

Shamrock Heights
Renton Highlands
WA 98059

Case Study: August 2009

Real Estate Agent Version



Prepared for Built Green® MBA of Pierce County
for the
Green Building Value Initiative

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Social, Environmental & Economic Consulting

Photo credits: Triad Associates

Outline

Shamrock Heights is a 117 home Built Green® community, developed by CamWest Development to Energy Star standards and certified Built Green 4-Star. There are still a number of lots to be sold. The community was the first demonstration project to come under King County's Smart Growth Initiative and received the 2005 King County Earth Hero Award for creative and effective environmental stewardship.

This case study examines generally the value added proposition of green under which the project was developed and specifically via Paired Sales Analyses. Traditionally, appraisers have had to rely on more anecdotal indications of the market value of green amenities.

We would like to thank both Sterling Hamilton of Hamilton Investments and Ben Kaufman of GreenWorks Realty who independently reviewed this case study, providing a healthy critique.

Project Description

In 2003 King County created its low-impact development (LID)/Built Green ordinance, called the Smart Growth Initiative. The ordinance allowed for code adjustments to create entirely green projects and three projects were invited to use the innovative stormwater-management approaches in combination with environmentally friendly housing. Shamrock Heights in Renton Highlands was the first project to be developed under this ordinance and as such required the close collaboration of King County's Department of Development and Environmental Services, CamWest Development, and Triad Associates Landscape Architects.

The site is 34.5 acres with 129 lots broken into two parcels, one governed by King County and the other governed by City of Renton. Approximately 60% (73 lots) of the project's stormwater is managed through LID techniques and 40% through conventional techniques. Much of that decision was based upon the suitability of land for Low Impact Development (LID), natural topography and the fact that the second parcel fell under the City of Renton, whose land use codes relative to site design did not allow for LID techniques. Road widths on the Renton parcel are the standard 33' in width with sidewalks on both sides and 15' setbacks. The case study is focused on the King County subdivision.

Development on the site had just started when CamWest was invited to bring the development in under the ordinance. A good portion of the site selected for LID was already Critical Areas/wetlands, but not all. Therefore, according to Jeff Cox, of Triad Associates, as the lead landscape architect on the project, the approach taken in the design was to:

- Restore the wetlands, thus creating the needed detention ponds.
- Create many of the lots to back onto protected green belt land which also helped in noise attenuation.
- Manage stormwater through ground infiltration in landscaped rain channels, rain gardens, greenbelts and wetlands.
- Provide almost an acre of park centrally located like a commons.



Cox feels the most successful and visible result of LID is that it creates more usable and connected open space, providing additional buffering between homes, while creating wildlife corridors and view corridors. The site plan balanced community with privacy. Clustering homes allowed site planners to achieve greater density. In the case of Shamrock Heights, this translated into over 30% of the site being retained as open space. Even fences were designed to be lower and open so the rain channels “became part of the yard.” Cox believes LID is all about “building communities that people will want to take care of.”

Rationale/Business Case

CamWest Development is a residential subdivision developer whose business model is based upon developing suburban infill lots. As such, CamWest was already familiar with a number of low impact development techniques before taking on Shamrock Heights under King County’s green build ordinance. CamWest did not expect cost savings from developing the land to Low Impact Development standards, since it had been their experience, that whilst they could reduce costs relating to underground pipe for stormwater management, typically those cost savings were offset by the additional landscaping required for the rain channels and rain gardens. Eric Campbell, CEO of CamWest Development, noted “significant cost reductions only come when the streets can be designed at narrower widths.”

Shamrock Heights is CamWest’s only community to date that has been developed as a Built Green community with Energy Star certified and Built Green 4-Star third party verified homes. In explaining the rationale in pursuing this higher level of certification Campbell stated “the business rationale for a 4-Star community was based upon numerous potential opportunities. The overall business rationale was based upon a belief that the “green” consumer was becoming (or is) highly educated about the benefits and opportunities of green communities. Thus, the decision was that there could be a significant opportunity to be a

leader in the Puget Sound region as one of the first 4-star communities. Unfortunately, the market for these types of housing communities featuring LID techniques and 4-star homes is significantly smaller than we thought.”

