



City of Richmond

Report to Committee

To: General Purposes Committee

to General Purposes - Mar. 05, 2007
Date: February 22, 2007

From: George Duncan
Chief Administrative Officer

File: 10-6125-01/2007-Vol 01

Re: Addressing Richmond's Sustainability Profile

Staff Recommendation

1. That the City adopt an enhanced sustainability initiative as outlined in the staff report.
2. That the concept of evaluating major City projects and initiatives based on Triple Bottom Line (TBL), which includes social, economic and environmental evaluation criteria, be adopted, and
3. That staff report back on a policy and implementation concept for measuring conformance with TBL.
4. That the concept of enhanced investment in the social fabric of the community, with internal resources to support social programs, be supported.

George Duncan
Chief Administrative Officer
(4338)

Att. 1

FOR ORIGINATING DEPARTMENT USE ONLY		
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Staff Report

Origin

In 1997, the City embarked on a corporate renewal program and adopted our vision to be the most appealing, livable and well-managed community in Canada. Visionary leadership, sustainable fiscal practice, service excellence, community consultation and the development of a unique and beautiful City guide our approach. This strategic visioning and value setting exercise launched the City toward new directions in many areas, key among them being initiatives which promote community well-being and liveability. These initiatives are a component of the broader strategy of community sustainability, an increasingly important focus area in light of changing global dynamics.

The United Nations Agenda 21 agreement was a key international trigger where global nations acknowledged and recognized the need for sustainable development to address the growing impact of human activity on social well-being. Continued scientific research has compelled us to begin to understand the impacts of human activities on long-term sustainability in recognition that we can no longer burden future and current generations. Individuals, corporations and governments at all levels are recognizing that measures must be taken to transform our traditional decision-making models to create sustainable communities and regions to enhance overall and long-term liveability.

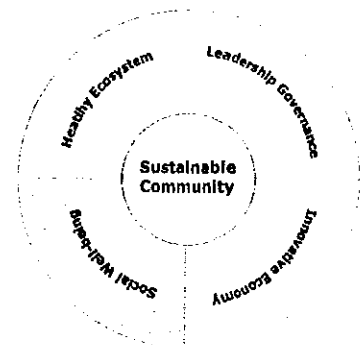
This report highlights the City's many successes and advancements in the community sustainability realm and explores opportunities to further broaden and enhance the sustainability framework for Richmond.

Analysis

1. The Sustainability Framework

Sustainability is a broad term that is often not clearly understood. It is frequently associated with environmental terms or climate change. There are many definitions and descriptors, but the fact is that sustainability is a far broader concept. It encompasses four key elements:

- Healthy Ecosystems
- Social Well Being
- Innovative Economy, and
- Leadership Governance



The first three represent the familiar concepts of the “triple bottom line”. The fourth element is introduced to recognize the necessary driver needed to make sustainability a reality. In creating sustainable communities, a key objective is to create balance and optimization across all four areas, i.e. no one element should trump or be at the expense of the other.

For local governments, sustainability is about creating a sense of lasting place. The “Institute for Sustainable Communities” has developed an inclusive definition which more fully describes sustainable communities:

Sustainable communities are defined as towns and cities that have taken steps to remain healthy over the long term. Sustainable communities have a strong sense of place. They have a vision that is embraced and actively promoted by all of the key sectors of society, including businesses, disadvantaged groups, environmentalists, civic associations, government agencies, and religious organizations. They are places that build on their assets and dare to be innovative. These communities value healthy ecosystems, use resources efficiently, and actively seek to retain and enhance a locally based economy. There is a pervasive volunteer spirit that is rewarded by concrete results. Partnerships between and among government, the business sector, and non-profit organizations are common. Public debate in these communities is engaging, inclusive, and constructive. Unlike traditional community development approaches, sustainability strategies emphasize: the whole community (instead of just disadvantaged neighbourhoods); ecosystem protection; meaningful and broad-based citizen participation; and economic self-reliance.

Our visionary approach for Richmond has laid a solid foundation and created a path toward a more sustainable Richmond.

