

HERS INDEX, ENERGY USE AND SOURCE SUMMARY

COMPONENT LOAD SUMMARY

Date:	May 24, 2011	Rating No.:	N/A
Building Name:	End	Rating Org.:	MaGrann Associates
Owner's Name:	Interface Studio Architects	Phone No.:	
Property:		Rater's Name:	
Address:	Boston, MA	Rater's No.:	
Builder's Name:			
Weather Site:	Boston, MA	Rating Type:	Based On Plans
File Name:	Boston_End_5-24-11.blg	Rating Date:	

	End
HEATING SEASON (MMBtu/yr)	
Ceilings/Roofs	1.3
Rim/Band Joists	0.3
Above Grade Walls	5.3
Foundation Walls	3.2
Doors	1.4
Windows/Skylights	3.6
Frame Floors	0.4
Crawl Space/Unht Bsmt	0.0
Slab Floors	0.6
Infiltration	3.9
Mechanical Ventilation	2.6
Ducts	0.0
Active Solar	-0.0
Sunspace	0.0
Internal Gains	-10.8
Total	11.9

COOLING SEASON (MMBtu/yr)	
Ceilings/Roofs	0.1
Rim/Band Joists	-0.0
Above Grade Walls	-0.1
Foundation Walls	-0.3
Doors	-0.1
Windows/Skylights	4.6
Frame Floors	-0.0
Crawl Space/Unht Bsmt	0.0
Slab Floors	-0.2
Infiltration	-0.3
Mechanical Ventilation	-0.1
Ducts	0.0
Active Solar	0.0
Sunspace	0.0
Internal Gains	11.0
Whole House Ventilation	-9.6
Total	5.0

REM/Rate - Residential Energy Analysis and Rating Software v12.93

This information does not constitute any warranty of energy cost or savings.
 © 1985-2011 Architectural Energy Corporation, Boulder, Colorado.

HERS INDEX, ENERGY USE AND SOURCE SUMMARY

FUEL SUMMARY

Date:	May 24, 2011	Rating No.:	N/A
Building Name:	End	Rating Org.:	MaGrann Associates
Owner's Name:	Interface Studio Architects	Phone No.:	
Property:		Rater's Name:	
Address:	Boston, MA	Rater's No.:	
Builder's Name:			
Weather Site:	Boston, MA	Rating Type:	Based On Plans
File Name:	Boston_End_5-24-11.blg	Rating Date:	

End**Annual Energy Cost (\$/yr)**

Natural gas	\$	141
-------------	----	-----

Annual End-Use Cost (\$/yr)

Heating	\$	317
Cooling	\$	48
Water Heating	\$	26
Lights & Appliances	\$	818
Photovoltaics	\$	-1633
Service Charges	\$	120
Total	\$	-304

Annual End-Use Consumption

Heating (kWh)	1984
Cooling (kWh)	298
Water Heating (Therms)	20
Lights & Appliances (Therms)	89
Lights & Appliances (kWh)	4390
Photovoltaics (kWh)	-10203

Annual Energy Demands (kW)

Heating	2.9
Cooling	0.6
Water Heating (Winter Peak)	0.0
Water Heating (Summer Peak)	0.0
Lights & Appliances (Winter Peak)	0.4
Lights & Appliances (Summer Peak)	0.8
Total Winter Peak	3.3
Total Summer Peak	1.4

Utility Rates:

Electricity:	Default Electric Provider
Gas:	Default Gas Provider

REM/Rate - Residential Energy Analysis and Rating Software v12.93

This information does not constitute any warranty of energy cost or savings.
 © 1985-2011 Architectural Energy Corporation, Boulder, Colorado.
 E+ Green Building Demonstration Proposal

HERS INDEX, ENERGY USE AND SOURCE SUMMARY

ENERGY COST AND FEATURE REPORT

Date:	May 24, 2011	Rating No.:	N/A
Building Name:	End	Rating Org.:	MaGrann Associates
Owner's Name:	Interface Studio Architects	Phone No.:	
Property:		Rater's Name:	
Address:	Boston, MA	Rater's No.:	
Builder's Name:			
Weather Site:	Boston, MA	Rating Type:	Based On Plans
File Name:	Boston_End_5-24-11.blg	Rating Date:	

End**ANNUAL ENERGY COSTS**

Heating	\$	317
Cooling	\$	48
Water Heating	\$	26
Lights & Appliances	\$	818
Photovoltaics	\$	-1633
Service Charges	\$	120
Total	\$	-304
Average Monthly	\$	-25

ENERGY FEATURES

Ceiling w/Attic:	None
Vaulted Ceiling:	14" Cellulose + R-15* U=0.017
Above Grade Walls:	(2) 2x4 + 4" space U=0.024
Foundation Walls (Cond):	SC,R10 Rigid,R-11FSK*0 R=31.0
Found. Walls (Uncond):	None
Doors:	Therma-Tru, R4.5* U=0.184
Windows:	serious 1125 csmt U=0.130
Frame Floors:	R-52, 14" TJI, DPCE U=0.028
Slab Floors:	R15L,R30U,Full* U=0.018
Infiltration:	Htg: 1.00 Clg: 1.00 ACH50
Infilt. Measure:	Blower door test
Mechanical Ventilation:	Balanced: ERV, 101 cfm, 73.0 watts.
Interior Mass:	None
Mech Equip List:	ASHP: Htg: 37.5 kBtuh, 9.0 HSPF. Clg: 12.0 kBtuh, 19.0 SEER.
	Water Heating: Instant water heater, Gas, 1.12 EF.
Programmable Thermostat:	Heat=Yes; Cool=Yes
Ducts:	NA
Duct Leakage:	NA
Lights/Appliances:	Defaults
Active Solar:	DHW heating only
Photovoltaics:	7998 DC Watts
Sunspace:	No

REM/Rate - Residential Energy Analysis and Rating Software v12.93

This information does not constitute any warranty of energy cost or savings.
© 1985-2011 Architectural Energy Corporation, Boulder, Colorado.

