



# Emerald Hills Urban Village Lifestyles INCEPTION REPORT

## **Phase 1: Guidelines for Enhancing Quality of Life and Sustainable Behaviours at The Emerald Hills Urban Village**

*"This is the new mainstream, not an alternative lifestyle"*

- Anita Roddick, Body Shop founder

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# **INTRODUCTION and EXECUTIVE SUMMARY**

## One Planet Lifestyles

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### EXECUTIVE SUMMARY

Over the past thirty-five years architects, engineers, planners, and developers have looked for ways to create more environmentally friendly homes and communities. This trend has accelerated over the past decade to the point where 'green' is making its way into the mainstream. There has been an enormous amount of collective knowledge gained regarding how to build homes and communities that have a reduced ecological footprint. Mistakes have been made – homes sealed so tight for energy efficiency reasons that air quality was negatively impacted, improper product selections, homes devoid of character etc. Some mistakes are still being made, but by and large the mistakes are fewer, and the product is vastly improved. One of the most important lessons that is just starting to come to the fore is that green buildings and green communities will not fulfil their potential unless a robust lifestyles component is also included.

Implementing a Sustainable Lifestyles program is a relatively new endeavour. There are few communities that have tried it, and little published on the topic. However, evidence does show that where it has been implemented it has been tremendously popular and has had measurable sustainability benefits.

Christenson Developments has taken the bold step to build a Sustainable Urban Neighbourhood that will stand as an example for future communities. Our aim, in this document, is to draw on existing knowledge surrounding sustainable lifestyles programs, and begin the work in applying that to the Emerald Hills Urban Village context. This is largely new and groundbreaking work, but we feel we can offer strategies and suggestions that are low risk and low complexity.

We have drawn extensively from the experience in designing and implementing the lifestyles program at BedZED.<sup>1</sup> In order to draw out the lessons learned we have examined residents surveys, interviewed the lifestyles coordinator and manager, interviewed residents, attended BedZED residents activities, interviewed the developer's representative, liaised with the residents' association, and generally observed how the lifestyles program is working in practice. We have researched programs, such as MotivateLondon, which focus on fostering sustainable behaviours city-wide. We have also drawn from Community Based Social Marketing, the co-housing movement, Smart Growth research, ongoing lifestyles work at other One Planet Living communities etc, even going as far as researching successful cruise ship programs (on implementing activities and programs for a range of ages) and digging into recent research on what makes people happy.

There are three main components to this paper: 1) an introduction that examines the importance of lifestyles, the benefits of a lifestyles program, background information on the project, and info on One Planet Living; 2) a look at the 10 One Planet Living Themes and a sketch on how each theme might be potentially put into practice at the Emerald Hills Urban Village; and 3) a look on how the lifestyles program could be put into place, including a community cultivation strategy and a 5-year workplan.

Not everything included in this guide could or should be implemented at The Emerald Hills Urban Village. Full discussions with stakeholders, and the determination of existing community assets, will separate those elements that are most cost-effective, easily implemented, and providing the greatest benefit from those which are merely good ideas. Most of the potential lifestyles strategies will require further research to indicate whether they are appropriate for the Emerald Hills Urban Village context. For example, we list Edmonton's only existing car co-op as part of the lifestyles strategies under sustainable transport. The Edmonton car co-op is a fledgling organization, with few members and only one car. Our research agenda would open a dialogue with the car co-op, examining whether they have the capacity, business model, and partnership orientation to service The Emerald Hills Urban Village residents. Christenson and their partners would need to be consulted as to whether and how a car club may be appropriate for The Emerald Hills Urban Village. Well-

<sup>1</sup> The Beddington Zero Energy Development (BedZED) is the UK's largest carbon-neutral eco-community – the first of its kind in this country. BedZED was developed by the Peabody Trust in partnership with Bill Dunster Architects and BioRegional Development Group, environmental consultants. BedZED is a mixed-use, mixed-tenure development that incorporates innovative approaches to energy conservation and environmental sustainability. It is built on reclaimed land owned by the London Borough of Sutton, sold to Peabody at below market value due to the planned environmental initiatives. Peabody Trust manages the housing at BedZED and BioRegional Development Group and Bill Dunster Architects are based close by.

researched car club business cases and parking implications would be included in the Briefing Document, providing a “menu” of concrete options for examination in the charrette process. If decisions made in the charrette favoured it, a car club strategy would then be shrewdly articulated and advanced to the delivery stage. This paper does not intend to examine all of the potential questions and answers for each element of a lifestyles program, but rather point out what is possible, broadly outline how it could be implemented, and point out areas for further research.

We view this paper as the opening round in what we hope will be a careful and profitable dialogue on implementing a lifestyles program that would be a triple-bottom line success for all involved.

## OVERVIEW

One Planet Living® (OPL) is a joint initiative of BioRegional and WWF that works to develop the most advanced sustainable communities in the world in partnership with progressive real estate developers. We have been engaged by Christenson Developments to assist in the creation of a Sustainable Urban Neighbourhood, The Emerald Hills Urban Village.

The purpose of our research is to identify social processes and design choices that most succinctly meet The Emerald Hills Urban Village’s triple-bottom-line aspirations, in pursuit of two goals:

- A) to measurably increase quality of life, health, happiness and community interaction among residents
- B) to incrementally lower the ecological impacts of residents to an eventual One Planet level

Our research falls into 4 closely inter-woven streams:

1. **Enable Quality of Life** by recommending design choices that enhance well-being and social interactions in the built environment
2. **Enable Sustainable Behaviours** by recommending design choices that make sustainable living easy, affordable and practical
3. **Foster Quality of Life** by delivering a range of social programs designed to enhance neighbourhood safety and “cultivate community” through increased social interactions
4. **Foster Sustainable Behaviours** by influencing popular attitudes and encouraging habit changes through gentle persuasion and community-based social marketing; providing self-help tools and opt-in programs that promote efficient use of green buildings and waste facilities and encourage healthier living through “green” recreation, transport, and food options.

This paper builds upon and evolves the One Planet Lifestyles Planning Process that was pioneered by BioRegional at the BedZED sustainable community beginning in 2002.

This improved One Planet Lifestyles Planning Process will:

**Chapter 1:** Outline the business case and value proposition of One Planet Lifestyles

**Chapter 2:** Demonstrate the 10 Themes in action, showing how a lifestyles program at Emerald Hills might enable and foster sustainable behaviours.

**Chapter 3:** A unique Community Cultivation Process that outlines the guiding factors in creating a livable community

**Chapter 4:** A 5-year workplan for implementing and managing this process, integrated with a sketch workplan for a Lifestyles Coordinator

**Chapter 5:** Guidelines for monitoring and evaluation

**Chapter 6:** Lessons learned from BedZED – an examination of the best example of an implemented sustainable lifestyles program

The One Planet Lifestyles program identifies ways in which synergies can emerge between improving quality of life, improving sustainability, and enhancing the value proposition to the developer. An example of such a synergy might be facilitating active transportation (biking and walking): residents benefit through increased health, added recreation opportunities and lower transportation costs; the environment benefits through

reduced greenhouse gas emissions and less air pollution; the developer achieves “active lifestyle” marketing benefits, improved reputation, and an enhanced relationship with local government.

The Emerald Hills Urban Village development represents a tangible opportunity to implement and improve the innovative strategies One Planet Living has developed towards sustainable lifestyles. This is an exciting opportunity since sustainable lifestyle issues have not yet taken firm root in the public imagination in Canada, and there is real potential to influence lifestyle thinking not just within the development but throughout the region and – through effective communications of success – the nation.

**\*About This Report:**

While reading this report please keep in mind that this is preliminary research, and is intended to be a living document. The planning process for The Emerald Hills Urban Village will devise its own suite of targets, goals and recommendations. This report details existing best-practices and incorporates lessons learned from One Planet Living experiences. It is intended to begin the discussion on enabling and fostering sustainable lifestyles, and not be the last word on the subject.

## About Emerald Hills Urban Village

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Christenson Developments is a leading Canadian developer in implementing a lifestyles-based approach to real estate. They have been selected as the developer for The Emerald Hills Urban Village.

### The Emerald Hills Urban Village

The Emerald Hills Urban Village is a mixed-use development, comprised of approximately 1000 housing units with commercial and institutional space. Built form may include:

- Independent living townhomes and semi-detached bungalows
- Multi-family condominium apartments
- Seniors apartment housing
- Long term care facility
- Commercial and retail space.

Schools and parks are located close by, and by virtue of the mix of residential, care and commercial uses, the Urban Village site is well positioned to serve a wide range of individuals in a social environment that has the potential to support itself in a sustainable manner.

### The Emerald Hills Urban Village SUN Pilot Project

An opportunity exists to develop The Emerald Hills Urban Village in such a way to facilitate residents and tenants living a sustainable lifestyle. As a result of the potential of the site, the commitment by Christenson, and the support of the local government, this site has been selected as the first NRCan-SBC Sustainable Urban Neighbourhood (SUN) Pilot Project. For the purposes of this project a sustainable neighbourhood is defined as one that:

- Endures over the long-term by guaranteeing that its residents can meet their needs without compromising the ability of others to do the same;
- Has been holistically planned to optimize its local and global influence on social equity, environmental health, economic growth and cultural vitality; and,
- Makes sustainable living easy, attractive and affordable.

In order to achieve these objectives a unique partnership has been struck between Christenson Developments, Strathcona County, the Sustainable Buildings and Communities (SBC) group of Natural Resources Canada (NRCan), One Planet Living, and the Design Centre for Sustainability (DCS) at the University of British Columbia:

**Christenson Developments** has long espoused the ecological principles of quality, durability, and active lifestyles. They are now taking that approach further and adopting a holistic approach to true sustainability for The Emerald Hills Urban Village.

**Strathcona County** has embraced sustainable development, creating a co-operative environment to advance neighbourhood-scale sustainability.

**NRCan-SBC** is committed to working with municipalities and developers to foster and institutionalize sustainable neighbourhood development.

**DCS at UBC** has made it a priority to develop a design-oriented and integrated tool palette that can be effectively nested within larger planning and design processes for sustainable community development. These partners in conjunction with **One Planet Living** provide the expertise, research and funding support to meet the sustainability objectives.

As a SUN Pilot Project one of the primary goals of The Emerald Hills Urban Village initiative will be the refinement and application of a systems approach to create energy, water and material pathways that facilitate sustainable development and enable and foster long-term sustainable lifestyles.

## Research Approach: Focused on Cost-Benefits

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A 5-year plan for One Planet Lifestyles at The Emerald Hills Urban Village must solve creatively the problem of long-term financing of such a program. To that end our approach is driven by finding the most effective, highest-impact lifestyle mechanisms that provide the greatest impact for the capital investment put in. There are several underlying principles that guide this work:

1. Find the synergies – as mentioned earlier we make recommendations that deliver multiple impacts and benefits. Finding local trade partners, for example, can reduce transportation costs, lower long-term maintenance costs, and strengthen the local economy. A compost program can provide no-cost fertilizer for planter boxes while reducing waste sent to landfill.
2. Leverage partnerships – we aim to find local partners already delivering programs or working on relevant issues and incorporate that work into the OPL Community. This can add tremendous value to the residents without adding costs for the developer.
3. Encourage volunteerism – using a host of proven techniques, we aim to encourage volunteerism and community involvement. This means that a small up-front investment will continue to provide benefits for years to come for the residents, the property management company, and to the developer.
4. Find trade-offs that result in cost-savings – for example an integrated transport strategy will result in reduced costs for parking spaces.

## Background: Methodologies and Approaches Synthesized

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Our preliminary research program has covered the best practices and learnings from across sectors and disciplines to make the Cultivating Community Process as effective as possible. Our research has included:

- New Urbanism and Smart Growth: research in this field has yielded advanced design principles for embedding socially-stimulating patterns and structures in the built environment;
- Knowledge Management: research into learning communities & communities of practice have furnished us with useful concepts such as *aliveness* and tools such as community rhythm;
- The Co-housing Movement: best practices on designing to promote community interaction;
- Art of Hosting – a growing international movement aimed at facilitating engagement and community-decision making;
- Community-Based Social Marketing: developed in Canada as a way to alter behaviours;
- Lessons learned from BedZED, BioRegional Quintain Limited, Pelicano, Z-Squared and other OPL projects;
- Examination of other North American neighbourhoods with an emphasis on community – e.g. Seaside, Celebration, and Village Homes;
- Latest research on health and happiness, including population health studies and happiness quotient tests;
- Targeted research on lifestyles components related to each of the 10 Themes.

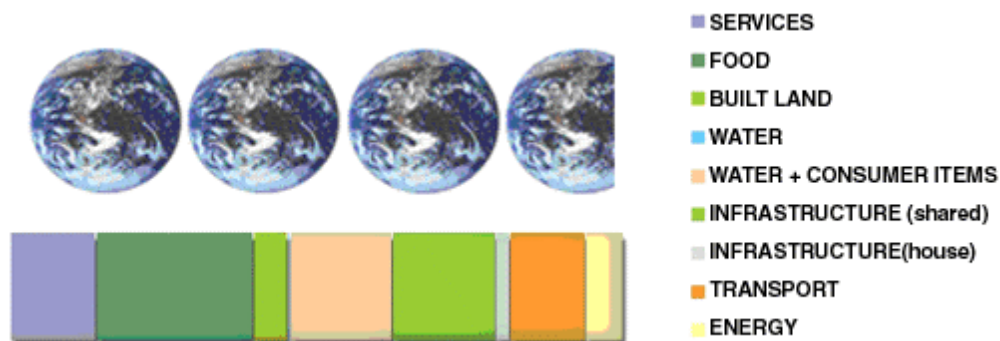
## Background: Ecological Footprinting

Ecological footprinting figures show that if everyone on the planet consumed as much as the average person in Canada, we would need almost four planets to support us – we have a three-and three-quarters planet lifestyle! Recent studies suggest that residents of Strathcona County likely have even a larger footprint of close to five planets.



A common misconception is that most of our negative environmental impacts come from energy use in our buildings. In fact, recent research shows that our lifestyles - how we travel, what we eat, how much waste we create – have a very high impact on the environment, too.

This is apparent from the diagram below which shows us the different components of a four planet lifestyles – it shows us that food, transport and waste all contribute substantially more to our ecological footprints than does energy use.



Therefore, at The Emerald Hills Urban Village, people should be able to live their lives in such a way that every component of their ecological footprints is reduced, while they live a desirable lifestyle. A ‘green’ lifestyle means not only living in an energy-efficient house, but also eating local and sustainable food, using sustainable transport, generating less waste and so on.

OPL North America has conceptualised a framework for The Emerald Hills Urban Village that intends to make sustainable living easier, more enjoyable, and more of an integral part of day-to-day living. It will be so easy, in fact, that residents will probably live these lifestyles without even knowing it!

## Importance of Lifestyles

**WE ARE AWAITING THE COMPLETION/PUBLICATION OF RESEARCH ON THE RELATIVE IMPORTANCE OF LIFESTYLES DECISIONS ON ECOLOGICAL FOOTPRINT OF CANADIANS. AS SOON AS THAT WORK IS PUBLISHED IT WILL BE ADDED IN HERE.**

Ray Anderson of Interface Carpets tells a story that demonstrates the importance of lifestyles. Several years ago his company decided to hold a retreat for all sales staff. The hotel his COO booked was a luxurious, over-the-top energy and water hog. In fact one of his sustainability consultants (Paul Hawken) initially refused to go. After much discussion and encouragement by Bill McDonough they did decide to go, but under the proviso that they would try to green the hotel while they were there.

Obviously they could not make any changes to the built environment in the week they were there. What they did do was to educate the employees and the hotel staff on simple measures that could be taken to reduce their impact - hang towels and use them the next day, turn off lights when you leave the room, take shorter showers, use biodegradable soap and shampoo (provided), sleep with windows open and let the air conditioner rest, draw blinds during the day to keep the sun out of the room when not there, and take only what you need to eat. They then monitored electricity, water, propane and solid waste. Those results were compared to an identical sized American group that had recently visited (the baseline).

By the end of the week resource usage stood at:

- Water - down 48%, equivalent to the entire rainfall for a year on the hotel's 42 acre grounds
- Electricity - down 21%, carbon dioxide emissions reduced the equivalent of 42 acres of forest
- Propane - down 48%
- Solid waste - down 34%

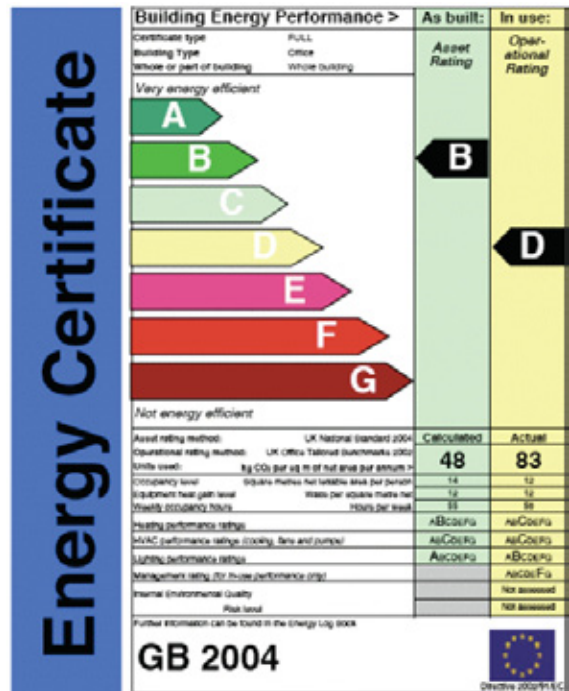
Overall financial savings (on an annualized basis) were well over \$1 million.

This was with only a few hours on lifestyles and no integrated support from the built environment. Imagine what can be done with a robust lifestyles program, and a built environment designed to support it!

### Education to counter green building under-performance

Adrian Leaman and Bill Bordass of the Usable Buildings Trust in the UK have found that out of dozens of green buildings in their study, most were performing almost twice as poorly as specified. Most of this loss was thought to be due to user error and unfamiliarity with green building features.

At The Emerald Hills Urban Village, the performance of green buildings and the Sustainable Urban Neighbourhood concept will be subjected to national scrutiny. This presents a terrific opportunity to enhance Christenson's reputation as an emerging green developer. Alongside careful user-oriented design, a lifestyles initiative with education, training, and community-based social marketing programs is the proactive solution to poor performance.



## The Ten Principles of One Planet Living

One Planet Living® is a joint initiative of WWF and BioRegional Development Group which aims to promote the concept of living within a fair share of the earth’s resources. In particular, the initiative aims to create the partnerships to develop One Planet Living (OPL) sustainable communities around the globe and promote products and services which make it easier for people to reduce their ecological footprint.

One Planet Living has developed a broad and holistic set of Ten Principles (called Ten Themes for The Emerald Hills Urban Village) that address all of the major elements that impact upon our ecological footprint. They serve as a helpful framework in devising a lifestyles program.

One Planet Living Principles	
1	Zero Carbon
2	Zero Waste
3	Sustainable Transport
4	Local and Sustainable Materials
5	Local and Sustainable Food
6	Sustainable Water Use
7	Natural Habitats and Wildlife
8	Culture and Heritage
9	Equity and Fair Trade
10	Health and Happiness

The scope of these Principles extends beyond the use of ecological footprinting and emissions analysis (which measure environmental sustainability), to include issues relating to social and economic sustainability – issues such as equity and wellbeing, and the preservation and enhancement of culture and heritage. The One Planet Living Principles are designed to be used as a guide to develop sustainable visions for communities and host appropriate targets and strategies. The guide can also be used in support of construction and development assessment methods and checklists, such as LEED and Green Globes.

The One Planet Living Principles are increasingly being used by developers and design teams as a guide to devise action plans for specifying and delivering sustainable communities. For example, the London 2012 bid used the One Planet framework to present their sustainability aspirations and commitments; the London Olympics are now termed ‘One Planet Olympics’.<sup>2</sup> A worldwide network of One Planet Communities is currently underway, including a 1.1 billion Euro, 8,000 home project at Mata de Seimbra in Portugal.