2. The Path

The Corporate Renewal Program led us to pursue many sustainability initiatives as individual projects or programs. They were not promoted under the label of sustainability, partly because in the late ‘90’s there was a lack of broad community support for works that may have been viewed as primarily environmental in nature. In order to ensure we continued to make progress in these important areas, we tended not to group them under one umbrella. Building a sustainable Richmond is an underlying objective of our Corporate Renewal Program. Therefore, to chart our path forward, the CAO has initiated an assessment of these programs with a view toward identifying the programs and services that will need to be added to complete our sustainability package of programs.

What have we done to date to embrace and create a sustainable culture for Richmond? The initiatives are numerous and cross many facets of the organization. They range from basic ground level strategies which enhance operational efficiency such as energy efficient pump stations to award winning initiatives, such as the Environmental Purchasing Policy/Guide, Power Smart, Healthy Living, Heritage Inventory, International Nations in Bloom, etc. A comprehensive sustainability strategy document, which includes a more detailed listing of these initiatives, is provided in Attachment 1.

In recognizing our accomplishments to date, it is important to capture those key actions that have a legacy impact insofar as building Richmond’s sustainability culture. Key legacy achievements, both in place and underway, include:

➤ *The Strategic Management Program*

Established a common, shared vision, and outlined corporate values. Through a team-based approach, staff continue to accomplish significant initiatives and ambitious work programs in an accelerated timeframe, with consideration of public input as well as financial constraints. A significant outcome was the Waterfront Strategy.

➤ *The Corporate Efficiency Program*

This program targeted operational efficiencies that resulted in budget reductions. A key outcome was the ability to maintain operational programs and service levels, while at the same time enabling the City to absorb additional new plant and infrastructure without financial impact to the community.

➤ *Volunteer Water Meter Program*

Built awareness within the City and the community of the value of potable water. Founded on user pay principles, this program resulted in reduced per capita consumption of water in Richmond, prolonging the life of our infrastructure and deferring the need for further capital expenditure. An on-going public awareness program ensures that the program demand remains high.

➤ *Agricultural Viability Strategy*

Reinforces the critical importance of maintaining the agricultural land base and recommends policies and strategies to ensure ongoing agricultural viability in Richmond. Promotes resource regeneration and development of a culture of self-reliance. Effective use of local resources and respecting a limited non-renewable land base are key to developing a sustainable community.

➤ *High Performance Building Policy*

Raised the standard of building construction utilizing LEED for all new City building construction. Further encourages innovative construction practices, re-use of local materials, and learning. Some of the basic principles of the policy are to utilize life cycle costing, and encourage reliance on natural resources such as ventilation and lighting. In addition, green roofs are utilized to add green space, reduce heat absorption by the building, and for storm water detention. To date the Hamilton Fire Hall has been constructed with a LEED Gold target and the Richmond Oval target is LEED silver.

➤ *Energy Management Program incl. Geothermal Energy Utility*

The City's success in the first phase of its Energy Management Program dates back to the early 1990's when the City was recognized by the Province in three consecutive years (1991 through 1993) with the Municipal Energy Efficiency Award.

With the realization of operational budget savings from the first phase of the Energy Management Program, the City entered its second phase by raising the bar and achieving PowerSmart recognition from BC Hydro. The Program promotes energy awareness, self-reliance and innovation. Richmond remains the only PowerSmart-certified municipality, and has been able to reduce power consumption by over \$600,000 annually since inception. This program supports partnerships with the private sector for specialized technical expertise. Reduced energy consumption mitigates the need for new and larger infrastructure and defers the respective additional operating costs. The Geothermal Energy Utility

takes the concept of energy management to the next level by utilizing waste energy from one facility and utilizing it in a nearby residential complex.

➤ ***Environmental Purchasing Policy***

Adoption of the Environmental Purchasing Policy provided a decision making tool that takes into account the environmental impacts of purchasing decisions. The accompanying guide provides guidelines and measures to support the policy. By adopting this Policy, the City as a whole is taking into account a comprehensive set of factors over and above the basic immediate financial implications. This innovative and award winning Policy and Guide ensures that there is a pervasive awareness of the environmental impact to the goods and services being acquired.

➤ ***Long Term Financial Management Strategy***

This Strategy outlined an innovative approach to long-term financial management including promoting an on going review of service delivery efficiencies, cost containment, limiting tax increases, retaining appreciating assets (land), increasing reserve banks and encouraging financial planning for asset management. Through the annual budget process, this strategy engages the public by soliciting input.