In an article in the Seattle Daily Journal of Commerce in March 2006, Campbell had stated “for an additional \$4,000 to \$5,000 we have 4-star Built Green homes in Shamrock Heights. Four stars will save a homeowner operating costs, but we don't know how soon that balances the cost difference.” Randy Reeves of Windermere believes the hard cost to the developer in today's market is closer to \$7500 for a 4-Star home.

Campbell believes the success of CamWest is based upon responding to the needs of their buyers. He feels currently there is insufficient evidence of value to the buyer to justify building 4-Star level homes. “Unfortunately, there is not a comprehensive study showing the monthly savings of a 4-star Built Green home in lieu of a standard home. Neither Built Green nor Energy Star provides estimates showing the savings of a 4-star home. This lack of facts or estimates creates a lack of credibility with potential buyers in understanding the actual benefits generated by a 4-star home.” He also stated that “the green building techniques that provide the most significant energy savings have significantly higher costs than the standard. For example, a 96% efficient furnace costs \$2800 more than a standard 80% efficient furnace.” And whilst this price difference can be reduced by \$1500 because it qualifies for the Federal Tax Credit, this refund is not received in the year in which the cost is incurred.

From Campbell's perspective, until there is sufficient evidence to create a “comprehensive marketing campaign for 4-star communities,” CamWest will continue to develop communities that are 100% Energy Star and in many instances also Built Green 3-Star.

Key Green Features and their Benefits

Further complicating the issue of attributing value to green features, is the fact that many points awarded for features that make up the overall certification level (in this case 4-Star) have wider social and environmental long term health benefits which fall outside the scope of an individual residential appraisal and the standard Uniform Residential Appraisal Report form. An example of this would be superior indoor air quality with its ensuing health benefits to occupants, which was identified in RCLCO's (Robert Charles Lesser & Co) January 2008 Report “Measuring the Market for Green Residential Development” as one of the top priorities of buyers when choosing green.

Site and Water

Feature: Protect Site's Natural Features.

Benefit: Reduces soil compaction; preserves natural vegetation; sets land aside for the recreational and aesthetic enjoyment of the property owner/s and as wildlife habitat.



Feature: Protect Natural Processes On-Site.

Benefit: Prevents erosion of topsoil; reuses topsoil minimizing the need for extra soil; site provided with composted materials.

Feature: Amend disturbed soil to 8-10”.

Benefit: By scarifying compacted soils, soil hydrology is restored thus reducing potential for stormwater runoff. A City of Redmond study demonstrated a greater survival rate for plants and a reduced need for irrigation and chemical fertilizers.

Feature: Eliminate Water Pollutants.

Benefit: By controlling the use of, the disposal of, and the toxicity level of any material coming in contact with the soil and thereby the water system, contaminant levels entering water systems are greatly reduced.

Feature: Low Impact Development.

- Clustering of homes.
- Reducing impervious surfaces by reducing street widths from sidewalk perspective i.e. only on one side.
- Maximize the duration for storm water to stay on ground before being piped; footings and roof drains in some instances recharge wetlands.
- Redirect storm drainage into smaller subgroups/basins such as rain gardens.
- Connected open spaces in the form of rain channels.

Benefits: Advanced infiltration and evapotranspiration methods slow stormwater, reducing peak flows and removing suspended solids and contaminants that have a negative quality on water quality.

Feature: Native Plant Landscaping.

Benefit: Reduces the need for irrigation although temporary irrigation should be provided until the plants are established.

Energy Efficiency

Feature: Energy Star certified.

Benefit: Documented energy performance improvements over state energy code of at least 15% and in this instance a 20% improvement.

Feature: Insulated Headers.

Benefit: Reduces thermal bridging and thereby heat loss to the exterior.

Feature: 90% Efficient Energy Star Furnace.

Benefit: Higher efficiency heating systems reduce the overall energy consumption for the owner.

Feature: Performance Duct Testing.