A significant part of building a sustainable lifestyle is to create the kind of community where residents are not forced to get in their car and go elsewhere for recreation, social interaction, or cultural activities; this is about creating a community where the automobile is a luxury for occasional trips, not a constant necessity. In order to facilitate the goals of a One Planet Living Community, we must look at sustainability in a broad and holistic

<sup>2</sup> <http://www.london2012.org/en/bid/greengames/a+one+planet+olympics.htm>

sense. Our considerations are primarily about creating a strong and vibrant community that is healthy and happy. We will leverage community cohesion and the inherent synergies of livable communities to facilitate ecological stewardship and environmental sustainability.

Creating community has two elements: a built environment that encourages socializing, healthy lifestyles, and environmental stewardship, and creating a community culture of engagement and civic responsibility. An enormous amount of research has been produced on subsets of either of these topics, but very little directly combining the two. We envision a melding of the built environment and community based programs that work together to achieve the One Planet Living Goals.

## Using the Ten Principles to Enhance Quality of Life & Foster Sustainable Behaviours

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Recognizing that lifestyles are the major determinant of how sustainable a neighbourhood is, we have taken the One Planet Living Ten Principles and devised a framework lifestyles component to increase quality of life and encourage healthy, sustainable behaviours.

We aim to implement the framework in a way that creates synergies between the themes. For example, parts of the sustainable food strategy could include on-site food production through community gardens. Research has shown that community gardens also create a host of additional benefits related to health and happiness (such as reduced crime), and can play a role in reducing carbon, dealing with waste, create habitats and even play a role in sustaining local cultural diversity.

<b>One Planet Living Principles</b>	<b>Framework</b>
<b>Health and Happiness</b>	Our primary aim is for both residents and visitors to experience a noticeably higher quality of life at The Emerald Hills Urban Village. OPL North America will facilitate this by providing realistic, affordable, and effective strategies to increase exercise and leisure activities, community interaction, safety, comfort and a highly desirable environment.
<b>Zero Carbon</b>	Reducing profligate energy use through social marketing and training strategies, and active monitoring.
<b>Zero Waste</b>	We aim to reduce, reclaim, recycle, compost and use ergonomics <sup>3</sup> in the built environment and technology to increasingly divert waste from landfill.
<b>Sustainable Transport</b>	We will work with local partners to create an integrated transport strategy to make significant reductions in emissions. Social marketing and training strategies will be used to help residents make the transition to using the sustainable transport infrastructure.
<b>Local and Sustainable Materials</b>	Materials selection will be guided by environmental criteria, along with price, accessibility etc. By encouraging local materials choices our aim, through community asset mapping (and local resource mapping) and encouragement of bioregional economic development, is to reduce transportation needs by creating a community that looks local first.
<b>Local and Sustainable Food</b>	Strategies such as food-growing on site, food box delivery and regular on-site farmers' markets will ensure lower food related emissions. Social marketing and training strategies will be used to help residents make the switch to more sustainable food.

<sup>3</sup> We aim to make it easy and painless for people to adopt strategies that will lead to zero waste.

<b>Sustainable Water Use</b>	Water efficient appliances and facilities will be complemented by education and awareness about water use, easily visible monitoring, and innovative strategies for wastewater reduction.
<b>Natural Habitats and Wildlife</b>	Natural habitat protection brings with it a host of community benefits, including increased real estate appreciation. Our framework provides green space strategies that maximize community benefits. Linkages to off-site conservation programs will also be explored.
<b>Culture and Heritage</b>	Strathcona has its' own unique heritage and culture, that will be protected and promoted through the framework. Research has indicated that creating a sense of identity and place is a key driver in fostering community interaction – our strategies aim to help create that identity, in part through promoting culture and heritage.
<b>Equity and Fair Trade</b>	Fair trade is a rapidly growing sector of the economy that is important to an increasing number of people. Our strategies will make it easier for consumers to live a lifestyle that supports equity and a restorative economy. This principle also relates to encouraging a diverse community.

**If we achieve all our targets, The Emerald Hills Urban Village will be a truly sustainable community – where residents will be able to live within the carrying capacity of one planet – living *One Planet lifestyles*.**

<sup>4</sup> <http://www.london2012.org/en/bid/greengames/a+one+planet+olympics.htm>

# Chapter 1. VALUE PROPOSITION

## Value Proposition

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There has been some discussion about the marketability of green products or green communities within the green building sector. Just making a development more environmentally friendly will not alone sell the development – a purchaser looks to a whole host of factors to determine where they will make their home. That said, we do believe that the lifestyles program offers a suite of benefits that we believe will ultimately be marketable for The Emerald Hills Urban Village, even for those who would not be convinced by green merits alone.

When members of the conventional business community discuss value they are often confusing the word with 'cost-savings' or 'additional revenue'. While those terms may represent one element of value, they do not define the whole of a much larger picture. Our recommendations are focused at creating true value for all involved: a community where people know their neighbours, where children play safely, the environment is respected, residents feel a strong sense of civic pride, those involved in creation make a fair wage and the development is an asset to the social fabric of the wider area.

Conventional developers may recognize the value of energy efficiency, or marketing benefits of a green certification program, but they have been slow to see the financial and reputational benefits of fostering sustainable behaviours and strong communities. Ecological preservation and access to green spaces have long been recognized by the real estate industry as sellable amenities (therefore the ability to ask higher prices).<sup>5</sup> In a recent survey of small businesses they ranked open space/parks/recreation as the number one factor in choosing a new business location. Between 1980 and 1990 the number of residents who said they would pay more to live by a greenbelt rose by 30%. A New Urbanist study has shown that homes in developments that incorporated good design principles – walkability, a feeling of community and a human scale – command a premium of anywhere from 4 to 25% compared to houses in surrounding areas.

Economic value of parks, open space, the arts, walkability, good health – these are all becoming increasingly well-recognized in economic circles (particularly full-cost accounting, ecological economics). What is less established is the direct financial benefit to the developer. What is clear is that citizens have repeatedly expressed a preference (a preference they are willing to pay for) to live in communities that are walkable, include green spaces, and facilitate the arts. It stands to reason that communities that encourage social interaction will gain a favourable reputation from its inhabitants, ideally leading to increased and faster sales for future projects.

Developers should also be in a better position to leverage funds and/or preferential treatment from various levels of government. By providing recreation facilities and encouraging citizen interaction the developer is also achieving public goals of improving health and reducing crime. Prevention generally being more cost-effective than a cure, governments over time will come to recognize societal cost-savings from innovative developments and developers; progressive governments will look for ways to reward, incent, and encourage such developments.

**Ways in which levels of government save money when a green development is created include:**

- reduced strain on water infrastructure (incoming and outgoing) than a conventional development
- reduced strain on energy grid, thereby reducing or slowing the need for new power generation plants
- assists with meeting international obligations, including the Kyoto Protocol
- reduced health care costs associated with active population and excellent indoor-air quality
- ecological amenities provided, thereby providing a community service
- reduced needs for waste pick-up and disposal
- reduced maintenance e.g. bioswales require less maintenance than conventional alternatives
- lower crime rates, reducing policing requirements
- lessened demand on road infrastructure, reducing maintenance costs and requirements for more roads
- improved general air quality and/or water filtration services

<sup>5</sup> "Economic Benefits of Parks and Open Spaces", Trust for Public Land.

It is starting to be shown that green developments, with a robust lifestyles program, will be embraced by the open market, with the developer able to receive a lifestyles premium. Units at BedZED are going for 35% more than similar sized units of a comparable quality in the direct neighbourhood.<sup>6</sup> Similarly, evidence continues to show that Village Homes continue to sell for a higher amount than houses of similar age, size and quality.<sup>7</sup>

What is becoming increasingly recognized is that green buildings by themselves will not reduce a Canadian's ecological footprint to a one planet level. Evidence is mounting that green buildings are not performing as designed, in large part due to operations of occupants. In addition, typically green developments have ignored large components of an individual's ecological footprint, such as food. As this recognition grows, both the market and government will be looking to ensure that lifestyles are addressed and ongoing monitoring is implemented. The OPL program is, to date, the only program that addresses lifestyles in new development, in combination with the built environment.

See Appendix A for an additional list of benefits that accrue to the developer by incorporating the OPL program:

## Marketing Lifestyles – Benefits to Residents

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As mentioned earlier, green on its own will not be sufficient for someone to invest in a property. Typically people are looking for a combination of factors, such as location, price, occupancy date, kitchen features etc. With that in mind we do feel that the lifestyles program will be marketable, particularly for Christenson's desired market. Assuming 'active adults' will typically translate into near retirement baby-boomers and seniors, there are certain elements of the lifestyles program that will speak strongly to that demographic. From personal experience, although these benefits resonate most fully by the boomer generation, they are also broadly appealing for young families, singles, and the market as a whole.

### **Health:**

The One Planet Living lifestyles program takes a holistic look at improving residents' health. We encourage a healthy indoor living environment, that is complemented by healthy food, improved air quality (indoors and out) and an active social life. Population health studies are showing the health of a community will be dictated (in part) by how engaged residents are, if they have friends, and of course fitness levels. It should be marketable for health-conscious baby boomers that the lifestyles program is designed to foster and enable healthy living.

### **Safety and Security:**

One of the comments we continuously received from residents at BedZED was that they feel safer living at BedZED than they did anywhere else. The reason for the increased perception of safety and security is due to the unique design of the homes (overlooking common areas), but much more important than that, residents feel safe because they know their neighbours. One single female resident commented that if she was ever in distress there was any number of doors she could knock on and feel comfortable that she would receive assistance. Separate research has shown that elements such as a community garden have a direct correlation to reduced crime rates. Safety and security is crucially important for a whole range of demographics including young families, those living alone, and residents who travel frequently.

### **Social Engagement:**

It is easier and easier to become actively engaged in virtual communities; corresponding to that it is becoming more difficult to engage in live communities. Increasingly people live further away from extended family and know fewer neighbours. Conventional developers have started to recognize a desire for community, and have adopted elements designed to enhance interaction such as large front porches. Integrating a robust lifestyles

<sup>6</sup> Based on a 2003 study commissioned by estate agents FDP Savills, and anecdotal reports from BedZED residents.

<sup>7</sup> "Designing Sustainable Communities: Learning from Village Homes", Judy Corbett and Michael Corbett. Island Press, 2000.

<sup>8</sup> <http://www.rics.org/Property/Green+value.htm>

program takes things to a whole new level. Evidence from BedZED and Village Homes has shown that the amount of social interaction and friendships developed within the development is substantially higher than in conventional alternatives. This should be a marketable advantage for The Emerald Hills Urban Village.

**Lower Operating Costs:**

As people contemplate retirement, many individuals begin looking for a lifestyle that will offer low ongoing costs. A sustainable lifestyles program, combined with green buildings and excellent infrastructure, offers the best long term protection against rising energy costs. Independent costing analysis shows that residents of Z-Squared would save 14% compared to the ongoing costs of living in a conventional development. The lifestyles program fosters and enables people to save their money.

**Solid Long-term Investment:**

Green buildings and green communities have been demonstrated to increase in value faster than conventional alternatives. Evidence from BedZED and Village Homes (the two communities that most resemble the proposed lifestyles program) shows that active, engaged and sustainable communities equate to better resale value. In addition there is an element of future-proofing, in that healthy, engaged, sustainable communities are the way of the future. Conventional suburban developments will, over time, look as outdated as homes with fake wood paneling, shag carpets, and a mirrored wet bar in the basement.

**Contribute to the greater good:**

Happiness research has shown that people feel better if they think they are contributing to the greater good. How easily that message can be put across to consumers, and how marketable they find that message has yet to be tested. We hypothesize that it would be an additional benefit (combined with health, safety and security, lower long-term operating costs etc) that would resonate deeply with a number of purchasers, and be an added bonus for many purchasers.

<sup>9</sup> Suggestive, not exhaustive

## **Chapter 2. TEN THEMES IN ACTION: Context, Strategies, and Possibilities**

## Ten Themes in Action

The Ten Themes help provide us with a framework for thinking about lifestyles. We want to develop a lifestyles program that significantly improves health and happiness, while reducing ecological footprint, and addressing the three legs of sustainability (triple bottom line). What we have aimed to do for each Theme is to provide some context, explain how the strategies will benefit the resident while reducing ecological footprint, and then outline strategies that may be used to achieve desired results. The strategies and shopping list are only suggestions at this stage, and will be examined to determine feasibility and suitability later in the process.

### Zero Carbon

The *Zero Carbon Principle* considers reducing carbon dioxide emissions associated with heating, cooling, lighting and providing power to our buildings by minimising energy demand and supplying energy from renewable resources.

<b>Context</b>	<i>Increased levels of carbon dioxide in our atmosphere from burning fossil fuels has been linked to climate change and global warming. As a result, global temperatures are predicted to rise between 1.4 and 5.8° by 2100. This rise will affect our weather patterns and sea levels. 2005 was the hottest year on record globally.</i>
<b>Enhancing Quality of Life</b>	<ul style="list-style-type: none"> <li>• Improved air quality</li> <li>• Reduced costs related to reduced energy bills</li> <li>• Visual contribution to sustainability (renewable energy component)</li> <li>• Lifelong learning educational opportunities</li> </ul>
<b>Enhancing Sustainability</b>	<ul style="list-style-type: none"> <li>• Greenhouse gas emission reductions</li> <li>• Lessened ecological impacts through distributed energy production</li> <li>• Improved habitat for wildlife (tree planting strategies)</li> </ul>
<b>Potential Built Environment Lifestyle Strategies<sup>10</sup></b>	<ul style="list-style-type: none"> <li>• Reduce energy consumption through energy-efficient design, maximising natural daylight, specification of energy-efficient appliances and co-location of facilities to minimise heat-loss</li> <li>• Iconographic renewable energy component</li> <li>• Ensure built environment facilitates easy adoption of low-carbon lifestyles e.g. programmable thermostats and full operable windows</li> <li>• Maintain tree cover as much as possible, active tree planting including street trees</li> </ul>
<b>Community Cultivation Lifestyle Strategies</b>	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>• Education component on programmable thermostat, advantages of turning down temperature in evenings and when away (also on ecological benefits of dropping ambient room temperature by at least one degree)</li> <li>• Social marketing program to foster sustainable habits such as turning off lights.</li> <li>• Influencing user behaviour through visible metering and continuous support</li> <li>• Education on operating unit to maximize efficiency – e.g. enhancing natural ventilation and utilizing natural heating and cooling</li> </ul> <p><b>Partnerships</b></p> <ul style="list-style-type: none"> <li>• Explore possibility of residents to purchase green energy or add renewable energy components to homes (<i>upgrade opportunities – add renewable energy as part of offerings, possibility for net metering</i>)</li> </ul>

<sup>10</sup> We recognize that Built Environment strategies will be determined through a collective effort, including charrette participants, the developer, the architect, interior designer etc. However it is not possible to separate lifestyles completely from the built environment. We have tried to keep the built environment strategies to those that closely interact with the lifestyles component.

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	<ul style="list-style-type: none"><li>• Explore local opportunities for carbon offsets</li><li>• Explore opportunities for community-based energy services company</li><li>• Explore conservation opportunities and/or tree planting on and off/site to enhance greenhouse gas sinks</li></ul>
<b>Actions Required</b>	<ul style="list-style-type: none"><li>• Make partnership links with local organizations doing energy efficiency and renewable energy work</li><li>• Determination of possibilities for carbon offsets and/or conservation opportunities</li><li>• Development of training program on operation of housing unit to maximise efficiency</li><li>• Ongoing monitoring and wide publication (ideally on intranet) of monitoring results</li></ul>
<b>Shopping List of Best Practices</b>	<ul style="list-style-type: none"><li>• Formation of Stewardship Committee</li><li>• Educational Signage</li><li>• Ecoteams</li><li>• Wattson – easy, visible energy monitoring system</li><li>• Green Business Incubator</li><li>• Tree Planting Activities</li><li>• Appointment of Environmental Stewards</li></ul>

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**Energy demand at The Emerald Hills Urban Village will be reduced to the minimum through progressive building practices and a complementary lifestyles piece. Additional elements of a comprehensive carbon strategy are dealt with under sustainable transport and local food strategies.**



## Zero Waste

The *Zero Waste* Principle considers developing closed resource loops through considered design of consumer goods, reducing the amounts of waste produced, then reclaiming, recycling and recovering. The long-term goal is for zero-waste to landfill from the site with all waste being reused, recycled, composted or converted to energy.

<b>Context</b>	<p><i>Across the World, unsustainable linear consumption patterns result in the majority of our extracted and refined resources being used once and then discarded in landfill sites. Some predictions estimate a five-fold increase in global waste generation by 2025. In the developed world, per capita waste generation increased three times between 1977 and 1997 and is approximately five to six times higher than in the developing world [UNESCO]</i></p> <ul style="list-style-type: none"> <li>• Albertans landfill more than 2.4 million tonnes of solid waste every year, and that amount is rising – with minor lifestyles changes that can be significantly reduced.</li> <li>• Albertans only recycle or re-use 17% of their waste – the lowest rate in Canada.</li> <li>• We aim to create easy ways to divert waste to composting or recycling, in addition to campaigns to reduce consumption and waste.</li> </ul>
<b>Enhancing Quality of Life</b>	<ul style="list-style-type: none"> <li>• Increased community interaction opportunities through innovative waste reduction strategies (e.g. community composting)</li> <li>• Opportunity to utilize organic wastes to increase on-site aesthetics (healthy gardens and planters)</li> <li>• Encouraged reduction in consumption results in cost-savings for residents</li> <li>• Health and safety risks associated with landfilling of waste are reduced</li> </ul>
<b>Enhancing Sustainability</b>	<ul style="list-style-type: none"> <li>• Less material going to landfill – less land required for landfills</li> <li>• Lessening ecological damage resulting from contaminating landfill sites</li> <li>• Less production requirements</li> <li>• Reduction in methane produced from landfills, which (molecule for molecule) is 200 times more potent a greenhouse gas than Carbon Dioxide.</li> </ul>
<b>Potential Built Environment Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• Interesting and easily understandable/accessible recycling and composting facilities</li> <li>• Innovative under sink compost and recycling centres</li> <li>• On-site compost containers and allotment gardens to incorporate compost</li> <li>• In any apartment or multi-story building introduce recycling and compost chutes</li> <li>• Highly visible use of recycled/reclaimed materials</li> <li>• Consideration of Envac-style underground pipe system for household chutes and sidewalk garbage bins, to centralize waste collection into a single neighbourhood facility. Saves costs and challenges of having to maintain hundreds of waste containers, and eliminates planning requirement for dumptruck access to buildings.</li> </ul>
<b>Community Cultivation Lifestyle Strategies</b>	<p><b>Minimising waste generation, maximising user recycling/composting rates and using waste as a resource</b></p> <ul style="list-style-type: none"> <li>• Fulfil LEED requirements for on-site recycling, as well as fulfilling requirements for full LEED points for on-site waste diversion during construction</li> <li>• Ongoing monitoring and feedback about waste amounts generated on site</li> <li>• Use of community intranet to promote products with reduced packaging</li> <li>• Community composting program to educate residents about benefits of composting and proper ways to compost</li> <li>• Integration with local organizations working on composting</li> </ul>

- Potential partnerships with local sustainable food operations who may be willing to take compost
- Partnership with local diaper service and/or creation of re-usable diaper lending service
- Explore potential revenue stream from sale of community compost and/or compost tea
- Partnership with Salvation Army or similar organization for regular removal of used-clothing
- Examination of waste to energy possibilities
- Examination for local opportunities for electronics recycling/safe disposal
- Set aggressive community goals for waste reduction
- Encouragement and promotion of Freecycling (e.g. on Intranet)
- Explore potential connections with neighbouring businesses that may be able to utilize waste (cradle to cradle)
- Compost socials to encourage participation
- Creation of 'Compost Masters' to encourage composting, educate and deliver compost programs
- Participation in Canadian-based Compost Awareness Week
- Creation of 'clear bags' garbage strategy that has been shown to markedly increase recycling and decrease waste production

**Action Required**

- Links with groups involved in composting and waste reduction
- Set-up of clear bags strategy
- Development of compost/waste strategy
- Monitoring program on waste created

**Shopping List of Activities**

- Community compost program – Compost Masters
- Interaction with local farmers to pick up compost/drop off food
- Clear Bags Program (Fredericton NB)
- Children's Waste-to-Art Program
- Yearly The Emerald Hills Urban Village Yard Sale
- Freecycle
- Repair and Service Centre
- Partnering with local businesses who may be able to use elements of waste

**We aim to reduce, reclaim, recycle, compost and use technology to increasingly divert waste from landfill, reaching 98% diversion by 2025**



Segregated waste bins at BedZED - *Credit BioRegional*



Reclaimed steel frame structure at BedZED - *Credit BioRegional*

## Sustainable Transport

The *Sustainable Transport* Principle considers reducing the need to travel and providing sustainable alternatives to private car use. This principle overlaps with many of the other 10 OPL principles, including health and happiness, zero carbon, sustainable food strategy and zero waste.

