

## Abbreviated Report Form Heating Energy Analysis Comparison Report

<b>Builder's Name:</b> <b>Project Address:</b> <b>City/Township/County:</b>
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PROPOSED ALTERNATIVE HOUSE	STANDARD DESIGN HOUSE
ROOF/CEILING (INC. SKYLIGHTS)	ROOF/CEILING (INC. SKYLIGHTS)
SUBTOTALS	SUBTOTALS
$A_1 \text{ _____ } / R_1 \text{ _____ } = A_1 / R_1 \text{ _____}$ $A_2 \text{ _____ } / R_2 \text{ _____ } = A_2 / R_2 \text{ _____}$ $A_3 \text{ _____ } / R_3 \text{ _____ } = A_3 / R_3 \text{ _____}$ $A_1 / R_1 + A_2 / R_2 + A_3 / R_3 =$ Total Roof/Ceiling Area _____ <span style="float: right;">Line 1</span>	$Z_1 0.034$ $Z_2 0.032 =$ $Z_3 0.030$ Total Roof/Ceiling Area _____ x _____ = _____ <span style="float: right;">Line A</span>
GROSS WALL	GROSS WALL
Opaque Wall (Does not include band joist, windows, doors, etc.) $A_1 \text{ _____ } / R_1 \text{ _____ } = A_1 / R_1 \text{ _____}$ $A_2 \text{ _____ } / R_2 \text{ _____ } = A_2 / R_2 \text{ _____}$ $A_1 / R_1 + A_2 / R_2 =$ _____ <span style="float: right;">Line 2</span>	
Band Joist $A \text{ _____ } / R \text{ _____ } = A / R \text{ _____ } =$ _____ <span style="float: right;">Line 3</span>	
Fenestration and Doors, Windows $A_1 \text{ _____ } / R_1 \text{ _____ } = A_1 / R_1 \text{ _____}$ $A_2 \text{ _____ } / R_2 \text{ _____ } = A_2 / R_2 \text{ _____}$ $A_3 \text{ _____ } / R_3 \text{ _____ } = A_3 / R_3 \text{ _____}$ $A_1 / R_1 + A_2 / R_2 + A_3 / R_3 =$ _____ <span style="float: right;">Line 4</span>	
Doors $A_1 \text{ _____ } / R_1 \text{ _____ } = A_1 / R_1 \text{ _____}$ $A_2 \text{ _____ } / R_2 \text{ _____ } = A_2 / R_2 \text{ _____}$ $A_1 / R_1 + A_2 / R_2 =$ _____ <span style="float: right;">Line 5</span>	
Other $A \text{ _____ } / R \text{ _____ } = A / R \text{ _____ } =$ _____ Total Gross Wall Area _____ <span style="float: right;">Line 6</span>	
GROSS WALL SUBTOTAL A/R (Lines: 2+3+4+5+6) _____ <span style="float: right;">Line 7</span>	
Total Gross Wall Area _____ x _____ = _____ <span style="float: right;">Line B</span>	$Z_1 0.15$ $Z_2 0.14 =$ $Z_3 0.13$

FOUNDATION/FLOOR	SUBTOTALS
Floors Over Unconditioned Spaces  A _____ /R _____ = A/R _____ =	_____ Line 8
Slab on Grade Floors (Area = Perimeter x 2')  A _____ /R _____ = A/R _____ =	_____ Line 9
Crawl Space Walls (Area: Top foundation wall to average finished grade)  A _____ /R _____ = A/R _____ =	_____ Line 10
Basement Walls (Area: Top foundation wall to average finished grade)  A <sub>1</sub> _____ /R <sub>1</sub> _____ = A <sub>1</sub> /R <sub>1</sub> _____ A <sub>2</sub> _____ /R <sub>2</sub> _____ = A <sub>2</sub> /R <sub>2</sub> _____ A <sub>1</sub> /R <sub>1</sub> + A <sub>2</sub> /R <sub>2</sub> =	_____ Line 11
Basement Windows  A _____ /R _____ = A/R _____ =	_____ Line 12
Total Gross Basement Wall Area	
FOUNDATION/FLOOR SUBTOTAL A/R (Lines: 8+9+10+11+12)	_____ Line 13
PROPOSED ALTERNATIVE HOUSE SUB-TOTAL A/R (Lines: 1+7+13)	_____ Line 14
HEATING EQUIPMENT EFFICIENCY (If the same as Standard House, go to line 16 or 17)  (Oil or Gas Fired) AFUE: _____%	
Line 14: _____ = Adjusted A/R = AFUE: 0._____	_____ Line 15
AIR LEAKAGE RATE (If the same as Standard House, go to line 17)  _____ ACH x _____ ft <sup>3</sup> x 0.018 = Air Changes per Hour Volume of House	_____ Line 16
PROPOSED ALTERNATIVE HOUSE TOTAL (Lines: 15+16)	
Equal to or less than line L to pass	_____ Line 17