Benefit: Leaks in forced air duct systems are now recognized as a major source of energy waste in both new and existing houses. Studies indicate that duct leakage can account for as much as 25% of total house energy loss, and in many cases has a greater impact on energy use than air infiltration through the building shell. Performance Testing identifies the source and extent of the leakage and provides cost efficient remedies.

Health and Indoor Air Quality

Feature: Implement Indoor Air Quality Management Plan during Construction.

Benefit: Controls the introduction of contaminants into the building which invariably happens during construction. An effective plan will ensure the health and comfort of construction workers as well as future occupants. In addition preventing the clogging of HVAC equipment can prevent equipment failure and improve the system's energy efficiency.

Feature: Low Emitting Materials - Adhesives, Insulation, Carpet, Paints.

Benefit: Reduces the quantity of indoor contaminants (in particular Volatile Organic Compounds) that can be harmful to the comfort and health of installers and occupants.

Feature: Provide Cross Ventilation.

Benefit: The building can be ventilated or cooled with operable windows. Individual occupant comfort is maximized whilst minimizing the energy use associated with building conditioning.

Materials Efficiency

Feature: Enroll project in a Recycling Program at “Distinguished” level.

Benefit: Construction and demolition waste accounts for about 40% of the total waste stream of the United States. Landfill tipping fees were substantially reduced throughout the construction process, whilst the project minimized its impact on existing landfill sites.

Feature: Use engineered wood products, recycled content underlayment, insulation, siding and finger-jointed studs.

Benefits: Recycled content materials reuse waste products that would otherwise have gone into landfills.

Feature: Reuse or donate building materials.

Benefit: Keeps scrap lumber out of the landfill and supports organizations such as Habitat for Humanity’s ReStores.

Feature: Local and Regional Materials used.

Benefit: The purchase of local and regional building materials within a 500 mile radius of the project supports the local economy, whilst reducing the transportation costs and environmental impacts associated with long distance trucking.

Feature: Use 30 year roofing material.

Benefit: Extends the life of the building and reduces long term maintenance cost for the owner.

Feature: Use 50 yr siding material.

Benefit: Extends the life of the building and reduces long term maintenance cost for the owner.

Promote Environmentally Friendly Operations and Maintenance

Feature: Green Homeowner's Kit.

Benefit: Homeowners are educated on ways to minimize any further impact on the environment, whether through the use of green cleaning products or the reasons for using non chemical fertilizers outdoors.

Feature: Use Compact Fluorescent Bulbs/Fixtures.

Benefit: The average rated life of a CFL is between 8 and 15 times that of incandescents, thereby reducing utility costs as well as carbon emissions over the life of that bulb.

Importance of Green Features in attracting owners

The Low Impact Development strategies of clustering homes to create open swales, and the use of rain channels and rain gardens to manage stormwater, not only created more open space and enhanced those homes' privacy but also matched CamWest's general market research findings "that buyers are looking for more privacy and larger lots." Eric Campbell, CEO of CamWest Development, believes "LID and green building add to the pride of place for the home owner, so Built Green becomes a benefit."

From the sales agents' perspective (gleaned from customers comments over the three years of selling Shamrock Heights), both the LID features and the fact that the homes were Built Green were important market differentiators in a boom market. Steve Reeves of Windermere still feels it gives CamWest an advantage, even in the current depressed market.

The project received a large amount of favorable press coverage because it was King County's first fully green community. What particularly attracted buyers to the development were those green features affecting health positively – according to Reeves initially "buyers were very excited by low VOCs." In the end however, he feels the most important issue now is the fact that buyers know "they will be saving money on their water and utility bills. They see Built Green as "insurance", protecting the future value of their home."

Other Impacts on the Environment

The site had documented flooding issues which Triad Associates then corrected with grading and restoration of the pre-existing wetland. The soils were typical till for the area, with poor drainage capacity, so dividing the stormwater flow into multiple sub-groups as rain gardens and rain channels has improved infiltration rates and reduced flooding in the local vicinity.

The Smart Growth Initiative balances an improved transportation system, adequate affordable housing and the promotion of livable communities with the protection of King County's environmental resources and rural areas. Shamrock Heights is an important model and resource for other municipalities to look to when developing standards for earth friendly, people friendly communities.