**Context** *Approximately 25% of Canada’s greenhouse gas emissions come from transport, and the majority of that is from road transport.<sup>11</sup> According to Natural Resources Canada private vehicles used by households travel over 247 billion kilometres every year in Canada and consume over 28 billion litres of (fossil) fuel. There are a suite of strategies available to reduce the amount of travel required, and the impact that travel has on our environment.*

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|----------------------------------|--|
| <b>Enhancing Quality of Life</b> | <ul style="list-style-type: none"> <li>• Reduced costs related to transport (can be very significant)</li> <li>• Improved local air quality</li> <li>• Fitness and health benefits through active transportation</li> <li>• Improved social interaction through Home Zone, public transport, bike paths etc.</li> <li>• Less time wasted commuting</li> <li>• Increased safety, particularly for pedestrians and children</li> </ul> |
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| <b>Enhancing Sustainability</b> | <ul style="list-style-type: none"> <li>• Reduced green house gas emissions</li> <li>• Reduction in smog producing pollutants</li> <li>• Natural environment enhancement through reduced requirements for paved services (benefits for stormwater management, biodiversity, habitat)</li> </ul> |
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| <b>Potential Built Environment Lifestyle Strategies</b> | <ul style="list-style-type: none"> <li>• Utilize the best of Smart Growth, New Urbanism, and LEED ND to create pedestrian friendly neighbourhoods.</li> <li>• Mixed-use development allowing for on-site employment opportunities</li> <li>• Design to accommodate/facilitate telecommuting and/or live-work spaces</li> <li>• Safe and secure covered parking available for bicycles</li> <li>• Appropriate facilities for car and bicycle clubs</li> </ul> |
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| <b>Community Cultivation Lifestyle Strategies</b> | <p><b>Providing sustainable alternatives to private car use</b></p> <ul style="list-style-type: none"> <li>• We will work with local authority to create an integrated transport strategy to achieve significant reductions in residents’ transport emissions – aiming for all residents to be within 400 m to a transport node</li> <li>• Car club with cars located conveniently for commercial and residential users (determine partnership with Car Share Co-op of Edmonton)</li> <li>• Cycle access and parking in all parts of development; efficient cycle lane layout</li> <li>• Integration with additional cycling routes, and safe/secure covered parking for bicycles</li> <li>• Encouraging alternative fuels – electric car charging point in parking area; other alternative fuels promoted through community intranet; potential for on-site biodiesel production</li> <li>• Safe pedestrian access within site: car-free centre of the development apart from drop-offs, disabled access and time-controlled service traffic.</li> <li>• Potential sustainable transport incentives offered with every unit – free bike; free car club membership; discounts on vehicles using alternative fuel. Alternatively offering service as part of upgrades suite.</li> <li>• Bus route with convenient bus stops planned around the community</li> </ul> |
|---|--|

<sup>11</sup> [http://www.ec.gc.ca/pdb/ghg/inventory\\_report/2003summary/2003summary\\_e.cfm](http://www.ec.gc.ca/pdb/ghg/inventory_report/2003summary/2003summary_e.cfm)

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**Reducing the need to travel**

- Providing majority of day-to-day facilities on site such as daycare, retail offerings, convenience store, health-care facilities
- Facilitation of coordinated delivery of internet shopping by different residents, through the community intra/ extranet – delivery storage and pick-up space provided in community information centre
- All units designed to allow home working; community fully equipped to take advantage of latest technologies that would facilitate this
- Café on site with wireless internet access to allow for on-site ‘third-space’.

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**Action Required**

- Liaise with Car Share Co-op
- Creation of Car Share Co-op recruitment campaign
- Meet with local government to begin devising integrated transportation strategy
- Work on community intranet site
- Explore viability of on-site biodiesel production/storage/sale
- Further research on Smartgrowth/New Urbanist/Transport Demand Management schools to determine best-practices for built environment

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**Shopping List**

- Walking school bus
- Babysitting co-operative
- Activities for all ages – everything from Mom and Baby Yoga to Seniors Walking Clubs
- Youth Bike Repairs Program
- Commuter Challenge between streets
- Groomed ski trail for winter/bike trail in summer
- Liaise with Edmonton Bicycle Commuters Society and Citizens for Better Transit

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**We will work with the local authority and other partners to create an integrated transport strategy to make significant reductions in residents’ transport emissions. The remaining emissions will be offset through our wind farm, reducing The Emerald Hills Urban Village’ transport-related emissions impact to Zero.**



Right: Car club at BedZED  
Credit BioRegional

## Local and Sustainable Materials

The *Local and Sustainable Materials* Principle considers the choice of materials to give high performance in use with minimised impact in manufacture and delivery. Using local materials can have further benefits to local economies and in supporting traditional and vernacular solutions. We will be encouraging the design team to consider local and sustainable materials, but will also be looking for ways to incorporate a preference for local and sustainable materials in residents’ consumer choices.

**Context** *Increasing levels of international trade result in higher volumes of materials being transported greater distances. Increased trade can frequently result in detrimental environmental effects in both the country of origin, and globally through increased transportation.*

*The extracting, processing, manufacturing and transportation of materials all have considerable impacts on sustainable development. Using reclaimed, recycled, local and sustainably sourced materials can reduce these impacts.*

**Enhancing Quality of Life**

- Established connections with broader community
- Health benefits from choice of low-VOC materials
- Improved aesthetics from regionally relevant materials
- Reduced ongoing costs that occur from maintenance/repairs to materials imported from far distances that may not be appropriate for climate
- Strengthens local community economy – more jobs, higher local tax base

**Enhancing Sustainability**

- Reduced transportation required to bring in goods (reduction in greenhouse gas emissions)
- Habitat protection/enhancement through sustainable materials choice (e.g. FSC wood)
- Reduction in smog-producing pollutants
- Environmental benefits accrue from less damaging materials being manufactured – for example avoiding virgin-PVC materials would result in reduction of dioxin production
- Reduction in materials being landfilled (use of reclaimed materials)

**Potential Built Environment Lifestyle Strategies**

- Examination of regional suppliers that produce high-quality environmental building supplies (salvaged materials, FSC wood, low-VOC finishings etc)
- Use local and sustainable materials in a highly visual way so residents are inspired and reminded of their importance (gentle prompt)
- Avoid materials with urea formaldehyde
- Reduce use of materials with high embodied energy

**Community Cultivation Lifestyle Strategies**      **Education and Awareness of Local Resources**

- Leverage links with existing local suppliers to provide benefits for continued use of local materials and resources
- Community map for sustainable building supply resources
- Awareness and opportunities for residents to deal with construction waste
- Education and awareness campaign surrounding healthy materials choices e.g. importance of low-VOC paints, adhesive and caulking which may be used on a quasi-regular basis post move-in.
- Tour of local resources, in particular sustainably managed woodlots.

**Use of Local Materials and Skills**

- Leverage relationship with development to create local skills that will continue to be a community resource e.g. clay plaster offered as an upgrade offers opportunity to train local clay plasterers

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<b>Action Required</b>	<ul style="list-style-type: none"><li>• Community map of local resources</li><li>• Liaising with local suppliers to create and leverage relationships.</li></ul>
<b>Shopping List</b>	<ul style="list-style-type: none"><li>• Use of aesthetically pleasing local and reclaimed material in highly public spaces, such as exhibition centre, community gardens, main living areas etc, to demonstrate beauty and practicality of materials</li><li>• Community mapping</li><li>• Incorporate site into sustainable forestry component (e.g. Sutton Borough)</li><li>• Tour of local sustainable woodlot</li></ul>

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**The designs make maximum use of local, healthy, natural, reclaimed and recycled materials to reduce embodied energy, waste production and other negative environmental impacts of construction materials. Ongoing programs will work to have residents consider local sustainable products first for home renovation and other projects.**



## Local and Sustainable Food

The *Local and Sustainable Food Principle* considers supporting the consumption of local, seasonal and organic produce, with reduced amount of animal protein and packaging. Food is one of the most significant areas of impact with ecological footprinting and many opportunities are available for significant reduction of ecological impact.

<b>Context</b>	<p><i>Around one-fourth of a Canadian resident's carbon emissions are due to their food consumption. Commonly eaten foods in Canada travel an average of approximately 4,500 kilometres before they make it onto your plate. It is likely that the figures for Edmonton are even higher due to its location.</i></p> <p><i>Organic farming methods guard against the unknown long term effects of food cultivation using chemicals</i></p> <ul style="list-style-type: none"> <li>• Canadian organic sales are roughly \$1 billion, out of a total market for food sales of \$61 billion. Organic farms make up only 0.8% of total farms in Alberta.</li> </ul>
<b>Enhancing Quality of Life</b>	<ul style="list-style-type: none"> <li>• Fresh, local food is delicious – expanding people's palettes through regional food</li> <li>• Improved food security and safety</li> <li>• Tremendous opportunities for social interaction using the age-old technique of sharing food</li> </ul>
<b>Enhancing Sustainability</b>	<ul style="list-style-type: none"> <li>• Reduction in transportation (Food Miles) required; corresponding reduction in greenhouse gas emissions</li> <li>• Distributed food creation model brings benefits for wildlife</li> <li>• Reduction in pesticide use</li> <li>• Reduction in petroleum-based fertilizer use</li> <li>• Preservation of biodiversity in food stream (protection and promotion of heritage varieties that are ignored by conventional industrial agriculture)</li> </ul>
<b>Potential Built Environment Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• Creation of aesthetically pleasing and easily accessible community garden spaces</li> <li>• Use of edible landscaping to reduce food miles for residents</li> <li>• Window and balcony boxes provided to encourage herb growing</li> <li>• Provision of allotment gardens</li> </ul>
<b>Community Cultivation Lifestyle Strategies</b>	<p><b>Creating a demand for local organic food</b></p> <ul style="list-style-type: none"> <li>• Encouraging the formation of a regular farmers' market and/or create links with existing farmers market</li> <li>• Encouraging on-site restaurant or café to use local and organic produce</li> <li>• Encouraging food box deliveries through community intranet and drop-off/ pick-up space provided</li> <li>• Extensive coverage of food related issues in community intranet and in the community information centre</li> <li>• Community mapping of sustainable food resources – growers, processors, suppliers and servers</li> <li>• Edible landscaping harvest program to fund community events</li> <li>• Feast of Fields/Tastes of Edmonton sustainable food event</li> <li>• Partnerships with local NGO's working on food security and sustainable food</li> <li>• Community garden socials</li> <li>• Tours of local farms (ideally in partnership with local organization working on local food issues)</li> </ul>

	<ul style="list-style-type: none"> <li>• Creation of allotment gardens of various sizes – some small for people who want very manageable spots, others large enough to allow for larger gardens</li> <li>• Creation of Slow Food Chapter and/or Local Gourmets Cooking Club</li> <li>• Explore opportunity to use waste heat to heat greenhouses</li> <li>• Community dinners and potlucks</li> </ul>
<b>Action Required</b>	<ul style="list-style-type: none"> <li>• Creation of community map</li> <li>• Determination of local groups working on sustainable food and creation of partnerships</li> <li>• Further study on community gardens and composting systems to determine best possible approaches</li> <li>• Creation of sustainable food piece for residents manual</li> </ul>
<b>Shopping List</b>	<ul style="list-style-type: none"> <li>• Feast of Fields</li> <li>• Slow Food Chapter</li> <li>• Farmers Market</li> <li>• Cob Popcorn stand (Stanley Park)</li> <li>• Fruit and/or Nut Tree Project</li> <li>• The Sustainable Potluck</li> </ul>

**Food creation and shipping is a major contributor to our ecological footprint. There are a host of strategies available to reduce the impact on the environment of food production and distribution. Implementing the sustainable food strategies will also bring a host of social, health and community benefits for relatively little cost.**



Herb growing in BedZED sky garden  
*Credit BioRegional*



Fresh fruit/ veg box delivery at BedZED  
*Credit BioRegional*

## Sustainable Water

The *Sustainable Water* Principle considers strategies for reducing water demand and managing rain and waste water sustainably

<b>Context</b>	<p><i>Canada has a terrible record when it comes to water consumption. We rank 28<sup>th</sup> out of 29 OECD countries in terms of per capita water consumption; Only the US consumes more water per person. Canadians use four times more water than the average Swede and eight times more water than the average Dane, with the Swedes and Danes enjoying a similar quality of life. Alberta's daily domestic consumption is more than 1 billion litres a day!</i><sup>12</sup></p> <ul style="list-style-type: none"> <li>• Water preservation brings with it a host of additional broader social and regional benefits including deferring or reducing capital costs, allows for an increase in local population, agriculture and/or industrial expansion, reduced chemical use required for treatment, reduced energy requirements for pumping and treating, helps maintain natural in-stream flow for wildlife, and helps create good neighbours by ensuring downstream users receive adequate flow.</li> </ul>
<b>Enhancing Quality of Life</b>	<ul style="list-style-type: none"> <li>• Potentially reduced bills for water consumption</li> <li>• Reduced energy bills related to reduced need to heat hot water</li> <li>• Residents have reduced chance of running out of hot water during their shower!</li> <li>• Aesthetic benefits from native, drought-resistant landscaping that looks good even during low rainfall occurrences</li> <li>• Less money from condominium/residents fees going towards ongoing landscaping/irrigation costs</li> </ul>
<b>Enhancing Sustainability</b>	<ul style="list-style-type: none"> <li>• Reduced energy usage for pumping, treating and dealing with waste-water – reduction in greenhouse gas emissions</li> <li>• Reduced requirements for water infrastructure</li> <li>• Allows more water to end up where nature intended (ponds, wetlands, rivers and lakes)</li> <li>• Less chemicals required for water treatment</li> </ul>
<b>Potential Built Environment Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• Native plants and xeriscaping in common spaces to reduce water requirements</li> <li>• Rainwater collection from roofs used at minimum for any irrigation, and explore potential for re-use in toilets and laundry</li> <li>• Explore potential for on-site waste-water treatment, including a constructed reed bed-based treatment system that would be highly visible/provide community amenity</li> <li>• Use stormwater management techniques that also provide a community amenity</li> <li>• High quality showerheads to encourage showers over baths</li> <li>• Visible water metering</li> <li>• Provision of water timers on exterior hoses</li> </ul>
<b>Community Cultivation Lifestyle Strategies</b>	<p><b>Reducing water demand</b></p> <ul style="list-style-type: none"> <li>• Education and awareness raising component about maximizing efficiency of appliances</li> <li>• Dissemination of water conservation tips</li> <li>• Education and awareness campaign on irrigation best-practices for community garden</li> <li>• Ongoing and visible monitoring of water consumption with easily available</li> </ul>

<sup>12</sup> This does not even include amount required for agricultural or industrial purposes.

	<p>comparisons to neighbouring communities and/or Canadian averages for water consumption</p> <ul style="list-style-type: none"> <li>• Potential for some kind of water art feature</li> <li>• Partnership with local NGOs working on water issues</li> <li>• Promotion of native plants and/or xeriscaping techniques for individual gardens (particularly those not interested in on-site food production)</li> </ul>
<b>Action Required</b>	<ul style="list-style-type: none"> <li>• Exploration of feasibility of on-site waste-water treatment, and use of rainwater for toilets</li> <li>• Determination of partnerships on water issues (possibility of working with Dr. David Schindler)</li> <li>• Creation of water conservation component of residents' manual</li> <li>• Set-up of monitoring plan</li> </ul>
<b>Shopping List</b>	<ul style="list-style-type: none"> <li>• Water art feature</li> <li>• Celebration of Water</li> <li>• Implementation of Soft Path for Water<sup>13</sup></li> </ul>

**Albertans are among the highest users of water per capita in the world. Through efficient appliances and facilities, domestic water use will be reduced by at least 40%. Water conservation through the built environment and lifestyles strategies will have a host of benefits for the residents and the broader community.**

<sup>13</sup> A joint initiative of Polis Project and Friends of the Earth Canada <http://www.polisproject.org/polis2/PDFs/Nutshell.pdf>

## Natural Habitats and Wildlife

The *Natural Habitats and Wildlife* Principle considers approaches for the conservation of existing biodiversity and features, as well as opportunities to increase the ecological value and access to nature.

**Context** *The Boreal forest in northern Alberta has been under tremendous development pressure. What was once seen as a limitless resource has become so fragmented to be called “a series of industrial parks” by a leading Alberta ecologist. Insensitive development can exacerbate the problem by causing natural habitat destruction and result in species loss locally and globally.*  
*We aim to work with the design team and residents to create a culture of preservation and an enhancement of key habitats.*

**Enhancing Quality of Life**

- Preservation of wildlife brings with it a host of important values, such as carbon sequestration, water and air purification, opportunities for recreation etc. We believe over and above that, that wilderness deserves to exist for its own intrinsic value. Other species, whether they have a direct, quantifiable benefit to humans or not, should be allowed to exist and there should be places free from human development.
- Opportunities for recreation and life-long learning
- Proven improved emotional/mental well-being associated with visible green spaces

**Enhancing Sustainability**

- Habitat loss is the primary reason why most of the species listed on the Species at Risk Registry are extirpated, endangered or at risk. Preservation of habitats and wildlife protects biodiversity.

**Potential Built Environment Lifestyle Strategies**

- Design and planting strategy that makes extensive use of native species, which are more likely to support local wildlife
- Bird feeders and bat and bee boxes to enhance natural environment
- Stormwater management strategy that enhances existing biodiversity
- Protection of ecologically valuable on-site resources
- Replanting of key plants that would be lost due to development (perhaps in partnership with local NGO or progressive nursery)
- Utilize a range of habitats
- Explore feasibility of a wildlife corridor through development

**Community Cultivation Lifestyle Strategies**

- Education and awareness raising on the importance of natural environments
- Partnerships with local NGOs to host walking tours/expeditions to locally important wild spaces
- Community adoption of rare or threatened plant species
- Partnerships with NGOs such as Evergreen to create interactive, enhanced natural habitat spaces that are an integral part of the community
- Bird-watching club – bird watching list on the intranet
- Biodiversity Action Plan
- Formation of an Ecoteam
- Appointment of Environmental Steward
- Education, awareness and removal of invasive species

**Further Action**

- Examination of potential partners
- Determination of rare or threatened plants or habitats
- Creation of a Biodiversity Action Plan
- Creation of ‘Natural Environments’ section in residents manual

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**Shopping List**

- Broom Bash (invasive species removal)
  - Ecoteam (see [www.toolsofchange.com](http://www.toolsofchange.com))
  - Environmental Stewards
  - Bird-watching Club
- 

**We aim to make The Emerald Hills Urban Village a place where local flora and fauna can flourish, enhancing the ecological value of the site. We will work to create residents who value nature and work diligently to act as stewards.**



Zero maintenance sedum roofs at BedZED  
*Credit BioRegional*

## Culture and Heritage

The *Culture and Heritage* Principle considers strategies to acknowledge and interpret cultural heritage. Approaches to engendering a ‘sense of place and identity’ to contribute towards future heritage and cultural richness will also be addressed.

