

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

770 s.f. 1 BR Multifamily Unit Natural Gas Heat, Middle Fl. 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 max. 55 and a Certified HERS Rating

## 2015 STRETCH CODE HERS (ERI) Compliance Option

### HERS Index (ERI)

Stretch	53
---------	----

Energy Rating Index (HERS)

PASS

### Changes to meet STRETCH CODE

Changes to meet STRETCH CODE		Cost or (Savings)
<b>Builder Costs</b>	Estimated cost of adjustments + HERS Rater fee	\$228
	Utility rebates <sup>1</sup>	(\$1,250)
	Cost compared to BASE CODE	(\$1,022)
<b>Homebuyer Costs</b>	Estimated energy cost change per year <sup>2</sup>	(\$76)
	Change to downpayment <sup>3</sup>	(\$102)
	Change to annual mortgage payment <sup>3</sup>	(\$53)
	Year 1 cash flow	(\$230)
	Year 2+ cash flow	(\$129)

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

770 s.f. 1 BR Multifamily Unit Natural Gas Heat, Middle Floor  
Worcester, MA

## BASELINE FEATURES

FOUNDATION	<i>N/A - Middle Unit</i>
Slab perimeter/Under Slab	<i>N/A - Middle Unit</i>
WALLS	<i>R21 fiberglass Grade 2</i>
WINDOWS (U-VALUE/SHGC)	<i>0.30/0.30</i>
CEILING – FLAT	<i>N/A - Middle Unit</i>
HEATING	<i>92% Furnace x1</i>
COOLING	<i>13 SEER x1</i>
DHW	<i>0.62 EF 50 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	53	HERS Rating	\$500
		0.82 Tankless DHW	(\$272)
		100% LED lighting	\$0
		Total Cost	\$228

Incentive Breakdown	Incentive
MassSave RNC Program Tier I	\$650
MassSave RNC Program LED light bulbs <sup>4</sup>	\$100
On-Demand, Tankless Water Heater with an Energy Factor $\geq 0.82$ and electronic ignition	\$500
<b>Total Incentive</b>	<b>\$1,250</b>
<b>Total Cost compared to BASE CODE</b>	<b>(\$1,022)</b>