HERS INDEX, ENERGY USE AND SOURCE SUMMARY

PERFORMANCE SUMMARY

Date:	May 24, 2011	Rating No.:	N/A
Building Name:	End	Rating Org.:	MaGrann Associates
Owner's Name:	Interface Studio Architects	Phone No.:	
Property:		Rater's Name:	
Address:	Boston, MA	Rater's No.:	
Builder's Name:			
Weather Site:	Boston, MA	Rating Type:	Based On Plans
File Name:	Boston_End_5-24-11.blg	Rating Date:	

End**Annual Load (MMBtu/yr)**

Heating	11.9
Cooling	5.0
Water Heating	2.2

Annual Consumption (MMBtu/yr)

Heating	6.8
Cooling	1.0
Water Heating	2.0
Lights & Appliances	23.9
Photovoltaics	-34.8
Total	-1.2

Annual Energy Cost (\$/yr)

Heating	\$	317
Cooling	\$	48
Water Heating	\$	26
Lights & Appliances	\$	818
Photovoltaics	\$	-1633
Service Charges	\$	120
Total	\$	-304

Design Loads (kBtu/hr)

Space Heating	11.0
Space Cooling	8.9

Utility Rates:

Electricity:	Default Electric Provider
Gas:	Default Gas Provider

HERS INDEX, ENERGY USE AND SOURCE SUMMARY

EMISSIONS REPORT

Date:	May 24, 2011	Rating No.:	N/A
Building Name:	End	Rating Org.:	MaGrann Associates
Owner's Name:	Interface Studio Architects	Phone No.:	
Property:		Rater's Name:	
Address:	Boston, MA	Rater's No.:	
Builder's Name:			
Weather Site:	Boston, MA	Rating Type:	Based On Plans
File Name:	Boston_End_5-24-11.blg	Rating Date:	

Total Emissions

Type of Emissions	Ena
Carbon Dioxide (CO ₂) - tons/year	-1.4
Sulfur Dioxide (SO ₂) - lbs/year	-12.4
Nitrogen Oxides (NO _x) - lbs/year	-2.3

Emissions By End-Use

Carbon Dioxide (CO ₂) - tons/year	Ena
Heating	1.1
Cooling	0.2
Water Heating	0.1
Lights & Appliances	3.1
Photovoltaics	-5.9
Sulfur Dioxide (SO₂) - lbs/year	
Heating	7.0
Cooling	1.0
Water Heating	0.0
Lights & Appliances	15.5
Photovoltaics	-35.9
Nitrogen Oxide (NO_x) - lbs/year	
Heating	2.2
Cooling	0.3
Water Heating	0.3
Lights & Appliances	6.2
Photovoltaics	-11.3

Site-to-source energy multipliers and air emission data were taken from the US EPA eGRID2007 database.

ENERGY STAR VERSION 2 HOME VERIFICATION SUMMARY

Date:	May 24, 2011	Rating No.:	N/A
Building Name:	End	Rating Org.:	MaGrann Associates
Owner's Name:	Interface Studio Architects	Phone No.:	
Property:		Rater's Name:	
Address:	Boston, MA	Rater's No.:	
Builder's Name:			
Weather Site:	Boston, MA	Rating Type:	Based On Plans
File Name:	Boston_End_5-24-11.blg	Rating Date:	

Building Information

Conditioned Area (sq ft):	2348	Housing Type:	Townhouse, end unit
Conditioned Volume (cubic ft):	20926	Foundation Type:	Conditioned basement
Insulated Shell Area (sq ft):	4092	HERS Index:	-10 *****+
Number of Bedrooms:	3		

Building Shell

Ceiling w/Attic:	None	Window/Wall Ratio:	0.19
Vaulted Ceiling:	14" Cellulose + R-15* U=0.017	Window Type:	serious 1125 csmt
Above Grade Walls:	(2) 2x4 + 4" space U=0.024	Window U-Value:	0.130
Found. Walls (Cond):	SC,R10 Rigid,R-11FSK*0 R=31.0	Window SHGC:	0.190
Found. Walls (Uncond):	None	Infiltration:	Htg: 1.00 Clg: 1.00 ACH50
Frame Floors:	R-52, 14" TJI, DPCE U=0.028	Measured Duct Leakage:	0.00 CFM25
Slab Floors:	R15L,R30U,Full* U=0.018	Leakage to Outside:	0.00 CFM

Mechanical Systems

ASHP: Htg: 37.5 kBtuh, 9.0 HSPF. Clg: 12.0 kBtuh, 19.0 SEER.
Water Heating: Instant water heater, Gas, 1.12 EF.
Programmable Thermostat: Heat=Yes; Cool=Yes

Note: Where feature level varies in home, the dominant value is shown.

This home MEETS OR EXCEEDS the EPA's requirements for an ENERGY STAR Home.