<b>Context</b>	<p><i>Acknowledging and learning from our past is an important element of understanding how we live in the future.</i></p> <p><i>By engendering a sense of place and identity through references to local history and culture, commercial and tourist interest can be generated. The strategy can lead to substantial benefits for the local economy. Creating a sense of identity is an extremely important element of building strong community and enhancing civic pride. Residents who feel pride in their neighbourhood will be active, engaged and protective of the community space.</i></p> <ul style="list-style-type: none"> <li>• Creating a sense of space by using culture and heritage will pay substantial dividends with community benefits and reduced maintenance requirements.</li> </ul>
<b>Enhancing Quality of Life</b>	<ul style="list-style-type: none"> <li>• Culture and heritage will be used to help create a strong sense of identity, which will enhance civic pride and community involvement</li> <li>• Life-long learning opportunities</li> <li>• Increased opportunities for community interaction</li> <li>• Help create respectful links through diverse cultures</li> </ul>
<b>Enhancing Sustainability</b>	<ul style="list-style-type: none"> <li>• May reduce requirements for transport (brings culture close to home)</li> <li>• Increased respect for local history should help with preservation</li> <li>• Volunteerism will be engaged in efforts more directly related to enhancing sustainability</li> </ul>
<b>Potential Built Environment Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• Utilize design that will create a unique sense of identity and place</li> <li>• Visual preference survey to create regionally appropriate design and architecture</li> <li>• Borrow from regional architectural heritage to assist in drawing links with the broader community</li> </ul>
<b>Community Cultivation Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• Aboriginal signage to draw links with heritage of the area</li> <li>• Historical, cultural interpretive signage</li> <li>• Explore history of area to draw any additional appropriate links</li> <li>• Create spaces and opportunities for formal and informal expression of local and regional art</li> <li>• Community intranet and residents manual to provide significant and accessible information on local heritage, places to visit and so on</li> <li>• Partnerships with local First Nations groups to raise aboriginal awareness, possibilities of hosting First Nations events</li> <li>• Resurrecting celebration of historic local celebrations (e.g. First Nations celebrations of harvest, a historical event etc)</li> <li>• Opportunities for story-telling and oral tradition</li> <li>• Integrate elements of local culture and heritage into the exhibition centre</li> <li>• Street names to reflect local history and heritage</li> </ul>
<b>Further Action</b>	<ul style="list-style-type: none"> <li>• Visual preference survey</li> <li>• Research into the historical uses of the site</li> <li>• Liaise with local First Nations</li> </ul>

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**Shopping List**

- Story-telling Café
  - Coffee-table book on history of area
  - Aboriginal Awareness Day
  - Cultural Signage
  - Art Festival
  - Performance Art Weekend
  - Children's Waste-to-Art Program
  - Traditional Aboriginal food event
- 

**Local culture and heritage will be respected and honoured in order to help create a sense of place or identity. This will assist in engendering civic pride, promoting volunteerism, and added benefit to Christensen by promoting strong self-identification with the The Emerald Hills Urban Village neighbourhood.**



*Beaver Indians (first settlers of Strathcona County) at the Hudson's Bay Store*



## Equity and Fair Trade

The *Equity and Fair Trade* Principle considers strategies to help create a sense of community, to promote local economic development, and the provision of accessible, inclusive and affordable facilities and services.

**Context** *Living sustainably is not only about us not compromising the quality of life of future generations, but also that of our present neighbours around the world. Fair trade has the potential to improve living standards of the majority world, and can also be used to enhance local economies.*

*New community development has the potential to target investment to meet broader societal goals such as environmental protection, equity, community economic development and job creation.*

<b>Enhancing Quality of Life</b>	<ul style="list-style-type: none"> <li>• This principle directly relates to building the community on the strong foundations of justice and equity</li> <li>• Greater social interaction between residents</li> <li>• Sense of civic pride</li> <li>• Life-long learning opportunities</li> </ul>
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<b>Enhancing Sustainability</b>	<ul style="list-style-type: none"> <li>• True sustainability is only possible in a world with fair and equitable trade practices</li> </ul>
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<b>Potential Built Environment Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• To target a substantial proportion of the investment towards the local economy, using local skills and materials where possible</li> <li>• To use the opportunity of the The Emerald Hills Urban Village project to engage in skills development activities for the area</li> <li>• Voluntary sign-on to accepted Code of Conduct ensuring basic working and environmental standards are met for major suppliers</li> <li>• Ensure rental and freehold affordable housing is made available (ensure affordable housing is distributed throughout the development as opposed to segregated)</li> <li>• Lifetime user standards adopted for majority of units to allow for homes to be easily adapted as people age</li> <li>• Majority of development to be wheelchair accessible</li> </ul>
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<b>Community Cultivation Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• Fair trade retailers will be encouraged to open within the development</li> <li>• Encouraging democratic participation in governing/managing The Emerald Hills Urban Village</li> <li>• Enable Residents' Association with real decision-making power</li> <li>• The community intranet will provide information on local fair trade retailers, suppliers, organisations and initiatives</li> <li>• The community intranet could facilitate 'time bank' or barter system where people offer services eg. gardening, care services, help with shopping etc. to each other in exchange for similar services; the currency is the time spent providing the services</li> <li>• Ensure homes are available to a wide range of income groups, offering eco-studios all the way up to luxury penthouses</li> <li>• Explore activities to all different age groups, from mom and baby yoga to seniors walking clubs; also explore ways to engage different segments of the population together</li> </ul>
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**Further Action**

- Determine appropriate Code of Conduct for suppliers to sign on to (look from existing work in Fair Trade community)
- Preparation of fair trade/equity component of manual
- Determine appropriate suite of activities to address all demographics

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**Shopping List**

- Fairtrade fortnight
- Bulk purchasing of fair trade coffee, chocolate, sugar and other staples that cannot be grown locally
- Twin between development an cocoa-producing/coffee-producing town (e.g. Garstang, UK and New Koforidua in Ghana)
- Ben & Jerry PartnerShop (or similar-type venture) located on-site

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**Equity is an important underpinning of a truly sustainable development. Our strategies will aim to create fair trading relationships and an inclusive community.**

## Health and Happiness

The *Health and Happiness* Principle considers approaches to promote health and wellbeing, as well as establishing long-term management and support strategies. Many of the principles of sustainable transport, sustainable food, and culture and heritage directly relate to health and happiness.

**Context** *There is a proven correlation between the state of our environment and our health; our buildings and our wellbeing.*

*The long term health of the planet is fundamentally related to how we choose to live now - the sustainability of our lifestyles. Living unsustainably can not only lead to poor quality of life today, but may also jeopardise the quality of life of our descendants in the future.*

### Enhancing Quality of Life

- Supports healthy living – facilities active lifestyles
- Ample opportunities for community interaction
- Improved localised air quality
- Improved mental/emotional well-being
- Higher degree of safety
- Strengthened local economy
- Ongoing commitment to residents’ happiness

### Enhancing Sustainability

- Reduced transport requirements – reduced GHG emissions
- Reduced psychological desire for consumption
- Facilitating/encouraging further work by environmental groups

### Potential Built Environment Lifestyle Strategies

- Provide facilities that support healthy living
- Easy access to playing fields, cycle paths, and inviting walking areas; cycle paths also serve as ski trails during winter months
- Pedestrian friendly design (see sustainable transportation)
- Parking area also serves as basketball court
- Community garden space (see sustainable food)
- Ample, secure, easily accessible bicycle parking
- Community playground is easily accessible, pleasant location
- Encourage low-emitting materials
- Design considerations to ensure safety of residents in common spaces
- Encourage design that incorporates daylight and views
- Design so that all units have view of greenspace
- Adequate access to private greenspace for majority of units
- Best practices followed to ensure superior noise insulation between units
- Adequate ventilation to maintain healthy indoor air quality
- Easy accessibility from majority of units to private gardens
- ‘Secure-by-design’ principles used as a guideline in landscape design
- Flex design to allow homes to allow buildings to be easily adaptable to changing circumstances in life
- Supply community centre space for physical activities (yoga, aerobics, pilates etc), and also for social interaction (ZedBar)
- Re-integrate public health issues with urban planning issues – explore opportunities to involve public health officials into planning and design process
- Explore possibility of relocating NGO’s on-site

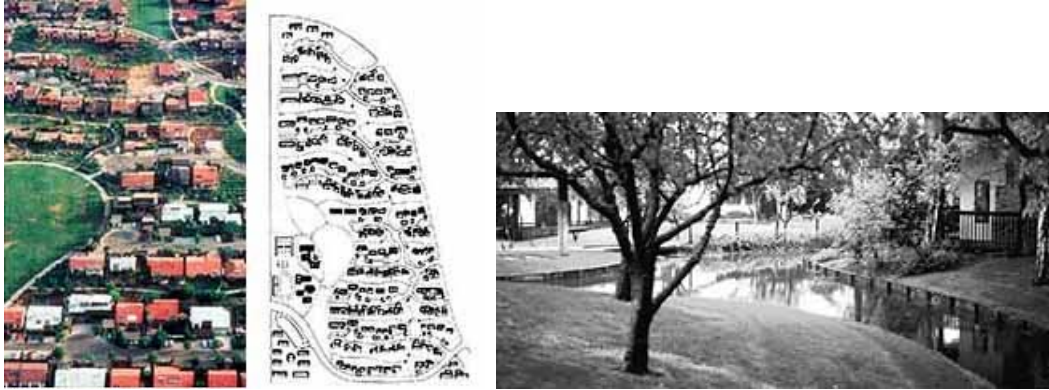
<b>Community Cultivation Lifestyle Strategies</b>	<ul style="list-style-type: none"> <li>• Encouragement of exercise by making it convenient and appealing to a range of participants</li> <li>• Partnerships with local groups on health issues</li> <li>• Partnerships with local recreation and gardening groups</li> <li>• Partnerships with groups to provide seniors activities</li> <li>• Green housekeeping program implemented for residents and commercial tenants</li> <li>• Education and awareness raising on available recreational and fitness opportunities</li> <li>• Asset map on local recreational facilities and safe walking paths</li> <li>• Green Lifestyles introduction in residents manual, and ongoing information disseminated via community intranet</li> <li>• Opportunities for lifelong learning through exhibition centre and hosting series of courses (running the range from Elderhostel for seniors to Signing with your Baby)</li> <li>• Creation of health and happiness indicators and ongoing monitoring to ensure targets are being made</li> <li>• Encouragement of on-site employment opportunities</li> <li>• Provide opportunities for viewing and participating in the arts (see Culture and Heritage)</li> <li>• Provide early childhood development programs with an eye to sustainability<sup>14</sup>, preferably with partners such as Evergreen</li> <li>• Community based social marketing campaign on healthy and sustainable lifestyles</li> </ul>
<b>Further Action</b>	<ul style="list-style-type: none"> <li>• Development of health and happiness indicators</li> <li>• Liaise with community partners to determine available resources for programs, educational opportunities, learning partnerships etc.</li> <li>• Liaise with NGOs and local sustainable (micro)businesses to determine suitability of an earth embassy or green business incubator approach</li> <li>• Development of CBSM campaign on healthy and sustainable lifestyles</li> <li>• Creation of health and happiness component to residents manual</li> <li>• Community map detailing 'health and happiness' related assets</li> </ul>
<b>Shopping List</b>	<ul style="list-style-type: none"> <li>• Volunteer Recognition Night/Volunteer of the Year award</li> <li>• The Hub/Centre for Social Innovation (green business incubator)</li> <li>• Babysitting Co-operative</li> <li>• Shared Seniors Centre/Nursery (see Paris example)<sup>15</sup></li> <li>• Children's play area</li> <li>• Walking paths/ski trails</li> <li>• 1000 Hands Initiative in creation of Community Space</li> <li>• Community Newsletter</li> <li>• Community Intranet</li> <li>• Community Café</li> <li>• Movie night</li> <li>• Earth Embassy/NGO Centre</li> <li>• Inter-Community Competition (e.g. different blocks square off in commuter challenge)</li> </ul>

<sup>14</sup> The Center for Disease Control has listed early childhood development programs as an extremely important determinant of population health.

<sup>15</sup> An innovative Seniors Centre has opened in Paris that combines shared facilities with a daycare. Hallways and some public spaces are shared in common, and lunches are done together. The model has proven to be very successful and is now being copied in other locations.

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- Inter-Resident Competition (e.g. guessing when ice will break up, posted on prominent display board, used as a tool for social interaction and ecological observation)
  - Neighbourhood Leadership College (see Roanoke, Virginia)
  - Call-in/Email Hotline for Civic Events
  - Shared toy library
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**Our ultimate aim is that people live happy and healthy lives at The Emerald Hills Urban Village. We will help facilitate this by providing a safe, comfortable, healthy and desirable environment. Recreation will be easily accessible, with a range of activities for all demographics.**



Plenty of play areas distributed among fruit orchards with easy access for all residents; safe, traffic-calmed streets enable children to play in them.

*Credit: Village Homes, Davis, California*

<sup>16</sup> <http://www.rics.org/Property/Green+value.htm>

## **Chapter 3. FOSTERING: The Community Cultivation Process**

## The Community Cultivation Process – Theory and Implementation

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Acting as a sort of “operating system” for One Planet Lifestyles is the Community Cultivation Process, a “best of breeds” suite of market-tested tools, methodologies, and practices that will be used to engage citizens in meeting household targets for quality of life and sustainability.

The Community Cultivation Process falls into four streams:

1. **Enable Quality of Life** by recommending design choices that enhance well-being and social interactions in the built environment
2. **Enable Sustainable Behaviours** by recommending design choices that make sustainable living easy, affordable and practical
3. **Foster Quality of Life** by delivering a range of social programs designed to enhance neighbourhood safety and “cultivate community” through increased social interactions
4. **Foster Sustainable Behaviours** by influencing popular attitudes and encouraging habit changes through gentle persuasion and community-based social marketing; providing self-help tools, intranet, governance models, and opt-in programs that promote efficient use of green buildings and waste facilities and encourage healthier living through “green” recreation, transport, and food options.

### Goal: Designing for Aliveness in Community Interactions

The principle objective of the Community Cultivation Process is to enhance community interaction, in turn raising quality of life and making sustainability “stickier”. A community that interacts on a regular and ongoing basis is one that is safer, healthier, and more sustainable. Fewer trips outside of the development are required for social or recreational reasons, cutting down on carbon emissions. Community interaction encourages participation in on-site food strategies, and can act as peer reinforcement for many other sustainable lifestyle practices.

At BedZED, an almost accidental by-product of the original One Planet lifestyles program (which brought residents together for regular parties at the “ZedBar”) was increased levels of community interaction and support; residents report that it is this sense of community at BedZED which they value most. Some families have grown extremely inter-dependent, sharing child-care duties collectively so that baby-sitters are needed less often. Another result, in part due to the lifestyles program, is that the turn-over rate at BedZED is low; some community members, having out-grown their smaller studio apartments, have waited until they had the chance to move within BedZED into larger units. And while some of the more experimental – but fundamental – infrastructure at BedZED have suffered technical difficulties (such as the CHP or Green Water Treatment Plant), residents have remained tolerant and co-operative throughout the resulting inconveniences.

The degree of community interaction at The Emerald Hills Urban Village will depend, in part, on our ability to generate enough excitement, relevance, and value to attract and engage residents. Although many factors, such as a well-designed built environment or common environmental values, can inspire a community to evolve more sustainable habits, nothing can substitute for this sense of aliveness.

While much interaction at The Emerald Hills Urban Village will be informal and spontaneous, we have two arenas in which we can use design to enhance it and direct interaction towards fostering sustainable behaviours. First, we can intentionally design the built environment to support and nurture community interaction and sustainable behaviours; and secondly, we can design our meetings, events, training programs, and other community activities to support and nurture “aliveness”.

## PHASE 1. ENABLE

Please note that many of the Enabling components for sustainable lifestyles are sketched out in the previous chapter under each of the Ten Themes, and based on guidance from Christenson will be expanded as part of the Phase II Lifestyles Planning program. They are not included here.

### **Designing for Social Encounters around a Community Center**

Creating a common point of entry to a community, or at least a central hub, with common facilities & amenities aggregated around it will lead residents to routinely encounter one another there and form social ties. If mail and other daily necessities are located in the community centre, residents will need to pass through the community centre on a regular basis, and they will be drawn to the community as they pass through.

Small shops that service residents are key, particularly cafes or coffee shops and a “general” store to sell convenience items, local & fair-trade products, green housekeeping supplies, etc.

A telework facility with hot-desks and wireless internet can provide residents with an office-away-from-the-office, just a short walk away from home. This shared office space can also be used to help incubate local entrepreneurs and non-profit projects based in the community.

Our review of the Cohousing movement has revealed some important shared rooms or facilities to be considered for adjoining the Community Center:

Nursery/day-care, laundry, Toy library, kids room, teen room, music room, library, office/computer room, arts/crafts room, dance studio/martial arts dojo, workshop, laundry, and storage facilities. The teen room, music room, and library need privacy and isolation for noise and social reasons.

Locating children’s adventure playgrounds adjacent to an adult space such as a café is an excellent strategy that will allow parents to socialize in comfort while keeping an eye on their children playing.

Nearby, highly visible studio space for artists is also a powerful way to inject aliveness and cultural identity into a neighbourhood.

Locating underground parking or shared above-ground parking next to the Community Centre will lead to increased encounters and use of the Community Centre.

Locating the community centre urban space near the community shared vegetable gardens as part of the sustainable food strategy, and potentially creating arcade space for a local farmer’s market, are other excellent strategies.

One is much more likely to use a community centre such as we describe if it is closer to the home and easier to get to – pedestrian proximity is key. For closer residents in their homes and passers-by on the street, it is useful if they can see into the busier rooms of the Community Centre, to gauge how “alive” the space is.

### **One Planet Lifestyles Center:**

A One Planet Lifestyles Center, to showcase and provide an informal/formal training environment for both residents and visitors, would provide a physical “home” for the Lifestyles program. This would ideally be housed within a community building or public facility in the busiest area of the urban village. We will explore locating the OPLifestyles Center alongside other community facilities in a “gateway” environment; that is, in a location that many residents pass through on a regular basis due to shared services (e.g. child care, mailboxes, cafes, and many other potential amenities), fostering stronger social connections and ties within the community.

The One Planet Lifestyles Center plays several key roles:

1. Most importantly it provides an educational tool for sustainability for a host of individuals (architects, city planners, residents, individuals interested in sustainability etc.)

2. Allows residents and/or potential purchasers to see and understand elements of the development that may not be visible upon first glance (e.g. food program, insulation, triple glazing etc.)
3. Additional marketing opportunity for potential purchasers/tenants – allows for full explanation of green features
4. Reinforces sustainable lifestyles of residents.

Our research will explore how we can link the OPL Lifestyles Centre with central community facilities and CDL's sales centre for The Emerald Hills Urban Village.

### **Governance & Business Models:**

At BedZED governance has been split three ways: the residents' association effectively runs the community centre and the allotment gardens, distributes a regular newsletter, is working on a website, and generally runs the social interaction component. Peabody Trust<sup>17</sup> continues to have a high level management role, primarily as they are still the freehold title owner and maintain ownership of many of the units. From a lifestyles perspective, they do have some involvement in the community centre, and are responsible for maintenance. A caretaker has recently been added, and he has taken on responsibility on the ground in improving the composting program, ensuring facilities that support an active/sustainable lifestyle are maintained, and general aesthetic improvements.

BQL and Pelicano are both considering a Community Trust business model that they believe will allow for more effective long-term facilities management, community feedback, and resident's ownership of both green infrastructure/buildings *and* Lifestyles programs. A Community Trust is a legal entity in which every household has an opportunity to become a member. The Trust aims to give members a say in the way the development is run and provide a collective vision for the community, as well as helping to protect everyone's investment. The Community Trust is also a business, which aggregates revenue streams from various sources (facilities management/condo fees, intranet fee, etc.).

How might a Community Trust look at The Emerald Hills Urban Village? Each homeowner and resident would be a member of the Community Trust and contribute a monthly amount to the Trust, thereby reducing for the developer the costs of external maintenance and insurance, which are shared. The play areas and open spaces might be owned by the Trust and their maintenance, together with that of all communal spaces, covered in the monthly contribution. A neighbourhood bulletin board and intranet might also be provided to keep residents up to date, and a Trust administrator employed as a day-to-day first point of contact.

This approach engenders a sense of strong community identity, stewardship of shared facilities by community members, and could even play a central role in marketing. Developers which have implemented Community Trust models, such as the Lifebuilding Company in its St James development (422 homes) have even found that house prices could rise at a slightly faster rate than similar properties in neighbourhoods without common interest in maintenance facilitated through a Trust.

Green caretakers, community trusts, and other governance and business models for delivering lifestyles effectively and profitably could be investigated in Phase II research for their appropriateness to Strathcona, Christenson, and the local market context of The Emerald Hills Urban Village. The depth of this research will depend in large part upon Christenson's guidance and interest in examining a variety of models.

