

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

2000 sq.ft. 3 BR Family Townhome with Oil Heat  
Worcester, MA



HERS Index	
Target	55
Example Base	58
Example Stretch	49

## Incremental Costs and Benefits to Meet Stretch Code 0.04% of Total Construction Cost<sup>4</sup>

		COSTS	BENEFITS	NET	
BUILDER	Adjustments + HERS Rater Fee		Utility Rebates <sup>1</sup>	Cost Compared to Base Code	
		-\$2,097	+\$1,935		
HOMEBUYER	Change to Downpayment <sup>3</sup>	Change to Annual Mortgage Payment <sup>3</sup>	Estimated Reduced Energy Cost per Year <sup>2</sup>	Year 1 Cash Flow	Year 2+ Cash Flow
	-\$17	-\$13	+\$653	+\$624	+\$640

1 – Incentives are determined using the Pay For Savings calculator. Savings compared to MA reference home.

PFS Incentive = \$0.50 \* kWh savings + \$50 \* MMBtu savings + \$4000 \* 0.xx percent savings (single family home)

2 – Energy costs are based on \$0.25/kWh, \$1.21/therm, \$2.90/gal propane, \$2.88/gal oil. Savings are compared with Base Code home.

3 – 30-year mortgage assumes 10% down payment at 4% APR.

4 – NAHB New Contractor Built Median Cost Per Square Foot in North East US (2017) \$161.53



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## Breakdown of Incremental Construction Costs to Meet Stretch Code

FEATURE	Base Code	Stretch Code	Construction Cost
HERS RATING	58	49	\$500
WINDOWS (U-VALUE/SHGC)	.30/.30	.27/.30	\$500
COOLING	13 SEER	15 SEER	\$392
DHW	0.95 EF Tank Electric	3.75 UEF Heat Pump DHW	\$705
DUCT LEAKAGE TO OUTSIDE	4 CFM25 / 100 CFA	No change required	\$0
HEATING	96% Oil Furnace	No change required	\$0
FOUNDATION	Unconditioned, uninsulated basement	No change required	\$0
FLOOR	R38 fiberglass Grade 1	No change required	\$0
WALLS	R21 fiberglass Grade 1	No change required	\$0
HIGH EFFICACY LIGHTING	100% LED	No change required	\$0
CEILING – FLAT	R-50 blown in cellulose	No change required	\$0
DUCT INSULATION	R-8	No change required	\$0
<b>TOTAL</b>			<b>\$2,097</b>

