEGALETT CANADA INC.

Legalett Installer Heat Loss Calculation

Project #	6015	Service Rep.	Maple Ridge Media
Order Date	6/1/06	Installer	Maple Ridge Media
Dwg. Deliver Date	6/14/06	Location	Chesterville, ON
Matl. Delivery Date	6/21/06	Project Title	Simpson Shop

All values for calculations in this document are in imperial units, with the exception of the kW conversion at the end.

Nearest Location	Outdoor Design Temp. (1)	House Delta Temp. (2)	Soil Slab Delta Design Temp. (2)
North Bay	-26.0°C	30.0°F	2°C
Sault Ste. Marie	-26.0°C	34.6°F	9°C
Kingston	-22.0°C	79.2°F	10°C
Toronto	-15.0°C	72.9°F	10°C
Quebec	-19.0°C	73.8°F	9°C
Windsor, Falls	-15.0°C	68.4°F	10°C
Redwood	-20.0°C	68.4°F	9°C
Montreal	-23.0°C	81.0°F	9°C

Enter R-values for building materials

Wall	28 R (3)
Flat Ceiling	40 R (4)
Cathedral Ceiling	32 R (5)
Window	4 R (6)
Solid Door	10 R (7)

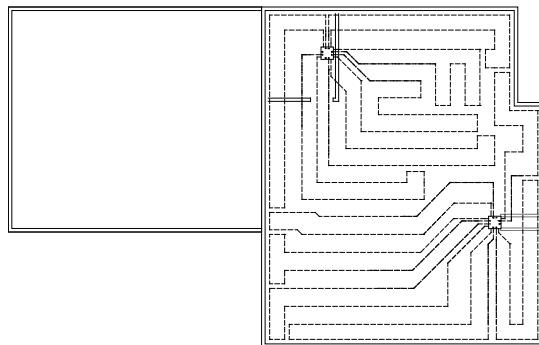
Slab Perimeter (total outside measurement of edge element)	172 ft. (8)
Slab Area (total area of heated slab, including edge element)	1,901 sq. ft. (9)
Flat Ceiling Area	1,153 sq. ft. (10)
Cathedral Ceiling Area	763 sq. ft. (11)
Window Area from Window Worksheet on Page 2	22 sq. ft. (12)
Door Area from Door Worksheet on Page 2	284 sq. ft. (13)

Heat Loss

LEGALETT 4000 series Design Parameters PAGE 1 of 2

Project #	6013	Name	Shop
Location	Chesterville, ON		
Building size	1,047	square feet	
Building size	97	square meters	
Building perimeter	89	feet	
Building perimeter	27	meters	
Indoor design temperature	22	Degrees Celsius (normally 22 C)	
Outdoor design temperature	-23	Degrees Celsius	
Mean Soil Temperature	9	Degrees Celsius	
Average Air Freeze Index		Degree Days-Celsius	
Mean Annual Temperature		Degree Celsius	
Heat Load	9.6	Btu per hour per square foot	
Heat Load	30.26	Watts per square meter	
Design Heat Density	10	Btu per hour per square foot	
Design Heat Density	31.53	Watts per square meter	
Slab on Grade	<input checked="" type="radio"/>	tile vinyl linoleum laminate	<input checked="" type="radio"/>
Upper Floor	<input checked="" type="radio"/>	hardwood, 1/2" carpet&pad	<input type="radio"/>
Basement	<input type="radio"/>	1" carpet& pad, wool carpet&pad	<input type="radio"/>
pipe system	<input type="radio"/> 50 mm	<input checked="" type="radio"/> 100 mm	
Heater coverage	158.00	m ² (standard coverage 158 m ²)	
Volume flow rate per heater	1099	m ³ /hour	<input checked="" type="radio"/> electric coil <input type="radio"/> water coil
Design Loop Length	16.5	m	<input checked="" type="radio"/> 23.3 m

Piping Density



Heater and Pipe Layout