Another consideration in determining the right governance and business models is third-party grants or funds. The lifestyles program at The Emerald Hills Urban Village could be appealing to grant-makers and funders depending how it is structured.

<sup>17</sup> The Peabody Trust was founded in 1862 (as the Peabody Donation Fund) by an American merchant banker, George Peabody, to provide housing and support to various charitable schemes for people in need in London. The fund, which was incorporated by an Act of Parliament in 1948, has traditionally become known as the Peabody Trust. With nearly 150 years' experience of providing homes and delivering our broad remit of tackling poverty in London, and with a portfolio including nearly 6,000 Victorian homes and many estates in central London, Peabody is in a unique position within the social housing sector.

## PHASE 2. FOSTER

### **General Approach: Designing social events and gatherings to nurture community interaction**

How do you design for aliveness in the social sphere? Certainly you cannot contrive or dictate it. You cannot design it in the traditional sense of specifying a structure or process and then implementing it. Still, aliveness does not always happen automatically. Many natural communities never grow beyond a network of friends because they fail to attract enough participants. Many intentional communities fall apart soon after their initial launch because they don't have enough energy to sustain themselves. Communities need to invite the interaction that makes them alive. For example, a park is more appealing to use if its location provides a short cut between destinations. It invites people to sit for lunch or chat if it has benches set slightly off the main path, visible, but just out of earshot, next to something interesting like a flower bed or a patch of sunlight. The structure of training programs, meetings, and events also invite a kind of interaction. Meetings or training programs that contain some open time during a break or lunch, with enough space for people to mingle or confer privately, invite one-on-one discussion and facilitate relationship building. Just as a good park has varied spaces for neighbourhood baseball games, quiet chats, or solitary contemplation, well-designed community events introduce new residents to each other, and allow for participating in group discussion and one-on-one conversations. Even though most community events and training programs will be optional, good community design can invite, even evoke, aliveness.

What is the role of design for a community that is, by definition, natural, spontaneous, and self-directed? How do you guide a group of individuals to coalesce into an "alive", vibrant community? From our experience we have derived several principles and tactics that can help:

#### **Principle: Encouraging Ownership**

Recognizing that the Lifestyles Co-ordinator is only a temporary position in a community that will exist for a very long time, we will adopt strategies (see champions, volunteerism, CBSM) to encourage ownership of the community amenities and the 10 Themes by the residents of The Emerald Hills Urban Village. To make a truly sustainable development it needs to be able to operate with a minimum of external inputs. The Lifestyles Co-ordinator will play a key role in ensuring ownership is quickly transferred to residents.

#### **Related Tactic: Leadership Recruitment & Transition planning**

One objective of the Lifestyles Coordinator is to work themselves out of a job by recruiting volunteers and community members to take over various programs and services and run them. The Community leaders we've spoken with who've successfully recruited new leadership inside their community group stress that a gradual approach is best. Incrementally delegating tasks to a particular candidate member until they're performing the full role of a Coordinator before finally passing on the title is recommended. This can help you evaluate their viability in the role – if they turn out to be unsuitable for some reason, you can gracefully transfer your mentorship to another candidate.

#### **Principle: Community Involvement in Decision-making & Democratic Participation:**

It is important to balance the numerous ways in which the OPL Lifestyles program sets out "benevolent social engineering" targets with authentic involvement from interested residents in making decisions about community programs. Co-created programs tend to be more resilient, with more ownership and volunteerism than those that are imposed top-down. This will require that there are processes in place to allow for community decisions to be made. In all of our strategies we will strive to find ways to encourage democratic participation.

#### **Related Tactic: Goal Setting:**

For each of the 10 Principles we will work to set aggressive, but realistic goals. An integral part of this strategy is to ensure that the goals are well-known in the community, and work to find ways to increase community-ownership of those goals. In addition we will work with the community to help them develop their own goals, and goal-setting mechanisms to further sustainability and community interaction.

**Principle: Invite different levels of participation**

Good community architecture invites many different levels of participation. Consider the variety of activities we might find in a city neighbourhood on any given day: solitary shoppers, people walking briskly to work, friends out for a casual stroll, couples chatting at an outdoor cafe, a crowd watching a street performer. Others are on the periphery, watching the action from the windows above the street. Design of community meetings and events is very similar. People participate in community events for different reasons—some because the community directly provides value, some for the personal connection, and others for the opportunity to improve their skills. Because people have different levels of interest in community events and activities, it is unrealistic to expect all community members to participate equally in programs.

Aliveness in communities can be orchestrated by a "coordinator" who organizes events and connects people. But others in the community also take on leadership roles. We commonly see three main levels of community participation.

**Core Participants.** The first is a small core group of people who actively participate in discussions, even debates, in the public community forum. They often take on community projects or volunteer duties, or spread the word about sustainability. This group is the heart of the community. As the community matures, this core group takes on much of the community's leadership, its members becoming auxiliaries to the Coordinator. Many of these "Core Participants" are Champions (see below) who exert great influence in the community. But this group is usually rather small, only 10 to 15 percent of the whole community.

**Active Participants.** At the next level outside this core is the active group. These members attend meetings regularly and participate occasionally in the community forums, but without the regularity or intensity of the core group. The active group is also quite small, another 15 to 20 percent of the community.

**Peripheral Participants.** A large portion of community members are peripheral and rarely participate. Instead, they keep to the sidelines, watching the interaction of the core and active members. Some remain peripheral because they feel that their observations are not appropriate for the whole or carry no authority. Others do not have the time to contribute more actively. In a traditional meeting or team we would discourage such half-hearted involvement, but these peripheral activities are an essential dimension of communities of practice. Indeed, the people on the sidelines often are not as passive as they seem. Like people sitting at a cafe watching the activity on the street, they gain their own insights from the discussions and put them to good use. They may have private conversations about the issues being discussed in the public forum. In their own way, they are learning a lot.

Community members move through these levels fluidly, and may be "Core" in one type of event or meeting and not attend other types of events or meetings. Core members often join the sideline as the topic of the community shifts. Active members may be deeply engaged for a month or two, then disengage. Peripheral members drift into the centre as their interests are stirred.

The key to good community participation and a healthy degree of movement between levels is to design community activities that allow participants at all levels to feel like full members. Rather than force participation, successful communities "build benches" for those on the sidelines. They make opportunities for semiprivate interaction, whether through private discussion rooms on the community's Web site, at a community event, or in a one-on-one conversation. This keeps the peripheral members connected. At the same time, communities create opportunities for active members to take limited leadership roles, such as leading a volunteer project that requires a minimal time commitment. To draw members into more active participation, successful communities build a fire in the centre of the community that will draw people to its heat.

**Related Tactic: Engagement with all sectors of community (particularly children):**

We aim to create an inclusive community with active seniors and involved infants (and everything in-between). One of our most important goals is to involve children in programs surrounding sustainability. The Intentional Communities movement often points to children as being part of the

glue of a community. At BedZED a host of activities for children (e.g. Circus Day, Mom and Baby Yoga) has helped create strong links between neighbours (kids and parents both!).

**Principle: Cultivating Volunteerism:**

Closely tied to community interaction is creating a strong base for volunteerism. We aim to create a community that will be self-sustaining. Volunteers, if properly recruited, trained and acknowledged, can lead a composting scheme, take ownership of community spaces, initiate conservation efforts, organize sporting events and so much more. In order to engage volunteers in a meaningful and on-going manner it is important that volunteers are respected, recognized and thanked, opportunities for volunteerism are publicized, and the community understands and is made aware of the important contributions of volunteers. We will work with the Lifestyles Co-ordinator to ensure high-levels of volunteer participation and volunteer satisfaction. A survey of potential roles for community volunteers will be included in future research.

**Tactic: Enabling Champions:**

Related to volunteerism is a need to create community champions. These community champions will be the drivers for strong participation in waste strategies, citizen interaction, health and happiness, transport etc. Successful communities are those that have leaders and engaged citizens who can provide inspiration for the neighbourhood. As the project is progressing we will be looking to engage external and internal champions. An example of an external champion would be a member of a local NGO who is enthusiastically working on waste issues, who we would engage to create an innovative waste strategy for The Emerald Hills Urban Village. Then the OPLifestyles Co-ordinator would be trained to encourage a resident to become a champion to ensure continued involvement.

**Tactic: Using Social Network Analysis to Identify Champions:**

Social network analysis [SNA] is the mapping and measuring of relationships and flows between people in communities. SNA provides both a visual and a mathematical analysis of human relationships. Our research will investigate how to use SNA techniques post-occupancy to identify those highly influential individuals in the community ("Connectors" and "Influencers", in the language of the Tipping Point). Once identified, special attention and focus can be paid to fostering sustainable behaviours with these key individuals, who are more likely to informally "infect" many less connected or influential community members with their new behaviours.

**Principle: Develop both public and private community spaces**

Like a local neighbourhood, dynamic community events are rich with connections that happen both in the public places of the community—meetings, Web site—and the private space—the one-on-one networking of community members. Community meetings are much more than their calendar of events. The heart of a community is the web of relationships among community members, and much of the day-to-day occurs in one-on-one exchanges. Thus, a common mistake in community design is to focus too much on public events. A Coordinator needs to "work" the private space between meetings, dropping in on community members to discuss any problems and linking them with helpful resources. These informal, "back channel" discussions actually help orchestrate the public space and are key to successful meetings. They ensure that the spontaneous topics raised at the meetings are valuable to the whole and that the people attending will have something useful to add. The one-on-one networking creates a conduit for sharing information with a more limited number of people, using the coordinator's discretion as a gate. Every phone call, e-mail exchange, or problem-solving conversation strengthens the relationships within the community.

The public and private dimensions of a community are interrelated. When the individual relationships among community members are strong, the events are much richer. Because participants know each other well, they often come to community events with multiple agendas: completing a small group task, thanking someone for an idea, finding someone to help with a problem. In fact, good community events usually allow time for people to network informally. Well-orchestrated, lively public events foster one-on-one connections. As one coordinator said, "I like to see who walks out of the room together, who hangs around and talks. The more new connections I see, the better the meeting was." The key to designing community spaces is to orchestrate

activities in both public and private spaces that use the strength of individual relationships to enrich events and use events to strengthen individual relationships.

**Tactic: The role of a Lifestyles Co-ordinator:**

The Lifestyles Co-ordinator will be responsible for initial implementation of the program. They will be fully trained in the OPL Principles. While specific duties will be dictated by the design process (determination of activities adopted from the shopping list), generally they will be responsible for:

- developing good community relations, both inside the community and with The Emerald Hills Urban Village' Neighbours
- delivery of the Community Cultivation Process
- delivery of green lifestyle solutions (assistance with implementation of waste, food, transport, culture and heritage, health and happiness strategies)
- monitoring and reporting – continuously looking to improve the process
- tours and media to promote the green features of the development

All of these activities will serve to further reinforce the green lifestyles program.

**Tactic: Enrolment**

Enrolment is a tactic employed by the Lifestyles Coordinator or other volunteer program leaders to encourage new residents to get involved in community events. It usually takes the form of a face-to-face conversation or telephone call, and includes enquiries designed to help the enroller survey the interests, sustainability values, and concerns of the new resident. The enroller uses his or her broad knowledge of community groups, activities, resources, and facilities to introduce the new resident to something or someone that will be of some value to them – knowledge of when the yoga classes happen, an introduction to the woman starting the women's jogging club, etc.

**Principle: Create a rhythm**

Our everyday lives have a rhythm: waking up and preparing for work, commuting, checking e-mail, attending meetings, commuting home, engaging with kids' activities, enjoying quiet time. Although there are different rhythms for different people, most of our lives do have a rhythm, which contributes to its sense of familiarity. Towns also have a rhythm. Take the college town of Boulder, Colorado. Throughout the year it has a series of monthly festivals: a river festival, a road race, an arts festival, a Fourth of July celebration, a World Affairs Conference, and a few festivals whose occasion hardly anyone remembers. Like most towns, it also sponsors numerous projects—an arts fund drive, clothing for the homeless. These events and community projects give residents an opportunity to assemble, converse, share opinions, spout off (Boulder's fairs even have an official soapbox), and have fun together in a way that punctuates the life of the town. They give the town a beat.

To be a vibrant neighbourhood, The Emerald Hills Urban Village will also require a rhythm. At the heart of a community is a web of enduring relationships among members, but the tempo of their interactions is greatly influenced by the rhythm of community events. Regular meetings, Web site activity, and informal lunches ebb and flow along with the heartbeat of the community. When that beat is strong and rhythmic, the community has a sense of movement and liveliness. If the beat is too fast, the community feels breathless; people stop participating because they are overwhelmed. When the beat is too slow, the community feels sluggish.

The rhythm of the community is the strongest indicator of its aliveness. There are many rhythms in a community—the syncopation of familiar and exciting events, the frequency of private interactions, the ebb and flow of people from the sidelines into active participation, and the pace of the community's overall evolution. A combination of whole-community and small-group gatherings creates a balance between the thrill of exposure



to many different ideas and the comfort of more intimate relationships. A mix of idea-sharing forums and tool-building projects fosters both casual connections and directed community action. There is no right beat for all communities, and the beat is likely to change as the community evolves. But finding the right rhythm at each stage is key to a community's development.

**Tactic: Support online/offline calendar and announcements**

Gathering up all events occurring in the community into a single calendar is a great way to give community members a high-level view of what's going on and available in their community.

Community bulletin board space, both online and physical, can be used to post announcements to the entire community. The OPLifestyles Coordinator will synthesize and print the community calendar and announcements on a regular basis and post it on Bulletin Boards placed at strategic bottlenecks and social meetings points throughout the community.

**Support Group-forming**

Online social networks can be used over the intranet to automatically identify "communities of interest" among residents and permit residents to establish discussion forums around popular topics. One of the roles of the OPLifestyles Coordinator is to encourage such newly formed groups to gradually make the leap from conversing online to meeting in person on a regular basis.

**Education and Awareness Raising:**

Education is a crucial aspect of creating a sustainable lifestyle. In general people want to do what is right, want to be involved in environmental protection, and are looking for easy ways to incorporate sustainability into their lifestyle. For all of the 10 principles there will be an education component, often involving local groups and expertise on the particular topic areas. We aim to create informed citizens who are aware of the impacts of particular behaviours, and who have the knowledge to choose more sustainable options. Future research will examine cost-savings in educational programs such as "train the trainer" techniques.

**Community Based Social Marketing:**

Community based social marketing (CBSM) is a powerful complement to education and awareness raising campaigns. CBSM involves: identifying barriers to sustainable behaviours, designing strategies that utilize behaviour change tools, piloting the strategy to ensure it works, and evaluating the impact of the program once it has been implemented across a community. We will be engaging CBSM tools for all of the 10 Principles. We will also be building on the work at BedZED, where barriers were identified and a robust lifestyles program has been piloted.

**Prompting:**

Prompting is a powerful tool well-used by the Community Based Social Marketing movement. A series of prompts, some permanent and some only temporary, will serve to reinforce the 10 Principles. Prompting will be done using subtle educational cues throughout the residents' environment that reinforce sustainable lifestyle choices. An example would be a sign up near the garbage bins detailing how much waste is landfilled every year, or a sign in the exhibition centre detailing how much water can be saved using a dual-flush toilet.

**Creation of Residents' Manual:**

As each resident moves in they will be given a manual. This manual will contain the usual information – care and maintenance of floors, phone number of care-taker etc, but also have information related to the 10 Principles. For example, the manual will cover information on local sustainable food sources, local recreational opportunities, green cleaning products, paints and home décor, how to operate the programmable thermostat, and tips on maximising water efficiency. The residents manual would be located on the intranet and updated regularly.

**Use of Community Intranet:**

Guidelines for developing a community intranet to provide residents information, updates and tips on various elements of sustainable living. The intranet can provide up to date information on local suppliers of organic food and other sustainable products. An online buyers' club for sustainable goods and services at discounted rates to members is another option to explore. The intranet can provide up to date information on local suppliers of organic food, community events, notes on maximising energy efficiency etc. Establishing or linking to, and then promoting, a localised 'freecycle' (see www.freecycle.org), possibly on the intranet, will encourage effective re-use of a wide range of consumer goods. The resident's Manual, freecycle re-use system, online discussions, and other features will support sustainable behaviours.

**gmv online**

Welcome to GMV online. You are currently NOT logged in. [Click here to login](#) Thursday 11th May 2006

[Click here to login](#)  
[Click here to register](#)

**Record turn out for AGM**  
 The Resident's Association (GMVA) held their AGM last night, 20th April 2006 at the Greenwich Yacht Club.  
 69 residents attended, together with guests from MDL, EP, Met Police and Pinnacle.  
 Further details [news item go!](#)

**Jazz in the Park 2006**  
 This event is currently being planned for **Saturday 15th July 2006** from around 2pm.  
 Anyone who could help with ideas, BBQ, Bands, Electrical, Marketing, etc please email [Events@gmva.co.uk](mailto:Events@gmva.co.uk)

**Information on planning application**  
 Details of the latest application for Phase 1C, 1D and Village Square are on the [planning page](#).

**List of Local Suppliers**  
 Launch of GMV [list](#) of Local Suppliers. Compiled by GMV resident Andy McBride.  
 Any comments or suggestions, just send them to [Local Suppliers go!](#)

**Hello and Welcome !!!**  
 GMVonline is the resident's website for a unique urban village in London. **Greenwich Millennium Village (GMV)** is the award winning development of flats and houses on Greenwich Peninsula, just behind the Dome.

**Photo gallery**  
 A Gallery is part of this website. The images will be a collection from various sources.  
 You are permitted (subject to the terms and conditions) to copy images

Additional features to be considered for a community intranet:

- information on local transport provision and running times
- details on upcoming community events
- diagnostic information on the individual home's energy and water use
- facilities to pay utility and accommodation bills 'online'
- a directory of 'green' and local suppliers
- booking facilities for car club, car sharing
- on-line food ordering
- social network software for organic group-forming
- discussion boards to host interest groups as well as forums for managing programs and gathering feedback on effectiveness of Lifestyles programs

### **Community Asset Mapping**

Through creating easy to follow maps of neighbourhood amenities and resources, residents will be encouraged to shop, recreate, and interact locally. A community asset map will be created to demonstrate sources of local sustainable food, conservation and recreation areas, libraries and more. It will be an integral part of the residents' manual and should be displayed prominently in the village.

### **Participatory Video:**

Participatory video methodologies, in use in community development work in Canada since the 60s, use powerful video images to promote changes in attitudes and social behaviour, helping communities identify solutions that are within their reach. Through an iterative, feedback process, video interviews with residents are collected, shared, and synthesized into a collective "barometer" of community attitudes. Through watching the video, community members became aware of shared problems. With awareness comes chances to explore solutions.

### **Partnerships with local partners (leveraging maximum potential):**

There is an incredible amount of resources available through the existing environmental community on all of the 10 Themes. We are not interested in recreating the wheel, or incurring costs to create programs that already exist. We will be actively engaging with local NGOs to determine partnerships that would provide community and sustainability benefits for The Emerald Hills Urban Village. Local groups we will be liaising with include:<sup>18</sup>

- Canada Parks and Wilderness Society
- Citizens for Better Transit
- Edmonton Bicycle Commuters Society
- Edmonton Natural History Club
- Energy Efficiency Association of Alberta
- Environmental Law Centre
- Green Communities Edmonton Association
- Inside Edmonton
- Land Stewardship Centre of Canada
- Pembina Institute
- Solar Energy Society of Canada – Northern Alberta Chapter
- Shift Gears Collective
- Tomorrow Foundation for a Sustainable Future
- Toxics Watch Society of Alberta
- Local community associations
- Alberta Public Interest Research Group
- Art groups

<sup>18</sup> Suggestive, not exhaustive.