➤ ***Dyke Utility***

The adoption of a dyking utility set the stage for sustainable dedicated funding towards the upgrade of one of Richmond's most important assets, our dykes. The Dyke Utility enables upgrades beyond regular basic maintenance services. This forward looking initiative was supported in recognition of the significant investment being made in Richmond by the community. Implementation of the Utility promotes self reliance, public consultation, and innovation.

➤ ***Green Fleet***

Promotes the efficient use of a non-renewable resource by recommending review of current technologies considering product life cycles and purchasing fuel-efficient vehicles. Encourages new business partnerships in achieving concrete results from reduced vehicle emissions. Through this initiative, overall vehicle emission reductions were achieved.

➤ ***Flood Management Strategy***

Promotes innovative practices and long-term policies in response to changing community needs and changing environmental conditions. This strategy will support the City's overall future drainage needs and allow the City to develop. The success of this strategy will require community support to succeed, and it will promote proactive and ongoing protection of community and City assets. The strategy will be designed to respect local ecosystems and support local economy as well as agriculture.

➤ ***Affordable Housing Strategy***

Sets out a sustainable and comprehensive policy based approach towards affordable subsidized rental housing and housing ownership in Richmond. Policies within this strategy include ensuring that the existing rental stock remains intact, incentives are in place to create new affordable housing, new partnerships are created, and sustainable funding reserves are developed. Within the context of sustainability, this innovative strategy will forward the concept of social equity. It will require innovative and responsible decision making in ensuring that Richmond is self-reliant and locally develops a sense of place and community.

➤ ***Parks, Recreation, and Cultural Services Master Plan***

Will outline the community's parks recreation and cultural services future needs. Extensive community consultation was conducted in order to undertake a comprehensive needs assessment and subsequently a prioritized implementation plan. This plan will be the underpinning of the sustainability of a high density City Centre ensuring a complete community rather than solely a residential neighbourhood. Other significant strategic directions will result from the draft Volunteer Strategy and the Council-adopted Arts Strategy.

➤ ***City Centre Area Plan incl. Canada Line***

This new plan takes into account land use changes and population growth to maximum build out. The long-term planning horizon enables development of an implementation plan complete with financing. The Plan introduces the concept of mixed-use, local pedestrian-oriented neighbourhoods, complete with amenities as well as transit-oriented development to complement the concentration of the population in the City Centre. This plan reinforces the City's commitment to protection of agricultural lands, minimizing urban sprawl. The Canada Line is key to the success of the City Centre Area Plan by providing a convenient rapid transit system -- contributing to the removal of vehicles from the road network.

➤ ***Richmond Oval***

Provides a venue for showcasing innovation and high performance. Planning includes ongoing input and consultation with the community to serve as community recreation and gathering places in a post games configuration. This includes establishment of several advisory committees, which provide advice to staff. This process has promoted volunteerism and community engagement as well as partnerships with the business community.

➤ ***Advisory Committee on the Environment***

The Advisory Committee on the Environment (ACE) is a community based advisory committee comprised of 15 volunteer representatives. The Committee's mandate is to provide advice to the City on environmental issues, assist in establishing goals and policies to achieve a more sustainable Richmond, and generally enhance public awareness on environmental issues affecting the City now and in the future. Implementation of this Committee ensures proactive and

transparent governance, and provides a mechanism for receiving input on various initiatives so that the City can work towards living within its ecological limits and establishes a sense of social well being.

➤ ***West Cambie Area Plan***

The West Cambie Area Plan proposed to transform an older a low-density residential neighbourhood into a high-density, mixed-use neighbourhood, complete with employment, amenities, including parks, trails and a mix of housing types. Integration of the land use, transportation, parks, and servicing needs at an early stage ensured that the implementation plan was practical and well understood. Considerable consultation with the public and business community was carried out throughout the process. With the transformation of the entire neighbourhood, local flood proofing measures are being implemented, thereby reducing infrastructure needs.

