

Conscience, Class and Craftsmanship in Columbia City

By Cedar Burnett | Published 07/9/2007 | Project Archives |

Rainier Vista Townhomes: energy efficiency and low toxicity



Historically, we've been big fans of bigness in this **country**. We like big houses, big cars, big highways, big hair and big meals served in big restaurants flanked with big parking lots. In our culture, bigger has often been associated with better. And while big can indeed be beautiful, particularly with regard to ice cream on a hot July day, small can be lovely as well.

The winds of change are certainly blowing in this direction and the pendulum of popular impulse appears to be swinging toward embracing the diminutive. "Small" and "green" have become the trendy buzzwords and supersized opulence is beginning to appear passe in light of shrinking land supplies, skyrocketing fuel prices and dwindling natural resources. In some cases, thinking smaller and greener is also thinking smarter.

According to U.S. Census figures, nearly 80 percent of Americans now live in urban areas, and this is projected to increase in the coming years. Since it appears our agrarian leanings are past us, it makes sense that we should concentrate our efforts on crafting forward thinking plans for our homes. While Seattle has historically been a community of detached single-family homes, unprecedented population growth, rising utility costs and home prices now outpacing the means of most middle-class families are forcing us to change the way we look at housing.



At the forefront of this paradigm shift sits local Master Builders Association and Built Green member, Martha Rose of Martha Rose Construction. Rose and the team are building homes in our area that reflect not only the ethos of "small home living" but are also firmly rooted in green building principles. Along these lines, one of her more ambitious projects to date was to participate in the creation of the Rainier Vista community, a dense, neo-urban neighborhood in the Columbia City area that is entirely comprised of Built Green homes. Martha Rose Construction contributed 13 three and four-bedroom townhomes to the community, all of which were 5-star Built Green, the highest level of certification available.

Five of the 13 homes clocked in at a roomy feeling 1,500 square feet, with three bedrooms and two-and-a-half bathrooms carefully laid out to maximize space. Martha Rose designed each home to emulate the Shaker principle of "simple but elegant," with hand-crafted features, thoughtfully tucked into minimalist design.



Built Green elements abounded both inside and out. Externally, the homes were landscaped with edible plants, herbs, blueberry bushes and heavy mulch in lieu of grass. Areas were also left for the homeowners to indulge in their own gardening fancies. Instead of tying stormwater run-off to stormpipes in the area, great care was taken to create small infiltration pools to recharge the aquifer, emulating the natural process that would take place in a natural forest environment and sparing our already-burdened Puget Sound of additional unfiltered runoff.

Kiln-dried, pre-primed cedar siding was used on all the homes and each received a concrete patio for maximum longevity. Each townhome also came with a detached garage to reduce exposure to toxins typically found with attached garages. To maximize space, an additional room was added above each garage that could be used as a studio or storage room.



Inside the homes, the list of green touches practically outstrip the imagination, with a seemingly limitless list of environmentally-friendly considerations. Martha Rose began by using all natural materials. No particle board or medium density fiber board was used within the strictly formaldehyde-free structures. Low VOC finishes were used throughout each home along with natural unfinished pine shelving. Solid wood plywood cabinetry and trim throughout the homes was made from finger-jointed pine, a material that utilizes tiny pieces of scrap pine jointed together and painted white.

Dual-flush toilets were installed in the bathrooms, low-flow devices were employed throughout the homes and garbage disposals remained conspicuously absent from the kitchens. Also absent were shower doors, which Rose asserts enables mildew and mold to grow.

Most of the units were outfitted entirely with hard surfaces, with a nod toward both green and allergy-sensitive design. The upstairs bathrooms and utility room were given Marmoleum flooring, a natural, non-toxic, bactericidal flooring material made from linseed-oil, cork, tree-resin, limestone and natural minerals. Downstairs, the flooring choice was stained concrete-a durable flooring option made even more livable by its well-crafted insulation technique. The entire slab sits on two-inches of closed cell foam,

which provides both a vapor and water barrier with a high R-value of 10, and acts as a natural temperature regulator for the concrete. Without the insulation the floor would mimic the ground temperature. With the closed cell foam, the floor takes on the ambient temperature of the room, and keeps energy from escaping.

Energy responsibility was also cleverly employed with the homes' use of radiant heat and a heat recovery ventilation system. For 15 minutes of every hour, fresh air is sucked into the home while stale exhaust air from the bathrooms is pushed out. The old air actually heats the new air as they meet in the ventilator, then the heated fresh air is pushed into the bedrooms, thus circulating fresh air into the homes almost continually, without sacrificing energy. The entire structure was also heavily insulated with blown-in formaldehyde-free white fiberglass.



Additional creative touches included alternating tread stair cases from New Orleans, made from recycled metal, which allowed for less square footage to be used than a traditional staircase. Durability also took front and center with such elements as commercial grade non-porous porcelain tile on the kitchen and bathroom counters, which allowed for high traffic while remaining both aesthetically pleasing and more resistant to bacteria.



Martha Rose wired all the homes for both photovoltaic (PV) panels and solar hot water heaters, then offered those elements for an at-cost upgrade. Five of the 13 owners opted to upgrade to the solar hot water heater and two of the new owners opted for the PV panels, which translated to a fairly high overall percentage on the voluntary upgrade. In fact, as a result, Martha Rose is including both photovoltaic panels and solar heaters in every home going forward, offered at cost as a further economic incentive.

When builders and buyers alike go green, there may be some initial trade-offs. Green materials may cost more and by opting for density, buyers are saying goodbye to the post-war vision of a detached house on an expanse of freshly mowed grass. But the benefits of going green are innumerable. Beyond even being a steward to the earth, the health benefits of low toxicity in the home are staggering. And the operating costs and long term maintenance of a five star Built Green home should be lower, thereby offsetting the potentially higher initial price. In short, the myth that green urban density can't be beautiful, pastoral and even private is being actively debunked by projects such as Rainier Vista.