# **Chapter 4. 5-YEAR WORKPLAN : Implementing the program**

## 5-year “Skeleton” Workplan – Concrete Steps to Implement the Program

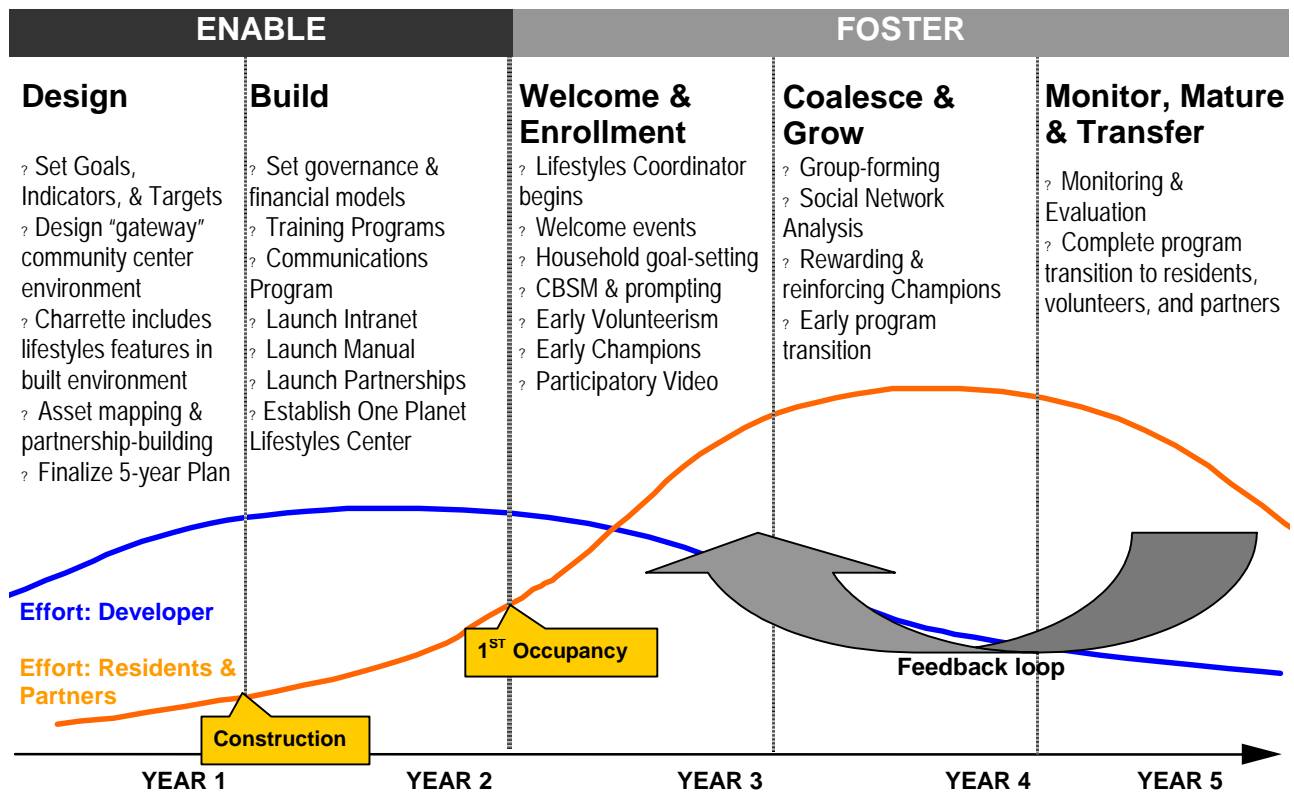
“You can build it, and then what?” B. Golightly, 2006

Implementing lifestyles into a new development is a still new concept. BioRegional, in creation of BedZED, had to invent the concept completely from scratch. Now several years later we can learn from BedZED and draw upon work happening simultaneously in the UK and Portugal in developing, implementing, and paying for a lifestyles program.

One of the key lessons learned from BedZED is to ensure that there is community ownership of the program. Similarly, we believe strongly in a collaborative design process: buy-in from team members, contributions from stakeholders, and support from the developer are our first priority. To that end, this chapter will be a living document, and at this stage will serve only as a guide. The OPL program is not intended to impose ‘solutions’ upon a development, but rather work with the whole range of stakeholders to develop widely-beneficial programs.

*The following workplan is a skeleton only; it does not reiterate or detail all of the social programs outlined in the Cultivating Community Process chapter above. Once we have begun partnership building, asset-mapping, investigating consultatively governance and business models, to name a few factors, we will be able to better illustrate the full timescale and dependencies of a complete Lifestyles 5-year plan.*

### Lifestyles Delivery at Emerald Village



## PHASE 1. ENABLE

### **YEAR 1: Design**

*(see also workplan submitted with proposal for year 1)*

#### **Step 0: Creation of Guidelines Document**

This step has been underway, and is now complete. Based upon primary research at BedZED, BQL, and Pelicano, and an in-depth literature review of research from the co-housing movement, CBSM etc. we've been able to develop an introduction on what a lifestyles program could look like, and important elements for considerations. In many ways the Guidelines document serves as an introduction to One Planet Living lifestyles – the principles, the potential, the benefits, and the next steps. An important component of the Guidelines Document that is not yet complete is determination of a baseline on ecological footprint of Edmonton-area residents. This work is currently being done, and will be added in as an addendum as soon as is available.

#### **Step 1: Set Goals for Lifestyles Program**

Not all elements of the lifestyles program described in this paper will ultimately be deemed applicable for The Emerald Hills Urban Village. Leveraging the expertise within Christenson, including sales and marketing, and knowledge of local demographics, is central to developing achievable targets that will “stick”. We aim to work closely with Christenson to develop goals and targets for The Emerald Hills Urban Village that will reduce ecological footprint, but also be marketable locally, and produce benefits for residents.

Goals, indicators, and targets (see below) will be set for the Lifestyles Program as part of the Integrated Design process, utilizing the goal and target-setting workshops as opportunities for Christenson and related stakeholders to drive the agenda. Decisions will be informed by and interface with the goals, indicators, and targets chosen for the built environment.

**Work to commence:** This work on the Lifestyles Goal-set will commence immediately upon the completion of this Guidelines document, and will culminate in the Goal-setting workshop.

#### **Step 2: Key Client Consultations**

Reviewing lessons learned from BedZED it is apparent that the lifestyles component has been extremely successful, both in terms of residents' satisfaction and reducing environmental impacts. However, it was a unique opportunity in that BioRegional was able to secure foundation support to run the program. Lacking foundation support, BQL has developed business models and strategies that they believe will allow for more effective long-term facilities management, community feedback, and resident's ownership of both green infrastructure/buildings and Lifestyles programs.

An important step for us will be to determine, with some precision, what funds (if any) would be directed towards the lifestyles program. Of course, many factors that would influence this decision – such as projected market and sales impact, partnerships, 3<sup>rd</sup>-party funding opportunities, etc. will as yet be undecided. This preliminary exploration is expected to take place early in Phase II Research, with a final round reviewing Phase II Lifestyles recommendations and exploring financial implications sometime after the charrette has been completed.

Also key will be an exploration with Christenson of willingness to examine alternative business models that would make a comprehensive lifestyles program feasible. If the willingness is there, Phase II of the research agenda will map out a variety of business model options to be presented to Christenson at or around the time of the charrette, addressing as full a spectrum of human resource, partnership, and financial implications as possible.

Finally, on-going consultations with Christenson's Market and Sales teams are anticipated, to ensure that the Lifestyles program responds to market realities and can be fully harnessed as an asset by Christenson's sales team during the sales cycle.

**Work to commence:** Initial consultations upon completion of goal-setting; on-going.

**Step 3: Creation of Community Asset Map – determine low-hanging fruit [ongoing work to revise and keep current]**

A community-asset map is a great first step to establishing existing programs and opportunities that could form part of the base of the lifestyles program. Things we will be looking for when creating the map will be: existing sustainable transportation infrastructure, sources of sustainable food, local government programs aimed at health, happiness, culture or heritage etc. A community asset map can point out opportunities to add benefit to residents without having to cost money. For example, we already know that two farmers' markets exist in Strathcona County. They would be listed on the map, and an opportunity exists to explore the potential of moving one market to The Emerald Hills Urban Village. Presumably that could be done at no cost, providing residents with an opportunity for social interaction, providing fresh local food, enhancing the local economy, and bringing potential unit purchasers on site.

The community asset map will be a living document that will be provided to residents as part of the residents' manual, and ideally would be posted in the development when residents are moving in.

**Work to commence:** We will begin work on the community asset map in our first trip to Edmonton. We view this as being one of our most powerful tools, and something that can provide immediate benefits.

**Step 4: Examination of potential partners [ongoing work to keep current]**

Coming out of our work in creating the Community Asset Map will be a determination of potential partners to liaise with who can assist in co-delivering the lifestyles component. Potential partners may include: car club operator, local farmers, NGO's (e.g. Heart and Stroke Foundation), local transit provider, local government, waste collectors etc.

**Work to commence:** Identifying partners will begin in conjunction with creation of Community Asset Map. This list of partners, and potential contributions, would be forwarded to the client for discussion, and a determination on how best to proceed would be made.

**Step 5: Eco-footprint, Indicator Selection And Target Setting for the Lifestyles Program**

Similar to the goal-setting process, indicator and target setting will closely follow the timetable of the integrated design process. Goals will be translated into indicators. A critical eco-footprint benchmark for the "average" Strathcona County household will be established and used as a framework for the target-setting process. A product of the Target-setting workshop will be a prioritized list of Indicators and Targets for the lifestyles Program.

**Work to commence:** Immediately after Step 3. Will run concurrent to other tasks.

**Step 6: Review Shopping List of Activities**

In the previous chapter we outlined a shopping list of activities for each One Planet theme. Further discussions with stakeholders will help outline what activities would be suitable for The Emerald Hills Urban Village and what the priorities would be. Further the creation of a community asset map and an examination of potential partners would determine what activities could be easily (and inexpensively) implemented.

**Work to commence:** An informed review of the shopping list of activities can only be conducted after the creation of the community asset map and at least a brief survey of potential partners.

**Step 7: Initial examination of Governance Models**

Each developer has their own tolerance levels for innovation. Similarly Christenson is likely looking to keep a limit on how much long-term involvement they have in delivering a lifestyles component. Experience in the volunteer community has shown that participation levels are highest when the community feels a sense of ownership. It will be important to examine potential governance models (Residents' Association, determination of who would run/operate community centre or community gardens if applicable, stewardship of bike/ski paths etc.) See Governance under Community Cultivation Process for more information.

**Work to commence:** After Target-setting & key client consultations.

**Step 8. Deliver Recommendations, Reports, and Lifestyles components for final Design Brief**

Following on from target-setting, several short recommendation papers and reports will be delivered, underpinning or ultimately being included in the final Design Brief.

- Enabling Recommendations: Supporting Lifestyles in the Built Environment
- Final Report: Community Cultivation Process
- Final Report: The Business Case for OPLifestyles (Marketing & Sales focus)
- Recommendations for each of the Ten Principles

- Training Programs Recommendations
- Health & Wellness Recommendations
- Recreation Recommendations
- Green Housekeeping Recommendations
- Lifestyles CBSM & Communications Recommendations
- Community Center and Sustainability Exhibition Centre Recommendations

**Work to commence:** Work on these reports will be on-going throughout the year. Delivery will occur in time to be included as needed in the Design Brief.

### **Step 9. Lifestyles Input during Charrette**

The Enabling Recommendations Report will provide a menu of choices for enabling Lifestyles in the built environment, and will be a discussion point during design conversations during the charrette process. The OPL team will participate, providing guidance through the Lifestyles Lens.

### **Step 10: Begin Work on an Outline Residents' Manual**

In Year 1 this could only be a rudimentary sketch of what a residents' manual would look like. More details will be available following the charrette and completion of the design brief. Even more details will need to be incorporated after the architects have completed their work, construction drawings complete etc.

**Work to commence:** A very rudimentary sketch will be available by the end of year one, but the majority of the work on this front will need to be completed in years following.

### **Step 11. Deliver Post-Charrette Reports**

- Retail and Tennant Recommendations
- Lifestyles Monitoring & Reporting Recommendations
- Lifestyles Human Resource & Volunteer Recommendations
- Updated Aggregate 5-year Lifestyles Workplan

### **Step 12. Final Deliverable: One Planet Lifestyles 5-year Plan for Emerald Hills**

The final 5-year plan will incorporate the feedback from Christenson and related stakeholders during the consultation process, integrating them along with the recommendations and reports previously delivered. This 5-year plan will serve as the working template for years 2-5 of the Lifestyles program and beyond.

**Work to commence:** Once the charrette has been completed.

### **Concurrent Work: Applying the Lifestyles Lens**

As the SUN process continues, at each step we will be applying the lifestyles lens to decisions being made, and contributing insights based upon our research. We aim to ensure that this does not add complexity, but rather complements existing work. Each team member brings a suite of expertise that we aim to learn from, and contribute to. It has been found that certain design and planning decisions can have an impact (positively or negatively) on social interaction, ease of use of green features, participation levels in programs etc. For example, our research has shown that where the community centre is located will have a pronounced effect on how much it is used; how difficult a compost program is will dictate how much it is used; how safe and easily accessible cycle storage is will directly influence how often people will bicycle and so on. Our input will be focused on looking to remove barriers, increase convenience and find ways to make The Emerald Hills Urban Village lifestyle more enjoyable, healthier and increasingly sustainable.

## **YEAR 2: Build**

*(Construction Begins – an enhanced workplan with dates and deliverables would need to be created closer to completion of year 1*

### **Begin Work on an Outline Intranet**

One of our recommendations at this early stage would be to set up a community intranet (or extranet) at an early date. What has been done in the past is to use the sales and marketing website for the project as the foundation for the intranet. The advantage to this is that purchasers become accustomed to visiting the website for regular progress reports on construction and it becomes a natural extension to continue visiting the website upon occupancy. For an example of a community site in practice visit: <http://www.greenwich->

[village.co.uk/](http://village.co.uk/). We would be happy to create the website as part of an ongoing engagement, or you may choose to use a local service provider.

### **Creation of Residents' Charter**

One of the comments coming out of BedZED is that they felt that there should have been a Community Charter to express the thinking and ethos behind the community. A Development Charter has been used in some instances that is used as a sales tool, but this ideally would be created in conjunction with early purchasers. It would have to be crafted in a way that was inclusive, and acted as a benefit to the sales and marketing program by painting the picture of an active, engaged and vibrant community. The creation of the Charter could also serve as a starting point for community building.



### **Purchaser Events (pre-occupancy)**

Whenever someone buys into a new community (green or conventional) there is typically a tremendous amount of enthusiasm. That enthusiasm can be a positive thing, or can cause problems if construction delays start mounting or anticipation to move in turns into angst. BedZED did start activities prior to occupancy, and residents expressed a wish that there was more of that available. Traditionally many developers will host a wine and cheese evening, or an open house, but we encourage creative thinking to begin the process around lifestyles. An example of a kind of activity that would complement the ethos of The Emerald Hills Urban Village would be to host a Saturday bicycle tour, combined with picnic lunch. The intranet could even be used to begin the book club (one of BedZED's most popular ongoing activity) prior to occupancy. There is an opportunity to harness the enthusiasm that will translate into long-term benefits for the residents of The Emerald Hills Urban Village.

### **Determination of Appropriate Governance Models and Begin Formation**

By the middle to later portion of year two we will have a much better sense as to what lifestyles elements will require governance. This may include: community garden, bike/ski path, composting, community centre, ecology programs etc. An examination of each element will need to be made to determine what the requirements are, possible long-term risks and liabilities, potential governance models, and recommendations. Once there is an agreement in place, work will have to commence to actually set things up.

### **Update Community Asset Map**

Alberta is a rapidly changing province, with the Edmonton area experiencing rapid growth. Before residents move in it would be beneficial to update the Community Asset Map to ensure it reflects the most current information.

### **Identify Champions and Volunteers [ongoing work]**

There will inevitably be some purchasers who are drawn to The Emerald Hills Urban Village because of the green features, or because of a love of gardening etc. There will also be some purchasers who have an interest in a particular area. For example, at BedZED there is a resident who has a keen interest in local history. They have proven to be a tremendous resource as they continually impart information relevant to the history and culture of the area. Through discussions with purchasers, and an optional survey, we hope to begin to identify champions and provide volunteer opportunities.

### **Refine Lifestyles Offering (based on feedback from initial purchasers) [ongoing work]**

Implementing a lifestyles program into a development is still a relatively new concept. We do not claim to have all the answers, nor can we say for certain that everything will resonate at The Emerald Hills Urban Village. We will be active in seeking feedback and refining the program to ensure long-term success. The community cultivation process is designed to be iterative and contextual, and the input from initial purchasers, sales and marketing, the developer, the municipality and other stakeholders is crucial for that.

### **Prompting Strategy**

One of the primary tools of Community Based Social Marketing is the use of prompts. Prompts can be explicit – e.g. a sign requesting people to recycle, or subtle – e.g. the placement of a visually interesting garbage can to reduce littering. As construction is happening, work should commence to develop a suite of non-invasive prompts that encourage positive lifestyles choices. This could include visually interesting, and readily available recycling containers, decals outlining energy saving options when purchasers first move in, prominent use of recycled materials etc.

### **Continue Discussions with Partners (establishing links)**

In year one in conjunction with the creation of the Community Asset Map will be identification of potential partners. At the end of year one there would need to be a discussion of priorities, an examination of suitable partners, and then a commencement of discussions to determine possibilities to work together. No one is interested in re-creating the wheel when it comes to lifestyles. There are a host of individuals, groups and companies who are actively looking for participants in programs surrounding sustainable transport, active lifestyles, local food etc. Not all possible partners will be appropriate, but certainly there will be plenty who are, adding value to the respective programs and to The Emerald Hills Urban Village.

## **PHASE 2. FOSTER**

### **YEAR 3: Welcome & Enrollment**

*(first occupants move in approximately May '08)*

#### **Hire Lifestyles Coordinator/Community Caretaker**

Before residents move in, it is our recommendation that a lifestyles coordinator be hired. Depending on their familiarity with the project and the lifestyles program they would require differential levels of training. The BQL model is combining a lifestyles coordinator with a community caretaker. There are some excellent reasons for this, including budgetary. Ideally budgeting would allow for a lifestyles coordinator to be in position at least half-time. However it is recognized that it may be difficult to find the funds to support this. It is recommended that sources of funding (e.g. EcoAction) be examined to determine eligibility, but failing that it would be required to examine potential ways to incorporate a lifestyles coordinator into the development.

#### **Complete Residents' Manual**

The Residents' Manual can play a multitude of different roles. In the manual would be information regarding floor maintenance, operation of the washing machine, etc, but also versions of the Community Asset Map, energy saving tips, sustainable transport options and more. The manual would become a one-stop spot for all information regarding the built environment and the lifestyles component. Important contact information would be included for maintenance concerns, the bus system, local arenas, and much more. It would serve as an access point to the broader community, and an

#### **Welcome Events**

Welcome events can really set the tone for a community lifestyles program. Upon moving in, most residents will know few or no neighbours, most will be enthusiastic, and there will generally be a natural openness and curiosity. At BedZED there were a range of welcoming events, still looked upon fondly by the residents. These events included an in-home visit from the Lifestyles Coordinator, ethnic food fair and local tours. A series of

welcome events could be planned in conjunction with lifestyles partners. There may even be opportunities for lifestyles partners to sponsor welcoming events.

### **Launch Training Programs**

As residents take up occupancy and begin to use potentially novel green building features and facilities, formal training events will be periodically required for several of the Lifestyles programs, such as:

- How to effectively operate your new “green” home
- How a (potential) car club works
- How to establish your garden
- How to use the composting & recycling systems

### **Participatory Video**

A new and developing tool for communities is participatory video. It provides a unique opportunity to discuss hopes, dreams and aspirations for a community, as well as any apprehensions or frustrations. As an ongoing process the video can be used to provide a narrative for the development, and eventually it should provide a powerful marketing tool for later developments. In a way, it is reality TV starring The Emerald Hills Urban Village – there are a host of intriguing characters and there are sure to be some ‘wrinkles’ but we aim to focus on the happy ending. This work may have begun during stakeholder engagement, but really becomes useful during the first 2 years of occupancy.

### **Household goal setting**

Goal-setting and public commitment has been shown to be powerful in altering behaviours. We would want to do it in as non-invasive and non-coercive a manner as possible, taking cues from programs such as the One-Tonne Challenge. The community intranet could be used to assist in getting commitment to household goals regarding the 10 OPL themes.