Social

To create a community requires a common vision and collaboration with multiple parties at the earliest design stages. To quote Rebecca Cushman from an article written in March 2006 for the Seattle Daily Journal of Commerce "such collaboration arose in response to the leadership and vision of King County Executive Ron Sims and CamWest President Eric Campbell. Both men used their positions to commit to expanding eco-friendly development. Even with the county ordinance, each element of the stormwater design had to be approved under current code. Engineers sought solutions that could be approved without extensive variances to existing code. They collaborated with county staff to ensure understanding of the project's intent and to reduce liability for the developer."

Economic

A specific project cost breakdown was not available. It has been speculated by proponents of Low Impact Development that significant savings can be realized when not relying on standard stormwater management solutions that involve elaborate underground infrastructure. However, in the case of Shamrock Heights, those savings were neutralized by the fact that subcontractors were



unfamiliar with LID excavation techniques and so the project took considerably longer to develop out.

Local/Regional Effects

As a consequence of the LID standards developed under the Smart Growth Initiative, many developments and master-planned communities are now incorporating open spaces, greenbelts, bioswales, rain gardens and other LID elements in their designs. However, even though there are many individual uses of LID in subdivisions, Jeff Cox of Triad Associates said he believes there haven't been enough certified green communities built to define a trend.

Campbell said he thinks more green communities "probably won't happen without top-down leadership from mayors, city managers and county executives that results in something that is embraced by their planners. Jurisdictions don't need to reinvent the wheel. They can look at who is succeeding with LID and sustainable building techniques, and so learn from the best practices of others."

The biggest hurdle to clustered community development is now land use codes.

Findings/Post occupancy Evaluations

WaterTech NW Environmental Consulting has been hired by CamWest Development to monitor the LID aspects of Shamrock Heights. Since data collection only began in October 2008 CamWest felt it was too early to share results with outside parties. Initial results are due to be released the end of 2009. With all of CamWest's developments, a Buyer Post Occupancy Evaluation is conducted with buyers after living a year in their homes. Unfortunately in the case of Shamrock Heights, the evaluation form makes no mention of the green features of the home; neither what green features attracted them to buying that home, nor whether customers were satisfied with the level of savings on their utility bills. The reason cited was in order to keep all "surveys consistent allowing them to compare results from community to community." In comparing the results of surveys conducted for two other CamWest communities, namely Cascade Crest (built 2005/2006 and a master planned community of Snoqualmie Ridge) and Westchester (built 2005 in neighboring Renton) with Shamrock Heights, it was found that in the three areas noted below Shamrock Heights scored consistently higher than the other communities, demonstrating that buyers appear to favor the look and livability of Low Impact Development. The other homes were very similar in size, price (Westchester's homes were slightly less expensive, but similar target demographics) and buyer demographics to Shamrock Heights.

Question	Shamrock Heights	Cascade Crest	Westchester
	Av. Score	Av. Score	Av. Score
Neighborhood is Well Designed	8.8	8.1	8.56
Park(s), Greenbelts, and/or Open Space Add Value	9.45	8.24	5.83
Park, Play Toys, and Sport Court Enjoyed by Community	9.4	3.83	1.72

It is hoped the developer will see value in the future in identifying those green features in homes that buyers are actively seeking, especially since the paired sales analysis below shows homes in Shamrock Heights achieving an overall premium for the green features.

Valuation Aspects – Précised version of Property Comparables Analysis

Prepared by Robbi Currey of McCabe Appraisal Services, Covington, Washington

Background

The appraiser was retained to provide analysis to determine the market reaction to the subject’s “Built Green 4-Star” rating and green amenities. The 117 homes in Shamrock Heights were primarily developed by CamWest Shamrock Heights LLC over three years, with a number of lots still remaining to be sold.