Upon reflecting on these legacy achievements and those further achievements outlined in Attachment 1, it is clear that the last 10 years Richmond has seen an intensive forward movement and considerable focus and accelerated effort to advance the corporate vision. This path of renewal has contributed in a very productive way in advancing Richmond toward a more sustainable community. To rest on our laurels, however, would be counter-productive to our leadership culture and to taking those very important next steps on our path to a more sustainable Richmond. There are new opportunities to embrace and explore.

3. **The Opportunities**

To continue to move ahead, we need to begin to more clearly explore and define the sustainability context for Richmond. Our achievements to date have done much to support this direction -- capturing our achievements and their relationship to sustainability is an important first step. Looking at how these relate, and what direction to advance in the next several years, is an important next step.

One approach to doing this is to undertake a large-scale sustainability audit to identify potential gaps and more clearly define what a sustainable Richmond looks like. We can then define important next steps to continue our path toward a sustainable Richmond. Some examples of important next steps could include:

- ***District Energy Utility*** – creating a geothermal based district energy utility, which all new facilities would be required to utilize as their primary source for heating and cooling, i.e. around the Oval site; incorporate geothermal into road design to avoid need for salting/ snow ploughing in cold temperatures.
- ***Develop a Program for Energy Management*** – including expanding partnerships with other agencies to maximize energy efficiency on a community-wide scale. A partnership with BC Hydro to promote energy initiatives in Richmond is one example currently being explored.
- ***Expanded Financial Management Strategy*** – consider the implications of applying a ‘steady state economy’, e.g. evaluate an economy which is in balance

with the carrying capacity of the region vs. a strictly growth based oriented economy. Evaluate the sustainability of continued revenue generation from DCC's from new development over the longer term. Another concept is to capture a portion of savings and/or revenue generation from projects (i.e. geothermal) to support sustainability project advancement.

- ***Enhanced Environmental Sustainability*** – develop strategies to integrate our environmental community dynamics at the conceptual stages of projects and initiatives. This would help develop broadened strategies to take better advantage of our local resources on a holistic, system-wide basis, and better enable Richmond to live within available ecological capacity.
- ***Develop Sustainability Policies*** that incorporate sustainability principles in the decision-making at the grass roots level of various initiatives and programs/projects. Such policies need to look well into the future, i.e. 7 generations, to help gauge whether our approaches of today are sustainable over the longer term.
- ***Harness the Olympics*** as way to build, promote and showcase the sustainability culture for Richmond. Use this avenue to mobilize and engage the community in the sustainability movement for Richmond.
- ***Explore Involvement in Innovative Social Programs*** to establish the scope of what the City may need to be involved in over the next 5 years in light of significant shifts by senior levels of government. It may be proactive for the City to begin to scope specific issues which impact our community (i.e. homelessness) while at the same time pursuing higher levels of government for funding. Support for further action in this regard is being sought with this report.
- ***Create a sustainability office/department*** to develop, advance, and showcase Richmond as a sustainable community. Develop the sustainability principles for Richmond and actively protect and defend their application in the way we do business.

Our key objective would be to create that sense of lasting place for Richmond, as well as set ourselves apart as leaders – to help promote sustainable practices by others (i.e. the business community, developers, residents, etc.). This would help to more broadly advance sustainability both in Richmond and on a more regional scale.

4. **The Road Ahead**

The definition of a sustainable community, as defined by the Institute for Sustainable Communities (outlined previously), lays out some interesting measures, i.e. an embraced vision, innovative ideas, value for ecosystems, efficient use of resources, promotion of a locally-based economy, pervasive volunteer spirit, partnerships, etc. Many of these are qualities Richmond currently employs in our approaches. We must continue to be guided by these measures and ensure we continually evolve and adjust by:

- moving from reactive to proactive,
- moving from issues management to systems management,
- moving from focused decision-making to integrated problem solving.

We can do this by developing decision-making processes that consider and value all elements. A process that can support how the City addresses sustainable decision-making is through a “Triple Bottom Line” (TBL) approach.

Triple bottom line is a decision-making, planning and reporting framework that provides a more comprehensive approach to help organizations identify the social, economic and environmental impacts of their decision. At a local government level TBL can be used to:

- achieve the objectives of sustainable community development
- identify the full range of costs and benefits of decisions, and
- maximize benefit to the community, economy and the environment.