### **Formalize any remaining partnerships**

It will be an ongoing process of developing partnerships, refining them, and dropping programs and partners that don’t work. By year three residents would have moved in and the partnerships that have been developed on paper will be tested on the ground. Work may need to happen to ensure partnerships are functioning, and to fill any obvious gaps.

### **Recruitment Drives**

Certain lifestyles programs, such as the car club or community shared gardens, may require period “membership recruitment drives” to enlist new residents.

## **YEAR 4: Coalesce & Grow**

### **Transition to community ownership**

By year four the community is beginning to become more established. By the end of year four some of the first residents would have been in occupancy for over a year. They would have a degree of comfort with the development and the broader community, and have an understanding of where they might want to be involved. Champions and volunteers have been identified using social network analysis, and Christenson/the lifestyles coordinator should begin implementing a conscious turnover of ownership to the community. At BedZED the residents had become reliant upon the Lifestyles Coordinator, and when the funding ran out and the Coordinator moved on there was a noticeable drop in community activities. To avoid this it could be structured that the Lifestyles Coordinator gradually phases in community ownership, or, through the community caretaker role, the Lifestyles Coordinator role continues into the foreseeable future.

### **Social Network Analysis**

Social network analysis maps and measures relationships and flows between people in communities, identifying highly influential individuals in the community (“Connectors” and “Influencers”, in the language of

the Tipping Point). Once identified, special attention and focus can be paid to fostering sustainable behaviours with these key individuals, who are more likely to informally “infect” many less connected or influential community members with their new behaviours.

### **Reward and Reinforce Champions [ongoing work]**

Rewarding and reinforcing champions needs to be an ongoing activity. We place it as a part of year 4 as by this time residents having been in place, and many will be taking on large and important roles organizing food box delivery, maintaining a native plant garden, organizing social events etc. Volunteers have been the most important component to keeping elements of the BedZED lifestyles program working. In order to maintain a high level of commitment from volunteers, and particularly your linchpin champions, it is crucial that they get recognition for their efforts. We would envision that by Year 4 an organized event would be in place to recognize and reward key volunteers – this could be a volunteer recognition dinner, some sort of awards program, listing on the intranet etc.

### **Continue active engagement with new residents – incorporating into community [ongoing work]**

One of the failings of the BedZED lifestyles program is that they have been weak in incorporating new residents into the community. If the lifestyles coordinator position was combined with the community caretaker role there would be the possibility that someone would be welcoming and integrating people into The Emerald Hills Urban Village. By Year 4 you would start to experience clusters of individuals who would have moved in at different times. A concentrated effort should be made to ensure social cohesion (it has been shown that communities with

### **Gaps Analysis (who in community is not being serviced)**

Inevitably in any community, no matter how active and inclusive, there will be some members who do not get involved. Those non-active participants will fall into one of two categories: either they have no interest in getting involved, or they find it difficult or intimidating to get engaged. The challenge for the lifestyles program will be to determine what category people fall in, and then find ways to engage those who have an interest. A thorough gaps analysis can also determine those that are engaged, but not to the extent they could be. A gaps analysis done at BedZED might indicate that there is no playground for children, and few opportunities for new parents to get engaged. It would also likely find that the social housing block is poorly engaged and strategies would be devised to rectify that. It is important to note that there will always be some members of a community who do not want to participate in any of the programs. That is completely fine, and pressure or coercion should never be used. Home and neighbourhood means different things to different people and it is important to be respectful of those differences.

### **Refine Residents’ Manual based upon experience**

The Residents’ Manual is one of the most important tools in the lifestyles toolbox. For those that are keen to utilize sustainable transport options, or compost, or contribute to local culture and heritage etc, the manual can do a good job in making that easier. Strathcona County is rapidly changing, and the manual should be updated as new residents are moving in to ensure it reflects current conditions. Just as the residents at BedZED have taken ownership of the community newsletter, it may be possible that the residents themselves take ownership of updating the manual, and perhaps even playing a role in distributing it to new residents.

## **YEAR 5: Monitor, Mature & Transfer**

### **Monitoring and Evaluation**

See next chapter for information regarding monitoring and evaluation. A monitoring and evaluation strategy should be developed early on in the process, but would be implemented in Year 5. Some monitoring can likely be done automatically without requiring any additional work by the residents. Other monitoring, such as determining health and happiness or the success of the transport plan, would necessarily involve resident input. While monitoring is crucially important, it needs to be balanced with a need for privacy, and while being

cognizant of 'monitoring fatigue'. Residents at BedZED have expressed concern that they have been surveyed and monitored too often by too many different parties.

### **Full transfer to residents (governance/ownership)**

A community will flourish best if they take ownership of the programs that have meaning for them. Ideally (for all parties involved) there are residents who are running the community gardens, updating the transit schedule, distributing the newsletter etc. It may sound farfetched to assume that residents would take this on, but experience at BedZED shows it is possible. Residents, now with the help of the caretaker, maintain the gardens, organize the vegetable box program, distribute a newsletter, run the community centre, run a listserv (and are creating a website) and so much more. All of that is done with zero budget. The lifestyles program could have been even more successful if there was a plan for a gradual transfer of ownership over to the residents.

### **Collect testimonials**

Testimonials have long been a staple of selling real estate (particularly new communities). If the lifestyles program at The Emerald Hills Urban Village is half as successful as it is at BedZED it will provide a steady stream of powerful testimonials. There needs to be ongoing monitoring and evaluation, and the lifestyles program should use an iterative approach to continuously improve, but at the same time it is important to celebrate successes and use them to convince others of the value of a new community lifestyles program.

### **Examine ecological footprint compared to baseline**

In part this would be rolled into the monitoring and evaluation, but it is important enough to be mentioned separately. We have to find a way that allows us to get to one planet living, while still be affordable and attractive. The challenge in Strathcona County is enormous, and it may be that we don't get there on the first project. It would be important to gather ecological footprint data for residents to determine how close the development got to one planet living, where do the biggest impacts remain, and what steps could be done to reduce those impacts in future developments.

### **Preparation of 5-year Report**

A report should be created at this stage that combines monitoring, evaluation, and ecological footprint data with a recap of the entire process. Already lessons have been learned, and lessons will continue to be learned. A comprehensive report can help in avoiding recreating mistakes, and serve as important 'lessons learned' for other green communities.

Ideally by the end of Year 5 the lifestyles program is self-sufficient, potentially with ongoing contributions from the Lifestyles Coordinator/Caretaker individual. Processes are in place to ensure community ownership and recognition of volunteers. Monitoring, evaluation, and reporting allows Christenson and the residents to continuously refine the program for further improvement.

## ***Workplan for Future Lifestyles Coordinator:***

The workplan for the future Lifestyles Coordinator will be shaped by the charrette, input from stakeholders, budget, wider-community amenities etc. However we aim to provide a sketch of the types of activities we would expect from a Lifestyles Coordinator. Over time the work the coordinator does will change substantially. Early on the coordinator will need to be active recruiting people to run events, attending The Emerald Hills Urban Village events, answering questions and helping people become acclimatized to the new neighbourhood. Phase II research will explore when and how management/ownership for each discrete element of the lifestyles process can be transferred to volunteers and/or residents associations. Based on the experience at BedZED we believe a great deal of transference is possible, but this will depend largely on the complexity of programs, partnerships, business models, and other factors not yet fully mapped out. The coordinator will then be looking for gaps, integrating new residents, and examining opportunities to positively enhance the program. In an ideal world the Lifestyles Coordinator would be a full-time position, in place for

the indefinite future. Recognizing that this adds expense, another option would be to have a Lifestyles Coordinator/Community Caretaker (maintenance/property management) position. Other options include having a Lifestyles Coordinator for a set amount of time (e.g. 2 years) with a concerted effort to transfer ownership to the residents, have it be a volunteer position, or hire someone part-time.

**Sketch Workplan for Lifestyles Coordinator:**

<b>Pre-Occupancy</b>	<b>Occupancy</b>	<b>Post-Occupancy (Ongoing)</b>
Become familiar with community assets	<i>Visit 1:</i> Meet and greet residents as they move in Provide residents' manual and introduce intranet Demonstrate green technologies (e.g. front loading washing machine or programmable thermostat)	Actively work to transfer ownership of lifestyles program to the residents
Identify barriers to sustainable lifestyles (on the ground) and make recommendations to remedy them	<i>Visit 2:</i> Goal setting with residents Answer questions Encourage involvement in sustainable lifestyles program	Fill in where needed to ensure community rhythm is maintained (e.g. Champion is ill or moves suddenly, ensure programs continue and recruit new volunteers)
Review manual	Identify champions	Participate in monitoring and reporting – continuous feedback
Ensure programs are ready to be delivered when residents arrive	Recruit volunteers	Ensure manual, intranet and community notice board(s) are up to date
Liaise with Christenson, other developer partners, local government, and any other relevant lifestyles stakeholders/partners	Assist in implementing programs	Continual of refinement of lifestyles program based upon feedback from residents, innovations elsewhere, and new community assets
	Liaise with Christenson, other developer partners, local government, and any other relevant lifestyles stakeholders/partners	Encouragement of lifestyles program – sustainable transport, local food etc.
	Repeat procedure (visitation, identifying champions etc) any time a new resident moves in – ensure community cohesion	Liaise with Christenson, other developer partners, local government, and any other relevant lifestyles stakeholders/partners

## **Chapter 5.**

# **MONITORING & REPORTING**

## Monitoring and Reporting: Creating an Iterative Program

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We all agree on the importance of ongoing monitoring, evaluation and reporting. Monitoring with reporting against indicators can help define the level of success of a project, can help disseminate successes to stakeholders, and can provide a powerful learning tool for future communities. The difficulty is in determining how that gets put into practice. When dealing with a residential community there are several overarching concerns surrounding monitoring and reporting:

- monitoring and reporting is ideally published to allow people to compare and compete for better results (e.g. when residents at BedZED knew energy monitoring was going to be published some units drastically reduced energy consumption)
- there is a need to respect privacy and not be invasive – no one wants to live in a community where they feel they are going to get chastised or called out for showering too long
- a monitoring plan must be put in place that avoids ‘monitoring fatigue’ – BedZED residents complain that they have been monitored too often by too many different parties, and they are not always sure as to how the information will be used
- not all elements of the lifestyles program can be easily distilled down to a metric – it is a challenge to monitor and report on elements such as Health and Happiness or Culture and Heritage.

### Monitoring Strategy

For each theme we would need to determine a current baseline or benchmark to measure against, as well as indicators for themes that cannot be easily measured. From a One Planet Living perspective it would also be beneficial to convert monitoring data into ecological footprint data (hectares) in order to provide residents an easily digestible story on how far they have to go to reach sustainability.

#### Carbon:

Monitoring would include a determination of a baseline (CO<sub>2</sub> emissions per capita, residential and commercial emissions). Ideally monitoring would happen on a site-wide basis, as well as per building. Average energy use per capita or per unit type could be published on the community intranet (though unit numbers would not be published to protect privacy). There could even be a program that recognized low energy use with a prize (e.g. free vegetable box).

#### Waste:

A discussion would have to take place with the waste collection agency to determine if they have any capacity for monitoring. If the waste collection agency is not able to provide any monitoring data, then on-site monitoring could be conducted either via physical monitoring (determination of amount in waste bins as compared to recycling and compost) or information gathered via a residents’ survey – preferably both.

#### Transport:

In monitoring on transportation patterns, there are some metrics that would be available (e.g. number of participants in car club), while other elements such as bus or cycle usage would have to be gathered via a residents survey.

Potential elements to be monitored include:

- average commuting distance
- percentage of trips by sustainable transport means (public transit, cycle, walk) vs. car travel
- participation in car club and/or carpooling
- percentage of hybrid and alternative fueled vehicles

#### Materials:

Most of the materials choices and corresponding monitoring would not fall into the lifestyles bailiwick. However, residents will still be making materials choices (e.g. paint, cleaning supplies etc) for their home and they should all be receiving information on sustainable materials choices. All of the monitoring related to ongoing materials choices would have to be gathered using a residents’ survey. The survey should try to determine how many residents receive information on sustainable materials choices, and in making materials choices how many residents choose sustainable materials (e.g. low VOC paint). An on-site lifestyles

coordinator may also be able to contribute anecdotal evidence regarding materials choices for major renovations (for example, they will likely be able to see what choices residents make if they are replacing flooring).

**Food:**

We recognize that the topic of food security and sustainable food does not have as high a profile in Strathcona County as it does in London (UK) or Vancouver. That said, food cannot be ignored as it makes up such a significant amount of a person's ecological footprint. In addition, Strathcona County offers opportunities for food production and rural/urban interface that are very difficult in London.

Monitoring surrounding food choices will also be a combination of gathering metrics and utilizing a residents' survey. Assuming there is only one or two organic box programs being used, we can easily determine what degree of participation there is for The Emerald Hills Urban Village. We may also be able to gather information from vendors at an The Emerald Hills Urban Village farmers' market. It is most likely that the majority of relevant data would come from a residents' survey that would inquire into food choices, in particular determining amount grown locally and amount that is organic.



**Water:**

The principles for water monitoring and evaluation would be similar to carbon monitoring. Monitoring of water consumption would be done in comparison to a local baseline of average per capita water consumption. Ideally monitoring would be done site-wide and also unit specific, with data supplied by the local government/water utility. There may need to be some additional elements for monitoring added if there is rainwater harvesting, on-site water treatment etc. It would be useful information to determine what percentage of total water consumption per site was derived from water mains, and what percentage was captured on-site.

**Natural Habitats and Wildlife:**

Monitoring regarding natural habitats and wildlife is best done by a professional biologist or ecologist. There should be on-site monitoring of biodiversity and quality of habitat, with the hope being that a reduced site disturbance and an improvement in habitat is possible. Another unique monitoring tool would be to involve residents in bird-watching or species identification. Bird watching is one of the most popular hobbies in North America, and this monitoring activity could contribute to social interaction and provide a community activity. Birds spotted or species identified could additionally be posted on the intranet.

**Culture and Heritage:**

This is a difficult theme to monitor. For the Kennett Valley Park Route to Sustainability it was determined that the target was to increase the number of people attending cultural and sporting events. A baseline indicator would need to be created to determine how many cultural events residents attended prior to occupancy, and then a residents' survey could determine whether that number was increasing. The flaw in that approach is that people may go out less to cultural activities due to the high number of activities held on site. Monitoring of residents' awareness and involvement in cultural activities is probably best done through a survey and left open for residents to discuss what involvement (if any) they have had in cultural activities since moving in to The Emerald Hills Urban Village.

**Equity and Fair Trade:**

Through conversations and internet research it has become clear that the concept of Fair Trade, and certainly Fair Trade certified products, has been slow to catch on in northern Alberta (and likely Alberta as a whole). For that reason, most of the efforts will focus on equity/social justice. Measuring equity in a community is difficult, especially if you are careful about privacy issues. Monitoring may include: ratio of income to house price, resident participation in social justice issues, and awareness of Fair Trade issues and concepts. This monitoring would need to be completed via the residents' survey.

**Health and Happiness:**

This is another difficult element to monitor, but it is probably the most important. At BedZED they did conduct Residents' Satisfaction Surveys which set out to monitor things such as:

- how many neighbours residents' knew
- comfort levels in the unit
- personal assessment of health and happiness
- sound attenuation in the units
- etc.

We would also combine this with inquiries about physical fitness and health, questions about perceptions of safety in the development, and feelings of community spirit. Also recent happiness research shows that one of the most powerful indicators of whether someone is happy is if they feel they are contributing to the greater good. For that reason we would also make inquiries as to whether residents felt they were making a positive contribution.

**Final notes on monitoring:**

There is a need to strike a balance between full monitoring and privacy issues. It should be explained to all residents that monitoring is occurring, the rationale behind monitoring, and that all information would be anonymous, never sold or used for commercial purposes, and would be treated with the highest ethical standards. People should always be given the option to opt out of monitoring programs if they do not feel comfortable.

There are several notable benefits of a rigorous monitoring program. Most importantly it provides relevant parties with information on which they can base decisions upon. It has long been said that what gets monitored, gets managed. Monitoring results can indicate water leakages, problems with energy performance or general dissatisfaction (unhappiness). On the plus side, monitoring can show programs that work well, and can be used to gently encourage residents onward in the quest for one planet living.

Monitoring results from The Emerald Hills Urban Village will likely become one of the strongest marketing tools Christensen has ever had. Those results can be used to show superior energy performance (and savings) compared to a conventional development, enhanced community spirit, and improved health and happiness. It can also be used to assist in improving future developments.

## **Chapter 6. LESSONS LEARNED: Lifestyles at BedZED**

## Primary Lessons Learned from BedZED

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### **Introduction:**

BedZED was one of the first of its kind anywhere in the world – a conscious attempt to try to create an environment that allowed for sustainable living. Inherent with any innovation on this level not everything went perfectly. The development has been scrutinized, with tens of thousands of visitors from around the world visiting. Even with all of the scrutiny, academic papers created, and steady stream of leading green building experts, no one has yet created a ‘Lessons Learned’ document on BedZED. We have set out to outline the major lessons learned at BedZED to allow second-generation developments to avoid pitfalls, adopt successes, gain efficiencies, and generally create improved products. To this end we have interviewed BedZED residents, Bill Dunster Architects, BioRegional staff involved in the project, former lifestyles officer, BedZED tenants, the developer, and maintenance personnel.

The news from BedZED residents is overall very positive. Resident surveys have stated that overall they are enthusiastic about living at BedZED. Our discussions with residents (both formally and informally) have confirmed that. In particular people were enthusiastic about the quality of the units, the conservatories, the private garden spaces, and the high levels of community interactions.

Also good news from BedZED residents is that they are living a more sustainable lifestyle than when they were living elsewhere. People agreed that their energy bills were reduced, they produced less solid waste and water use was drastically reduced. A repeated comment was that people thought more about their impact on the environment while living at BedZED, due to the unique character of the development and the constant small reminders of the intent behind it. Additionally people felt generally happy in, and with, the development.

Levels of community interaction continue to be high, with some drop-off experienced from the first couple years. Ongoing activities such as the book club are well attended (too well attended according to some residents), and there are an ongoing regular suite of activities available. Activities that have happened over the past month include: yoga, pilates, book club, family circus event, allotment garden gathering, and fair trade brunch. Organic vegetable box schemes continue to be popular with 25% of the population participating.

As a product of the high degree of community interaction residents feel very safe living at BedZED. They know many of the other residents. On average community members feel they know 20 to 25 other BedZED residents, far higher numbers than in their previous accommodations. From a safety perspective they do not see the community as being anonymous, and they know that they can knock on any number of doors if they have problems.

BedZED has not been without its own problems. Some of the innovative technologies have not worked as advertised. Communication between the developer and residents was not always open and forthcoming. Some residents felt that long-term planning in terms of maintenance, governance and transference of ownership of the lifestyles program was not as strong as it could have been. Integration with the social housing units is an ongoing sore spot.

At the end of the day, even after recognizing that things were not (and are not) perfect the general consensus of residents is clear: they love living here. We heard repeated comments such as “I could not live anywhere else”, “I find it difficult even to visit overnight at other people’s houses” and “You could not find a better place to have a flood in your laundry room.” In addition, buyers feel they received tremendous value for the amount paid for the units.

### **Communication**

The comment we heard most often when interviewing residents was that open communication is extremely important. This undoubtedly rings true in any development, but it is even more crucial when dealing with a highly-innovative project. Residents, even if highly supportive, feel a certain apprehension regarding a significant investment in something that is new and different. With any development project it is likely that there may be delays or components that do not work exactly as they should. Communication with facilities management, the developer, and the residents needs to be regular, open, and completely forthcoming.

### **Make it Easy to be Green**

One of the reasons residents felt their ecological footprint was reduced at BedZED was because it was easier to be green. Under sink segregated waste bins (recycling, compost etc), easily visible energy monitoring, dual-flush toilets etc all made the jobs of reducing waste and consumption easier. In cases where things were difficult or time-consuming residents quickly lost interest. For example, the initial composting scheme required rolling heavy bins a fairly substantial distance to empty them. Many residents found this to be more work than it was worth. The composting program has since been revised to make it much easier, and composting rates have increased. When applying this lesson to Emerald Hills Village we will continuously be asking the question “is there any way we could make this easier?”

