

High-Efficiency Homes Command a **22.7% Price Per Square Foot** Premium Compared to Code-Built Homes in Boston.

CASE STUDY // 152-158 Highland Street, Boston, MA

The E+ Solutions LLC Highland St. project was an ideal opportunity to run a market comparison between two new construction home projects: one focused on the latest advancements high-performance building science versus a new construction project built to code. Two projects located within a quarter of a mile from each other were under construction at the same time. The E+ Solutions Highland St. project is four-units of LEED platinum certified housing developed with cutting-edge building science putting these four homes at the leading edge of sustainable, high-performance home technology. Nearby is the Marcella St. project, a seven-unit development built to fulfill the rigorous Massachusetts Stretch Code, a code voluntarily adopted by over 200 of the commonwealth's 351 communities and exceeds the state building code. Would a high-performance project built significantly above code like the E+ Solutions project be able to command a price premium versus new construction that meets the most rigorous building code in the country? Would buyers, agents, bank appraisers and underwriters recognize the value of a high-performance development over a built-to-code project in the same neighborhood?

The Market

The E+ Solutions project was on the market during the fall of 2017 and all four units sold by early 2018. At the same time, the Marcella St development was directly competing for buyers in the Boston real estate market. Demand for homes in the area had been robust but had unexpectedly slowed by fall 2017. Many real estate professionals believed that the slowdown was due to the buyer fatigue of multiple competing offers in very active spring 2017 market. As of the writing of this analysis (March 2018), only two of the seven Marcella St. units have been sold and the project does not currently have any active listings in the local multiple listing service (MLS).



E+ Solutions Highland St. Project



Code Built Marcella St. Project

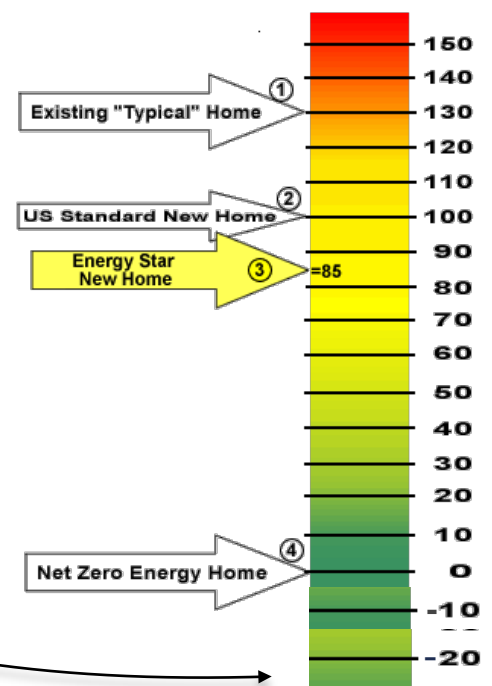
Project Description E+ Solutions Condominiums:

E+ Solutions LLC Highland St. Project presents an opportunity for homeowners to enter 21st century living in a highly sustainable, ultra energy efficient, urban infill home that is healthy, handsome, and convenient. Located in the sought-after Fort Hill neighborhood of Roxbury, the project consists of two duplex homes with two condominiums in each building for a total of four units designed as a traditional Georgian Colonial and its companion Carriage House.

These new homes provide superior comfort and indoor air quality, energy efficiency, and modern living near work, play, recreation, and community. The homes include:

- Super-insulated building enclosure
- Advanced mechanicals for heating, cooling, and domestic hot water
- Energy positive - beyond zero energy, these homes produce more energy than they use
- Energy tracking and Smart-Home options
- Durable & healthy - energy recovery ventilation delivering superior indoor air quality
- Water conservation
- LEED Platinum and Energy Star approved
- Urban infill project near public transportation

In short, these homes are at the leading edge of sustainable development in the United States. The final HERS Index Scores for the homes are, literally, off the charts. The four condos had HERS scores ranging from -14 to -22.



What does High Performance Mean to Homebuyers?

What does high performance mean for homebuyers and do they value it? Buildings are changing; advancements in the science of building performance over the last decade give homebuilders the opportunity to create homes that are healthier to live, more durable and resilient to harsh weather, more comfortable to live in, little to no operating costs, and the resource efficiency of the homes lowers their environmental impact substantially. Are these benefits something that homebuyers are willing to pay more for? Will a bank appraiser and underwriter be supportive of a value premium for this type of product?

What is a Paired Sales Analysis?