FOUNDATION/FLOOR	SUBTOTALS
Floors Over Unconditioned Spaces  _____ x Z <sub>1</sub> 0.05 Z <sub>2</sub> 0.05 = Total Floor Area Z <sub>3</sub> 0.033	_____ Line C
Slab on Grade (Unheated)  _____ x Z <sub>1</sub> 0.16 Z <sub>2</sub> 0.14 = Total Slab Edge Area Z <sub>3</sub> 0.13	_____ Line D
Slab on Grade (Heated)  _____ x Z <sub>1</sub> 0.12 Z <sub>2</sub> 0.10 = Total Slab Edge Area Z <sub>3</sub> 0.10	_____ Line E
Crawl Space  _____ x Z <sub>1</sub> 0.15 Z <sub>2</sub> 0.14 = Total Crawl Space Wall Area Z <sub>3</sub> 0.13	_____ Line F
Basement Walls  _____ x Z <sub>1</sub> 0.15 Z <sub>2</sub> 0.14 = Total Gross Basement Wall Area Z <sub>3</sub> 0.13	_____ Line G
FOUNDATION/FLOOR SUBTOTAL A/R (Lines: C+D+E+F+G)	_____ Line H
STANDARD DESIGN HOUSE SUB-TOTAL A/R (Lines: A+B+H)	_____ Line I
HEATING EQUIPMENT EFFICIENCY  (Oil or Gas Fired) AFUE: 78%	
Line I: _____ = Adjusted A/R = AFUE: 0.78	_____ Line J
AIR LEAKAGE RATE  0.8 ACH x _____ ft <sup>3</sup> x 0.018 = Volume of House	_____ Line K
STANDARD DESIGN LIMIT TOTAL (Lines: J+K)	
	_____ Line L



FOUNDATION/FLOOR	SUBTOTALS
Floors Over Unconditioned Spaces A _____ /R _____ = A/R _____ =	<u>0</u> Line 8
Slab on Grade Floors (Area = Perimeter x 2') A _____ /R _____ = A/R _____ =	<u>0</u> Line 9
Crawl Space Walls (Area: Top foundation wall to average finished grade) A _____ /R _____ = A/R _____ =	<u>0</u> Line 10
Basement Walls (Area: Top foundation wall to average finished grade) A <sub>1</sub> <u>1248</u> /R <sub>1</sub> <u>11</u> = A <sub>1</sub> /R <sub>1</sub> <u>113.45</u> A <sub>2</sub> _____ /R <sub>2</sub> _____ = A <sub>2</sub> /R <sub>2</sub> _____ A <sub>1</sub> /R <sub>1</sub> + A <sub>2</sub> /R <sub>2</sub> = <u>113.45</u>	<u>113.45</u> Line 11
Basement Windows A _____ /R _____ = A/R _____ =	<u>0</u> Line 12
Total Gross Basement Wall Area	
FOUNDATION/FLOOR SUBTOTAL A/R (Lines: 8+9+10+11+12)	<u>113.45</u> Line 13
PROPOSED ALTERNATIVE HOUSE SUB-TOTAL A/R (Lines: 1+7+13)	<u>434.85</u> Line 14
HEATING EQUIPMENT EFFICIENCY (If the same as Standard House, go to line 16 or 17) (Oil or Gas Fired) AFUE: <u>94</u> % Line 14: <u>434.85</u> Adjusted A/R = AFUE: <u>0.94</u>	<u>462.6</u> Line 15
AIR LEAKAGE RATE (If the same as Standard House, go to line 17) <u>.55</u> ACH x <u>27,500</u> ft <sup>3</sup> x 0.018 = Air Changes per Hour Volume of House	<u>272.25</u> Line 16
PROPOSED ALTERNATIVE HOUSE TOTAL (Lines: 15+16)	<u>734.85</u> Line 17
* Equal to or less than line L to pass	

FOUNDATION/FLOOR	SUBTOTALS
Floors Over Unconditioned Spaces _____ x Z <sub>1</sub> 0.05 Total Floor Area Z <sub>2</sub> 0.05 = Z <sub>3</sub> 0.033	<u>0</u> Line C
Slab on Grade (Unheated) _____ x Z <sub>1</sub> 0.16 Total Slab Edge Area Z <sub>2</sub> 0.14 = Z <sub>3</sub> 0.13	<u>0</u> Line D
Slab on Grade (Heated) _____ x Z <sub>1</sub> 0.12 Total Slab Edge Area Z <sub>2</sub> 0.10 = Z <sub>3</sub> 0.10	<u>0</u> Line E
Crawl Space _____ x Z <sub>1</sub> 0.15 Total Crawl Space Wall Area Z <sub>2</sub> 0.14 = Z <sub>3</sub> 0.13	<u>0</u> Line F
Basement Walls _____ x Z <sub>1</sub> 0.15 Total Gross Basement Wall Area Z <sub>2</sub> 0.14 = Z <sub>3</sub> 0.13	<u>187.2</u> Line G
FOUNDATION/FLOOR SUBTOTAL A/R (Lines: C+D+E+F+G)	<u>187.2</u> Line H
STANDARD DESIGN HOUSE SUB-TOTAL A/R (Lines: A+B+H)	<u>593.1</u> Line I
HEATING EQUIPMENT EFFICIENCY (Oil or Gas Fired) AFUE: 78% Line I: <u>593.1</u> = Adjusted A/R = AFUE: 0.78	<u>760.38</u> Line J
AIR LEAKAGE RATE 0.8 ACH x <u>27,500</u> ft <sup>3</sup> x 0.018 = Volume of House	<u>396</u> Line K
STANDARD DESIGN LIMIT TOTAL (Lines: J+K)	<u>1156.38</u> Line L