### **Show faith in your design**

A lesson that may not always be possible to apply broadly is that BedZED residents responded well to the architect and Bioregional’s offices being placed on site. They felt that it showed faith in the innovative design that they would want to be located there. For Emerald Hills Village it may be possible to locate an office of the architect, designer, engineer or developer on site.

### **Integrate Lifestyles with Sales Force**

The first car club vehicle was driven by sales representatives, and lifestyles displays and features were integrated into the sales suite and process. During pre-sales meetings potential residents were introduced to the BedZED lifestyles philosophy, and many responded favourably, seeing the Lifestyles program as a factor in their purchasing decision.

### **Manage Expectations**

Inevitably with a new and exciting development (and likely with any new house someone has purchased) expectations are extremely high. Some people will expect energy bills to be zero, while others will expect that everyone will become one large happy family. It is natural for the sales team to be exuberant in the selling of the development, but it is important that they are fully trained and convey accurate information.

### **Try to Ensure Understanding and Buy-in of Environmental Issues (social housing, rentals)**

One of the difficulties experienced at BedZED has been integrating residents of the social housing block with the larger development (discussed later). Part of the general feeling is that social housing residents do not share the same green mindset or social ethos as the purchasers who deliberately bought BedZED units. Initially the thinking was that social housing residents would be asked to sign a covenant with a green commitment, or would be screened for their opinions on environmental issues. In the end they were just chosen from a list without thought for how they would integrate into a unique community. The same issues initially experienced in relation to interaction with residents in social housing, are now being experienced with units that are rented out. This is admittedly a tricky lesson to apply. Purchasers who were buying units were not vetted for their ‘greenness’ but they were involved in a self-selection process. Most, if not all, of the purchasers bought because the green message resonated with them. It does make things easier if social housing tenants are found who are sympathetic to green issues and express a willingness to participate in community events. However for reasons of public policy it may not be appropriate or available to screen people.

### **Proud of Green Technologies That Work**

Residents of BedZED were very proud of the green technologies that worked. A great example of this was the dual flush toilets. When the topic of toilets was brought up the room roared to life with comments such as “I would never buy another toilet”, “I’ve told my family to buy them”, “They make so much sense” etc. By choosing visible green technologies that work it is possible to create enthusiasm and goodwill. There are also spin-off sustainability benefits as the residents are acting as a pro bono sales force for green technologies.

### **Face to Face Interaction is Best (but different forms of communication have their place)**

When the topic of communication was raised with BedZED residents they overwhelmingly felt that face to face communication was the most effective, both for getting across green messages and enhancing community interaction. A tangible example of this is the book club, which continues to grow merely by word of mouth. In addition residents feel they have learned more about efficient operation of the units through Bioregional staff and other residents than they did through the thorough Residents Manual.

With that said, residents acknowledged that different forms of communication have also been of assistance. There is an existing Yahoo Group, an informal BedZED email listserv, and a website is being created. In addition there is an area of Bioregional's offices that is dedicated to displaying posters for community events. These avenues of communication are necessary and helpful, but cannot replace face to face communication.

### **Take Advantage of Early Excitement – Harness for Later Years**

When residents first moved into BedZED there was an upsurge in excitement and enthusiasm. This was translated into a collection of first year activities such as ZedStock and ethnic potlucks that were very popular. Unfortunately many of the popular events have not continued as there was no mechanism in place to ensure they moved forward. As a lesson, it is helpful to harness the great energy found when residents first move in, and find ways that individuals or organizations adopt events to ensure they continue.

### **Empty Spots Encourage Anti-Social Behaviour**

Move-in schedules at BedZED varied with social housing residents moving in 6 months after the residents who purchased units. What was found was that the empty spaces on site encouraged anti-social behaviour, including graffiti. Part of this is undoubtedly due to the larger neighbourhood of Hackbridge being a depressed neighbourhood. There has been some ongoing problems with vandalism from youths outside of the development.

### **Minimize Problems Right Away**

Problems are inevitable, but they can be minimized if dealt with early. This lesson is broadly applicable for any development, but in an innovative green development people have raised excitement and enthusiasm that can be quickly dampened if problems are allowed to mount. In addition rumors quickly spread in a tight-knit community. See earlier "Lesson Learned" on communication – ensure it is regular, open, with as much transparency as possible.

### **Avoid Segregation**

As mentioned earlier, the separation of social housing and market-housing has proven to be a sore spot and caused long term problems. There is both a geographic separation, a quality of units separation, and was a temporal separation as to when the market houses were first occupied and when social housing residents move in. It has even gone so far that different management teams are in place for social housing and market housing. This has been responsible for an 'us and them' mentality. By the time social housing residents had moved in friendships had formed and formative events had passed. All attempts should be made to ensure that affordable housing is an integrated into the broader community as possible.

### **Integrate with the local neighbourhood**

At BedZED cycle paths and sidewalks were never connected to surrounding developments. This lack of physical connection, perhaps coupled with how visually different BedZED is from surrounding homes, contributed to making BedZED seem "alien" to local people. Although BedZED's community center was supposed to provide facilities for the larger community, neighbours never started using them. Activities held outside the community center (e.g. across the road at the church) drew in non-BedZED residents.

### **Long-term Management**

This is an extremely important lesson learned relating to the BedZED development. There is a sentiment present that BedZED was built without as much thought given to long-term maintenance and operation as there could have been done. In every element it is important for the design team to think long term about who is going to be responsible for operations and maintenance and what that will entail.

Lessons learned in this area are:

*Bring in property management team as early as possible* – bringing in the planned property management team early on can ensure buy in of the environmental issues, and can give an accurate assessment as to how realistic the project is from a long term maintenance perspective.

*Ensure manufacturers/suppliers will provide/be around for long term maintenance* – consider feasibility of long term maintenance considerations when specifying complex design elements. This may include preference for local suppliers who will have greater availability to be on site regularly.

*Develop maintenance plan concurrently* – one way to ensure that long term operational and maintenance issues are considered early and often is to develop a maintenance plan concurrently with the specifications.

*Outsource required expertise to ensure smooth operation* – BedZED was terrifically innovative, but a clear lesson coming out of that is that one person cannot be all things to all people. The lifestyles coordinator spent an unfortunate amount of her time trying to fix the car from the car club or wheeling heavy bins of compost. These elements could have been outsourced, ensuring more efficient operation.

*Create a Development Charter* – a Development Charter is a tool being used by green developments globally. It helps ensure that all parties are on the same page, and are kept on the same page. It can be easily used as an information and education tool when new partners become involved in the development.

### **Established Governance Models**

Ensure governance models have been considered for all elements of the development – if there is a community centre, a café, or a garden, who is going to run them? Ask questions about how these things will be financed long-term, and what worst-case or best-case scenarios are. Peabody is still dealing with the fallout of some of the governance plans falling apart at the last minute. For very innovative items ask whether it would be possible to outsource the governance and maintenance to minimize risk.

### **Ensure roles of partners are well-defined**

Innovative green developments create enthusiasm and goodwill. As excitement grows often potential partners begin presenting themselves. There are many long-term benefits by building strong partnerships, but it is important to ensure roles are clearly defined. The car club at BedZED was a classic example, where the Lifestyles Coordinator found herself trying to actually make on-site repairs because the partnership was ill-defined.

### **Build Community Centre at Heart of the Community**

This has been touched on previously in the document, but it deserves to be repeated. A community centre that is in a high-traffic area will be used frequently. It will literally become the heart of your community. If a community centre is in a less conspicuous area it will often times end up “out of sight, out of mind.” Of course privacy issues and sound attenuation will also need to be considered to ensure that public space does not become problematic for any residents.

### **Children as Change Agents**

After much trial and error, the Lifestyles Manager at BedZED found children to be one of the most effective avenues to market eco-lifestyles to adults. Residents pushed for children’s program as a general quality of life request. However, when children were enlisted to help set up lifestyles facilities, such as the gardens or compost areas, adults were much more likely to re-evaluate their own participation in such programs. Residents and the Lifestyles Manager did indicate that playground facilities co-located near community space (e.g. a café) would have helped make this kind of child-parent interaction more regular.

Children can work miracles when it comes to building community. BedZED actually has done very little to facilitate this, and still mothers with children the same age will find each other. With fewer families having access to extended family, the neighbourhood can play an extremely important role. We strongly encourage Christenson to consider the important role children can play in breaking down social barriers, and build in spaces that allow for natural interaction of parents and kids (e.g. playground with café and patio overlooking).

### **Create Sense of Ownership**

Residents should be involved in democratic decision-making. At BedZED residents have had the opportunity to make spaces such as the allotments their own. Residents have embraced this opportunity and have embarked on a host of volunteer activities to improve the site (including recently building a bridge, putting in works of art, and regularly hosting allotment days). The more residents feel ownership over programs and public spaces the higher degree of volunteerism you will experience.

### **Smooth Transitions**

One of the things done poorly at BedZED for the lifestyles program was to plan for an easy transition to community ownership. The lifestyles coordinator was a real linchpin for many of the programs, and when the funding ran out and the coordinator left many of the programs went into rapid decline. Some of the programs are now rebounding thanks to the work of volunteers. In retrospect both the residents and the coordinator wished that they had planned ahead for the transition with volunteers in place and ownership transferred over.

### **One Size Doesn't Fit All**

Not all programs will appeal to all people. For maximum success allow for a range of options that allow for different levels of engagement. One of the failings of the allotment gardens is that they only offer one basic size – a trough. Some residents have decided to split a trough. Some residents told us that they felt a trough was too large for them to manage. Many more residents felt it was too small to be bothered with. If the allotments allowed for a range of sizes it would be used much more often.

### **Relations with Broader Neighbourhood**

Everyone wants to be a good neighbour, but like most things worthwhile it requires effort. BedZED has made a conscious effort to reach out to community youths by engaging them in activities, to the local church by keeping it up to date on BedZED happenings, and with the local government. This has served BedZED well, with reduced graffiti and vandalism over time, and strong community support for “the place with the funny chimneys.”

### **Parking Conundrum**

Parking is a conundrum in green communities, and will most certainly be a conundrum at The Emerald Hills Urban Village. Green thinking encourages reduced parking (e.g. see LEED-NC credit 4.4). This is done for good reason to reduce single-occupancy vehicle traffic. Parking was strictly reduced at BedZED, with zero visitors parking. Unfortunately this does make it more difficult for social engagements, to host community-wide events, even just to have a football match with players from other communities. There are no easy answers, only to say that parking needs to be considered from a range of different angles.

### **Need a Community Centre – Person, Space, NGO**

A community functions best if it has something it can gravitate around – this can be a public space where people regularly gather, a person (or people) who act as the community glue, or a non-government organization that acts to enhance the community. BedZED had all of the above, and residents point to these factors as being important for the vibrancy of the community.

### **Fitness Centre Required**

One complaint BedZED residents had was that there was no fitness centre on-site. Repeatedly we heard that they wished there was even a couple stationary bicycles and a rowing machine. This may be less of an issue for The Emerald Hills Urban Village due to its close proximity to a workout facility.

### **Metering**

The metering program at BedZED has not worked to its full potential. Many residents have covered over the metering devices in the kitchen, thereby defeating the purpose of visual metering. The meters are not as user-friendly as they could be, and many residents felt they were ‘irrelevant.’ Visible metering, if used, should be user-friendly, and people should easily be able to compare their consumption rates to development, city and provincial per capita averages.

### **On Being the Centre of Attention**

BedZED has had over 15,000 visitors (and counting). Depending on the features implemented at The Emerald Hills Urban Village, there will likely be fairly high public, media, and academic interest. It is important to manage this early on to ensure it does not infringe on the private lives of the residents. At BedZED they have implemented rules about where people can take pictures, and try to manage tours carefully.

### **Choose Pilot Projects Carefully**

You may think that the very innovative infrastructure elements (such as the CHP) would not have a direct bearing on the lifestyles program, but that would be incorrect. Many residents felt discouraged and let down when the CHP was continuously malfunctioning. In part frustration was caused due to poor communication, but also due to the fact that one of the development's showpieces was not working. Even if government funding is available choose pilot projects carefully, or manage expectations, to ensure that failure would not affect the morale of the community.

### **Champions are Key**

This has been reiterated throughout the document, but is seen in practice at BedZED. They have champions who run the vegetable box programs, take care of the allotments, host events at the community centre etc.

There are also champions outside of the community, such as the vicar across the street, whose vocal support early on was a key to gaining widespread community support.

### **Incentives/Early Bird Bonuses Can Recognize Good Behaviour**

The lifestyles coordinator at BedZED used incentives early on to recognize sustainable behaviours. For example, if you signed up to the car club you also received free bicycle tune-ups. Volunteers were recognized with free vegetable boxes. The coordinator, in part, credits these incentives for the early success of many innovative programs.

### **Allow Community to Adopt/Create Public Notice Board**

Initially there was no community notice board at BedZED. Residents took it upon themselves to find a spot where they could post important (and not-so important notices!). They ended up adopting the back door of BioRegional, and that has now served as the de facto notice board for the past couple years. A public notice board (or multiple notice boards) is a necessary component for a vibrant community. It would be an interesting exercise to allow residents to actually physically create their own notice board and just set the space aside, and the budget to allow for it.

### **Healthy Living through Partnerships**

A successful program at BedZED promoted healthy living by including affiliation packages with fitness programs: gyms, martial arts, yoga, etc. Discounts were offered at local shops as well. For example, a local bicycle shop gave BedZED residents a preferential discount to encourage people to take up cycling.

### **Location, location, location**

BedZED residents believe the composting, recycling, and vegetable garden programs would have been more successful if the facilities housing them had been co-located much closer to individual units. This would also have engendered more sense of community ownership over such facilities. A potential model to explore can be found in Amsterdam, where 6-story apartment blocks surround car-free courtyards that balance recreation space with garden space and edible landscaping.

### **Timing is personal**

Some BedZED residents were “early adopters”. The lifestyles manager noted that for this group, moving into a new home was an opportunity to re-evaluate habits and behaviours. This demographic joined the car club early, helped establish programs, and pitched in with great enthusiasm. Other residents took as much as a year to “settle” into their new home, unpacking and integrating with neighbours and lifestyles programs very slowly. And for many residents, some of the programs had to be proven before they would participate – particularly in the case of the car club: some die-hard eco-warriors with small children waited 2 or 3 years before joining because they wanted to be sure it would be 100% reliable for them.

# APPENDICIES

## Appendix A. Additional Benefits of Incorporating OPL

These benefits do not strictly relate to the lifestyles component, but they are related to green buildings and green communities and we feel that a lifestyles component will be a necessary element to green communities in the future.

### A. Market Leadership & Competitive Edge

**Leadership in residential construction:** The green office building sector has been booming, with clear market leaders emerging in the last few years. Residential builders have been slower to innovate. Government leaders and consumers are both starting to catch on to the benefits of looking green. Those developers who are slow to adapt will find that their product pales in comparison (does a consumer want a healthy, environmentally-friendly and engaged community, or the conventional alternative?).

**Learn from experience and the network.** While other developers are still planning their first green residential project, OPL partners leverage the lessons learned from BedZED, and ongoing work on existing OPL communities. Our next-generation designs for new OPL communities are a substantial improvement based on real-world findings: building upon the elements that worked best in BedZED, eliminating those that did not live up to expectations or were too costly. This next-generation design has evolved as Z-Squared: it is the baseline plan for the 2012 London Olympic Athlete's village, for several other projects in the planning phase in the UK, and for the 6,000-unit Mata de Sesimbra development in Portugal which will begin construction in 2006. We also offer the opportunity to learn from the **One Planet Living Network**, a facilitated knowledge-sharing forum where OPL developer partners can share tactics and best practices.

**Harness market attention & publicity.** BedZED has been:

- showered with international awards
- widely acclaimed in the national & international press
- toured by over 15,000 visitors including VIPs and industry leaders

Green communities are still considered very media-worthy, and with a minimum of effort thousands of dollars of free advertising can be generated. Furthermore One Planet Living North America will attract hundreds of thousands of dollars worth of extremely positive, free advertising. By further leveraging the campaign power of the WWF and the popular demand in the press for green success stories, the corporate social responsibility of OPL's partners will be conveyed to a very large audience.

**Market Differentiator.** The market is becoming increasingly global, with competition from a host of players. Being known as a socially-conscious and green developer can pay long-term benefits as a market differentiator.

### B. First-Cost Savings

**Increased chance of winning a bid** for land (especially parcels designated to meet environmental targets). Increasingly local governments are adding environmental criteria as part of the bid process (e.g. Dockside lands in Victoria, LeBreton Flats in Ottawa). Although Christenson is not participating in a bid process for The Emerald Hills Urban Village, there may be long-term strategic benefits through demonstrated commitment to leading-edge green developments. We are starting to see an international trend (most pronounced in Europe, California, and starting to occur in Canada) where local governments are requiring higher environmental standards, and are scoring proposed developments for publicly held land on a triple bottom line approach. A developer that can demonstrate an established track record of creating successful sustainable communities will further enhance their opportunities to win bids in the future.

**Streamlined permitting and approvals.** Regulatory delays and difficulties may be reduced as a result of green measures. Anecdotally we have witnessed first-hand green buildings generate tremendous community support, when previous projects at similar densities were roundly condemned. Community and local

government support will translate into quicker approvals and less costs for developers. A sustainable lifestyles strategy also brings with it a host of benefits for the wider community (car clubs, green space, reduced crime etc), making new development more palatable. Again, for The Emerald Hills Urban Village this does not appear to be an issue. However, using a long-horizon view, it may be advantageous in the future to be able to point to an operating lifestyles program, an endorsement from a recognized and credible environmental organization, and a link to a growing international network.

**Reduced infrastructure costs** through pragmatic design. For example, on site stormwater management techniques are designed to reduce or eliminate the need for storm sewers and stormwater detention ponds; narrow streets to slow traffic can reduce paved area and clustering buildings on a site can reduce the amount of paved area and the length of sewers and utility lines. For some projects, the infrastructure savings are so significant that they can pay for other green features with higher construction costs.

**Savings from downsizing mechanical equipment** and perimeter heating systems can be achieved by improving the energy performance of a building envelope in conjunction with an active lifestyles program. At BedZED we totally eliminated heating or cooling equipment—and in the process paid for much of the building envelope improvements.

**Tax credits and other incentives.** Several states and municipalities offer tax credits and other financial incentives to developers of green buildings. New York, New Jersey, Maryland, and Oregon are among states that offer significant green building tax credits. Also, a growing number of local municipalities offer incentives for green building. For commercial buildings in Canada the CBIP grant program is available. With the implementation of the Kyoto Protocol we envision further incentives and tax credit programs to be put in place.

**Benefits of ‘future proofing’** achieved by following OPL principles. OPL communities will be sustainable and built to last. Use of renewable energy by OPL communities removes fossil fuel dependence and the associated future supply and cost problems that unsustainable energies will have. Christensen will also benefit from a medium-term competitive advantage by adapting early to an increasing awareness of resource scarcity (energy, water, forests, etc). Eventually green development will become required and by establishing supply chains and processes early a competitive advantage is gained.

#### **D. Good-will & Social Responsibility**

**Enhanced credibility and public trust** as a result of improved environmental and social performance.

**Being part of a community of actors for change** to tackle some of today’s greatest global threats, such as climate change and loss of biodiversity. Green development offers an opportunity to be part of the solution rather than part of the problem.

**Improve employee engagement and motivation** in the work place. The evidence from the environmental sector is overwhelming that high-quality employees want to work for organizations that are committed to making a difference. It is easier to attract and retain the best employees by demonstrating a commitment to sustainability. Companies such as Sears and Volkswagen have found that involvement in environmental programs creates substantial economic benefits as employees are more motivated and loyal. Several large and prominent companies have reported that environmental initiatives have helped attract and retain high caliber senior staff.

All of these factors combine to create competitive advantages for sustainable businesses. Recent studies are showing that socially and environmentally progressive businesses outperform conventional alternatives in all major categories (Return on Equity, Return on Sales, Return on Assets and stock prices).

<sup>19</sup> WWF International (2004), ‘Living Planet Report 2004’, Avenue de Mont-Blanc, 1196 Gland, Switzerland

<sup>20</sup> from BioRegional correspondence with Stockholm Environment Institute, York