A paired sales analysis is “an appraisal technique used to find the value of one particular attribute. The appraiser finds two sales where the only difference is the attribute being appraised; the difference in value is considered to be the value of the attribute.” In the paired sales analysis for the for the two new construction projects we have stacked the properties in columns and highlighted the distinctive attributes in red.

Property Address	152 Highland St	154 Highland St	27 Marcella St Unit 6	27 Marcella St Unit 5
MLS #	72206125	72197066	72192892	72172206
Status	Sold	Sold	Sold	Sold
List Price	\$649,000 (without solar)	\$695,000 (with solar)	\$629,000	\$649,000
List \$ psf	\$450.38	\$470	\$379.37	\$379.53
Sales Price	\$655,000	\$680,000	\$627,500	\$626,000
Sales \$ psf	\$454.55	\$459	\$378.47	\$366.08
Off Market Date	1/4/18	8/13/17	12/17/17	10/19/17
Sales Date	2/16/18	11/3/17	1/29/18	2/1/18
Days On Market	104	18	115	53
Style	4 unit new construction combining superior building science and architectural integrity, rear building designed to reflect other carriage house style units in neighborhood, Front building 2 units duplex, Georgian Colonial	4 unit new construction combining superior building science and architectural integrity, rear building designed to reflect other carriage house style units in neighborhood, Front building 2 units duplex, Georgian Colonial	7 NEW CONSTRUCTION high quality Townhomes w/an average 1,650 sf.Homes feature 3 BR's & 2 ½ BA's; + crtyrd level garages of 300 SF.Other features include: open, LR/DR/Kit: on 1st fl w/ a ½ BA; 2 BR's & full BA on 2nd fl & on 3rd fl a spectacular Garret Style Mstr BR Ste, sky-lit w/ en-suite BA..Also in-unit laundry, state-of-the-art BldgTechnology & Security	7 NEW CONSTRUCTION high quality Townhomes w/an average 1,650 sf.Homes feature 3 BR's & 2 ½ BA's; + crtyrd level garages of 300 SF.Other features include: open, LR/DR/Kit: on 1st fl w/ a ½ BA; 2 BR's & full BA on 2nd fl & on 3rd fl a spectacular Garret Style Mstr BR Ste, sky-lit w/ en-suite BA..Also in-unit laundry, state-of-the-art BldgTechnology & Security
Bedrooms	3	3	3	3
Full Baths	2	2	2	2
Half Baths	1	1	1	1
Total Rooms	6	6	6	6
Square Feet	1441	1480	1658	1710
Lot	4489	4489	8877	8877
Year Built	2017	2017	2017	2017
Fireplaces	0	0	0	0
Heating	ASHP	ASHP	Forced Air, Heat Pump, Gas	Forced Air, Heat Pump, Gas
Cooling	ASHP	ASHP	Central Air	Central Air
Garage Spaces	0	0	1	1
Parking Spaces	1 off street deeded	1 off-street deeded	1	1
EV Parking Spaces	EV ready	EV ready	none indicated	none indicated
Basement Desc	Basement storage	Basement storage	No	No
Int Features	"new construction combining superior craftsmanship with architectural integrity and sustainability (net-zero energy home). Open floor plan, natural light 3br 2.5 bath excellent finishes. What does a high-performance home and the best building science has to offer mean to you? More comfort, significantly lower operating costs, better indoor air quality and a lower environmental footprint"	"new construction combining superior craftsmanship with architectural integrity and sustainability (net-zero energy home). Open floor plan, natural light 3br 2.5 bath excellent finishes. What does a high-performance home and the best building science has to offer mean to you? More comfort, significantly lower operating costs, better indoor air quality and a lower environmental footprint"	"Jeld Wen wood windows /doors, sealed combustion Heat & Hot water systm w/greater than 95% efficient; to Environment Controls incl circulating instant hot water, constant air changes & Smart Home devices"	"Jeld Wen wood windows /doors, sealed combustion Heat & Hot water systm w/greater than 95% efficient; to Environment Controls incl circulating instant hot water, constant air changes & Smart Home devices"

