

# 9<sup>th</sup> Edition Stretch Code Modeling Analysis

2200 sq. ft. 3 BR Single Family Natural Gas Heat  
Worcester, MA



## 2015 BASE CODE Three Compliance Options

### HERS Index (ERI)

Base	62
------	----

Energy Rating Index (HERS)

PASS

Cost Alternative

PASS

REScheck – UA Alternative

PASS



Natural Gas Heat ERI compliance requires a HERS Index of 55 and a Certified HERS Rating

## 2015 STRETCH CODE HERS (ERI) Compliance Option

### HERS Index (ERI)

Stretch	55
---------	----

Energy Rating Index (HERS)

PASS

### Changes to meet STRETCH CODE

Changes to meet STRETCH CODE		Cost or (Savings)
Builder Costs	Estimated cost of adjustments + HERS Rater fee	\$2,017
	Utility rebates <sup>1</sup>	(\$2,050)
	Cost compared to BASE CODE	(\$33)
Homebuyer Costs	Estimated energy cost change per year <sup>2</sup>	(\$165)
	Change to downpayment <sup>3</sup>	(\$33)
	Change to annual mortgage payment <sup>3</sup>	\$0
	Year 1 cash flow	(\$198)
	Year 2+ cash flow	(\$165)

1 - Incentives revised annually around July 1

2 - Energy costs are based on 21 cents/kWh / \$1.01/therm, savings are compared with BASE CODE home

3 - 30 Year Mortgage assumes 10% downpayment at 4% APR

March 2016

# 9<sup>th</sup> Edition Stretch Code Modeling Analysis

2200 sq. ft. 3 BR Single Family Natural Gas Heat  
Worcester, MA

## BASELINE FEATURES

FOUNDATION	<i>Unconditioned, uninsulated basement</i>
FLOOR	<i>R30 fiberglass Grade 1</i>
WALLS	<i>R21 fiberglass Grade 1</i>
WINDOWS (U-VALUE/SHGC)	<i>0.30/0.30</i>
CEILING – FLAT	<i>R-19 + R-30 fiberglass cross</i>
CEILING – SLOPED	<i>R-30 fiberglass Grade 1</i>
HEATING	<i>92% Furnace x1</i>
COOLING	<i>13 SEER x1</i>
DHW	<i>0.62 EF 40 gallon tank</i>
DUCT LEAKAGE TO OUTSIDE	<i>4%</i>
AIR INFILTRATION	<i>3.0 ACH50</i>
HIGH EFFICACY LIGHTING	<i>75%</i>

## 2015 STRETCH CODE HERS (ERI)

HERS Index (ERI)		Adjusted Features	Construction Cost/(savings)
Base	62		
Stretch	55	HERS Rating	\$1,350
		Floor R30 Grade 2	(\$64)
		95% Furnace x1	\$639
		0.95 Tankless DHW	\$92
		100% LED lighting	\$0
		Total Cost	\$2,017

Incentive Breakdown	Incentive
MassSave RNC Program Tier I	\$750
MassSave RNC Program LED light bulbs <sup>4</sup>	\$200
Furnace ≥95% AFUE rating equipped with ECM	\$300
On-Demand, Tankless Water Heater with an Energy Factor ≥0.94 and electronic ignition	\$800
Total Incentive	\$2,050
Total Cost compared to BASE CODE	<u>(\$33)</u>