Methodology

The homes are Built Green 4-Star homes with a Gross Living Area (GLA) ranging from 1,950 square feet to 3,030 square feet. The architectural style of the homes is primarily 2 stories or 2 stories over a basement. The homes are of “Good” construction quality, with

upgrades such as higher end cabinets, granite counter tops, stainless appliances, tile and/or wood flooring, tile surrounds, and higher end lighting and plumbing fixtures. The appraiser has identified and researched a random sampling of 53 of the homes, and provided a “Paired Sales” analysis for each. The appraiser chose comparable sales which were located within 1 mile of the subject and were in competing subdivisions. Every attempt was made to use comparable sales that were most similar to the subject in style, GLA, bedroom, bathroom, and garage count, and quality of construction. The appraiser also chose comparables with closed sale dates closest to the subject’s sale date. All of the comparable sales closed within 12 months of the subject’s sale date.

For the purposes of this report, the appraiser has grouped the homes into 4 categories:

- Category 1 are all 2 story homes between 1,950 square feet GLA to 2,260 square feet.
- Category 2 are 2 story homes between 2,460 square feet GLA to 2,510 square feet.
- Category 3 are 2 story homes between 2,850 square feet GLA to 3,030 square feet.
- Category 4 are 2 story homes over a basement.

2006 Sales

- The homes analyzed from 2006 indicated an average market value attributed to their green amenities at approximately \$11.51 per square foot GLA.
- The smaller homes (3) in category 1 showed the highest average attributive value of \$24.43 per square foot GLA.
- Category 2 homes (12) showed an attributive value of \$11.26 per square foot.
- Category 3 the largest homes (3) showed an attributive value of \$5.14 per square foot.
- There was only 1 home sold in 2006 in category 4. This home had an unusually low attributive value of only .23 per square foot.
- Due to the unusually high and low attributive value of some of the subject properties, the appraiser has also calculated the median value for the homes. The median value attributed to the homes green amenities for 2006 was \$11.94 per square foot GLA.

2007 Sales

- The homes analyzed from 2007 indicated an average market value attributed to their green amenities at approximately \$14.21 per square foot GLA.
- Category 1 homes (3) showed an attributive value of \$17.30 per square foot.

- Category 2 homes (8) sold during this year indicated the highest attributive value, with an average of \$18.48 per square foot GLA.
- Category 3 homes (4) showed an attributive value of only \$2.05 per square foot.
- Category 4 homes (5) indicated a value of \$15.26 per square foot GLA.
- The median value attributed to the homes green amenities for 2007 was \$15.51 per square foot GLA.

2008 Sales

- The homes analyzed from 2008 indicated an average market value attributed to their green amenities at approximately \$11.10 per square foot GLA.
- There was only 1 home analyzed in Category 1. It had an unusually high attributive value of \$45.91 per square foot.
- Category 2 (4) showed an unusually low attributive value of \$.56 per square foot.
- Category 3 homes (3) showed an attributive value of \$9.25 per square foot.
- Category 4 (3) showed an attributive value of \$11.69 per square foot.
- The median value attributed to homes green amenities for 2008 was \$12.41 per square foot GLA.

2009 Sales

Data is limited for 2009, since there have only been 3 homes sold as of May. The overall average thus far for the year is a negative \$7.90 per square foot, with only 1 home sold in Category 2 having an attributive value of only \$.89 per square foot, and 2 homes sold in Category 4 with a negative indicated value of \$24.58. Northwest Multiple Listing Service statistics show an overall decline in the market values for this area. Sales for new construction have decreased approximately 24% over the past year. This could explain the drop in attributive value for green amenities during the first quarter of the year. The median value attributed to the homes green amenities year to date is negative \$1.62 per square foot GLA.

Resales

There have been 3 re-sales of homes in the subject's subdivision. Of the homes, 2 were purchased in 2006 and resold 4 months later in 2007 with increases in sale price by 9% and 18%. The 3rd property was purchased in 2007 and was also sold 4 months later with an increase in sale price of 5%. Sales analysis of these properties indicates an attributive market

value to the homes green amenities of an average additional \$3.22 per square foot GLA, upon re-sale. All three homes were larger homes (Category 3).

Summary

Of the 53 homes analyzed, the appraiser has determined that there is attributive value for the homes green amenities. This value can be calculated at a rate of approximately \$7.50 – \$12.50 per square foot GLA based on the size of the home.

