



# BUILT GREEN® Case Study

## Martha Rose Construction: Queen City Eco Village: the Homestead



Location: Shoreline	
Star Level: 5-Star	
Checklist: Single Family / Townhomes	
Average Square Feet: 2,389	
Section	Points
Site and Water	160
Energy Efficiency	182
Indoor Air Quality	162
Material Efficiency	103
Marketing Credit	10
House Size Multiplier	1.05
<b>Home Total Score</b>	<b>647.9</b>

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This month's featured project is Queen City Eco Village: the Homestead, in Shoreline. Developed and built by Martha Rose Construction, this project consists of 3 newly constructed 5-Star homes with detached accessory dwelling units, as well as a 4-Star remodel of the existing home on the site. Martha also certified the land development practices in the development through the Built

Green Communities checklist. To achieve the 5-Star rating, the homes used extensive green building strategies starting with the use of pervious concrete for the entirety of the community entrance and driveways. There are no lawns in the community, and each home boasts a 2,600 gallon rainwater collection tank. Due to the numerous energy efficiency strategies, the homes are modeled to use 67 percent less energy than a home merely built to code. Each of the homes features a 3KW solar array, evacuated tube solar hot water systems, and 90 percent efficient heat recovery ventilators.

Some of the many green features of the project include:

#### **Site and Water Protection**

- Pervious concrete for 5000 square foot community road
- No effective impervious surfaces outside the house footprint
- 3000 gallon rainwater collection tanks for irrigation
- Drought tolerant and native landscaping used exclusively, no lawns
- Detached accessory dwelling units with each home
- Certified development as a Built Green Community

#### **Energy-Efficiency**

- Homes estimated to perform 67 percent better than international energy code
- 3 Kw Solar panels on each unit
- Evacuated tube solar hot water systems used
- Blower door test showed envelope tightness at 0.15 air changes per hour
- Installed radiant heating system with 93 percent efficient boilers

- Installed hard wired compact fluorescent lighting fixtures for 90 percent of lighting needs in homes
- Installed heat recovery ventilators in each home
- Wall systems achieved insulative value of R-26 or better using innovative wood framing, R-3 foam sheathing and blown in fiberglass insulation
- No recessed cans used

### **Material Use**

- Comprehensive recycling plan resulted in 97 percent diversion of waste from landfill
- Extensive use of local and regional products
- Used bamboo for floors and fencing
- Used a minimum of 25 percent blast furnace slag in cement for foundation
- Installed a 50 siding product and 50 year rated roofs

### **Indoor Air Quality**

- Developed and trained subcontractors on implementing healthy jobsite plan
- No carpets used in homes
- Garages air sealed and separately exhausted
- Used low toxic adhesives and sealers extensively
- Installed cabinetry and trim that contained no added urea-formaldehyde
- Used low toxic paints and finishes on all interior surface areas
- Installed whole house radiant heating system, no forced air
- Installed a drainage plain between house wrap and siding

## Still Images



Photos by [Guy Kramer](#) and Vista Estate Imaging.

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