Ext Features	"Here's your chance to buy into historic and trendy Fort Hill. 4 unit new construction combining superior craftsmanship with architectural integrity and sustainability (net-zero energy home)." Ext patio. Deeded parking	"Here's your chance to buy into historic and trendy Fort Hill. 4 unit new construction combining superior craftsmanship with architectural integrity and sustainability (net-zero energy home)." Ext patio. Deeded parking		
Green Certification	LEED Platinum, Energy Star	LEED Platinum, Energy Star	Outdoor decks None	Outdoor decks None
HERS Index Score	-20	-20	55, Unit 1 is listed on RESNET National registry (code built home)	55, Unit 1 is listed on RESNET National registry (code built home)
DOE HES	N/A	N/A	N/A	N/A
Solar PV (size, age and ownership)	9.2 kW with OPTION to buy; purchaser decided not to purchase the solar PV which was valued at an additional \$39K of value	9.2 kW with OPTION to buy; purchaser decided to purchase the solar PV which was valued at an additional \$39K of value	None	None
Walkscore	68 Walk, 88 Transit (excellent), 77 Bike	68 Walk, 88 Transit (excellent), 77 Bike	80 Walk, 79 Excellent Transit, 78 Bike	80 Walk, 79 Excellent Transit, 78 Bike
Sewer & Water	Public	Public	Public	Public
Condo fee	\$315	\$340	\$271	\$279
Assessed Value	\$44,900 (land only)	\$44,900 (land only)	\$470,366 "Currently taxed as multi and land"	\$470,366 "Currently taxed as multi and land"
Taxes	\$493.90	\$493.90	\$2,548	\$2,548
Tax Year	2016	2016	2017	2017
Notes	multiple offers			

DISCLAIMER

The paired sales analysis has not been modified for square footage differences and solar system adjustments as would happen in a formal residential appraisal.

What Were the Conclusions from the Paired Sales Analysis?

Two new construction projects in the same geographic location offers an excellent opportunity to evaluate whether there is a price premium for high-performance homes, and, if so, what the premium looks like in a conditioned setting. The projects were similar in size and geographic location and were delivered to the market at the same time. We can infer then, that the high-performance features of the Highland St. development represented a clear value difference.

The Marcella St. units offered the advantage of garage parking for one car each while the Highland St. development offered only off-street driveway parking for one care per unit. It is worth noting that one of the four buyers of the Highland project choose the option of installing an electric vehicle parking spot. Garage parking, however, is considered a significant feature given Boston's snowy winters.

The focus on high performance was the primary differentiator between the two projects. As noted in the paired sales analysis, the E+ Solutions homes have a LEED Platinum certification, the highest level of green home certification offered by the U.S. Green Building Council (USGBC). The HERS Index Scores, an energy rating that predicts a home's energy performance, was another key differentiator between the two projects. The Marcella St units had a HERS score of 55, which is the minimum HERS score needed for compliance to the Massachusetts Stretch Code. The E+ Solutions homes, however, offered an off-the-charts HERS Index Score of -20 for both units – these homes are built with the highest levels of applied building science. Buyers of the E+ Solutions homes also had the option to buy a proportional interest in the solar photovoltaic (PV) system that was installed on the rooftops of the two Highland St. buildings.

As seen in the paired sales analysis, there was a significant price premium for the Highland St. E+ Solutions homes. The average of the two sales prices for **the E+ Solutions homes had a 22.7% price per square foot premium** over the average of the Marcella St. condominiums. It is critical, however, that the extraordinary value of these types of homes be conveyed appropriately to buyers, their agents *and* to lenders. This requires a marketing and valuation strategy by an agent that is knowledgeable and competent about high-performance homes and a qualified appraiser armed with complete and accurate information about the project.

One recent high-performance home valuation study, *What is Green Worth? Unveiling High-Performance Home Premiums in Washington, D.C.*, identified current barriers in the real estate transaction process that may be preventing home sellers from receiving the full market value of their high-performance homes. One of the barriers cited was “the market is in need of real estate professionals with knowledge of green building principles and practices in order to better market high-performance homes.”

For more information about the E+ Homes at Highland Street go to <https://eplushomes.com/>



ABOUT THE AUTHOR:

Craig Foley is the founder of Sustainable Real Estate Consulting Services, a LEED Green Associate and chief of energy solutions for RE/MAX Leading Edge. Craig's combination of real estate and energy management skills give him a unique perspective about sustainable energy solutions and subject matter expertise on greening the MLS and high-performance home valuation and marketing. As a real estate broker, he has sold several high-performance projects in and around Greater Boston with RE/MAX Leading Edge.

As a real estate consultant, he has partnered with a broad range of companies including Lawrence Berkeley National Laboratories, Northeast Energy Efficiency Partnerships, Elevate Energy, and the Massachusetts Clean Energy Center. Craig was one of five people in the U.S. to receive the EverGreen Award by the National Association of Realtors (NAR) in 2013. He also serves as an advisory board member for the NAR Green Resource Council and is a certified instructor of the NAR Green Designation. His committee work at NAR includes the newly formed Sustainability Advisory Group.