Smaller homes would warrant the higher adjustment to value, with the larger homes adjusting at the lower rate. It also appears that there is a favorable market reaction to the re-sale of these homes, and an additional attributive value of approximately \$3.00 per square foot GLA.

Time on Market

The appraiser has also analyzed the average market time for the homes in the subject's subdivision verses the market time in the subject's market area. During 2006, the average market time for the subject homes was approximately 8% higher than the average for new construction in MLS area 350. The subject homes averaged 53 CDOM verses the overall average market time of 49 CDOM. The average market time for the subject homes during 2007 was 42% higher than the average. The subject homes had an average of 169 CDOM compared to 119 CDOM. However, the overall average market time for new construction in this area rose 143% from the prior year with an increase of 21% in the inventory level; a condition which probably influenced the subject's market time. Additionally, the CDOM totals for new construction can be misleading since presale homes are typically not taken off the market until completed and the loan is funded.

During 2008, the subject's average market time increased again to 49% over the average.

The subject averaged 200 CDOM compared to 134 CDOM. Again, this market area did see an increase in the overall average market time for new construction by 14%.

However, inventory levels were down considerably by 77%. The 3 homes which have sold thus far in 2009 average a market time of 219 CDOM compared to 53 CDOM for overall new construction in this area.

As of May 2009 there were 4 active listings for new homes in this subdivision. The average CDOM of these listing is currently 173 days, with 1 of the listings being a pre-sale, and the other 3 standing vacant.

The average sale price of a home in the subject's market area MLS 350 rose from 2006 to 2007 by 17%, with the median price also rising by 14% from \$501,000 to \$570,000. During 2007 the average sale price rose again by 5%, but the median price fell from \$570,000 to \$516,898 or 10%. The average sale price of a home fell from 2008 to 2009 by 24%, with the

median price also falling from \$516,898 to \$479,500 or approximately 8%, indicating a declining market for this area.

Summary: The subject homes appear to require additional market time to maximize value. However, many of the homes are pre-sales, and as explained above, CDOM totals can be misleading since a typical new construction can take 250 to 350 days to complete. A declining market can also affect the market time of homes in this price range. And since the median price of a home in the subject's market area fell to below the average price of a home in this subdivision, longer market times would be typical.

Interviews with Agents

Randy Reeves and Steve Burke were the main Windermere sales agents for Shamrock Heights. The interview was conducted with Randy Reeves who has been involved with selling homes in the development for three years.

Reeves confirmed that CamWest did not hire Windermere to conduct any focus groups or market studies to discover the desirability of incorporating green features in the homes. However, when it came to marketing the project, all Shamrock Heights sales agents attended at least one of Built Green King/Snohomish's real estate professionals' classes. From Reeves's perspective, agent education was and continues to be the key to success in sale

Reeves was asked to comment on the reactions of potential buyers to the features of the Low Impact Development as well as the green features of the homes. He felt that in general people were very "jazzed" by the LID features. The reaction to the homes was varied and seemed very much based upon the buyer's education level or whether they were first, second or third generation immigrants – language barriers were probably as much the issue as anything else; second and third generation immigrants were "more attuned to the message." He felt buyers fell into three categories - "20% that were very educated; showed up in the Prius and wanted to live that lifestyle." A second group that had "some knowledge and wanted to learn more and the final group that didn't care about the message – probably the biggest group." However, even though the biggest group was "indifferent, there were no negative opinions." There was also a small group that simply "had to have it - even if they didn't really understand what "it" was."

Interestingly, Reeves's experience in sales today is that green "has now become expected." Questioned further Reeves explained that "superior indoor air quality and energy savings" are pretty much "expected by buyers and indeed some buyers even think they are now code."

Finally Reeves was asked to comment on whether third party certification was important to buyers. "People liked the idea of third party. Then again you could have taken the third

party out of it and it probably wouldn't have made a difference. But it's a way of keeping builders honest." Reeves firmly believes that because Shamrock Heights "is a Low Impact Development with 4-Star Built Green homes, that resale prices may be better protected as opposed to the same type of home without green features". So at the end of the day, not only are resale prices protected but Built Green certification, especially in this current tough real estate market, "can set the builder apart. Until now we had no way to quantify the value though."