The CAO has asked staff to commence informally assessing all major projects and initiatives for their ability to meet the Triple Bottom Line concept, e.g. new ranking criteria will be included in the capital planning model. We are seeking Council’s support for this concept on a broader scale with the intent to report back with a formal policy and administrative procedure for measuring conformance. The concept being suggested is that all major projects/initiatives must meet the TBL evaluation in order to gain approval. If a project or initiative does not meet this requirement, then a variance report would be required to present rationale for proceeding. One idea being contemplated is that after 3 years, the TBL criteria must be met, with no permitted variances. This would serve as a model to the private sector where their compliance could initially be optional – but potentially move toward making the requirement mandatory in 5 years.

The City has developed a framework to advance consideration of TBL into our decision-making. This tool has the capacity to value the social and environmental factors of a decision into a financial metric to allow each consideration be evaluated on a common platform. This tool has the potential to be a springboard into establishing a Triple Bottom Line Policy for the City of Richmond.

Financial Impact

Sustainable decisions may not always be the most financially viable on the surface, but often represent the best long-term decision and savings when all factors are considered. The financial impact will continue to be studied as we move down this path. However, we will be guided by the principle that we can implement TBL in an economically viable way, whereby any additional investments would result in long-term savings. We will also explore capturing a portion of monies gained via savings and/or revenue generation to support sustainability project advancement.

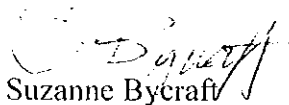
Conclusion

Richmond’s Corporate Renewal Program served as the catalyst for new and innovative directions. Many of the strategies we have undertaken or are currently pursuing contribute positively toward creating a culture of sustainability for Richmond. Capturing and expanding on these approaches will help further guide and advance our sustainability profile.

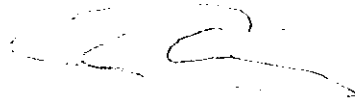
This report introduces some next steps to help better frame, enhance and broaden our actions within the sustainability framework. It proposes the introduction of a new tool, Triple Bottom Line evaluation criteria, to ensure City projects are considered and balance across social, environmental and financial components is achieved. Through a system of continuous improvement, and by further integrating sustainability principles; we can help achieve our vision. At the same time, we can build the framework that supports the City of Richmond as a leader in the global sustainability initiative.

Our foresight of today will help to create a future legacy for Richmond, one that future generations will benefit from and continue to build upon. The concepts of think global, act local will become mainstream. Richmond will be a contributor to the climate change solution.

On behalf of an interdepartmental staff working group,



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City of Richmond
Charting our Path Towards a Sustainable Community

Acknowledgements

This background communiqué was prepared by an interdepartmental staff working group comprised of the following individuals:

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1. Introduction

- 1.1 The City of Richmond has established a vision to be to be the *most appealing, livable and well managed community* in Canada. This vision was set out in the 1997 Corporate Renewal Plan. Achieving a community that provides quality of life today and tomorrow is inherent in this vision.
- 1.2 To meet its vision, the City of Richmond has been developing and implementing a range of innovative initiatives in an effort to accelerate the transition towards a more sustainable Richmond community – one where improvements made today also leave a lasting positive legacy for future communities.
- 1.3 A strong understanding of action taken to-date is important for celebrating success, demonstrating accountability and building momentum.
- 1.4 This report takes stock of current City of Richmond corporate activities and explores opportunities for the City to further advance local community sustainability.
- 1.5 This report was prepared internally by a staff working group with cross-representation from City departments.
- 1.6 The purpose of this report is to convey key corporate achievements and to provoke thought and inspiration on opportunities for moving the City of Richmond forward as a leading municipal government in sustainability and, ultimately support accelerating the journey towards a more Sustainable Richmond.

2. Describing Sustainability

- 2.1 Sustainable development is a concept which has emerged over the last twenty years in response to concerning global trends which impact quality of life. These include:
 - rapid population growth
 - limitations of the oil economy
 - changing ecological and atmospheric conditions which support human activity
 - decreasing resource renewal and increasing resource consumption
 - increasing loadings of persistent pollutants
 - increasing wealth disparity and inability to meet basic needs for all people.
- 2.2 At the local level, Canadian municipalities are struggling with insufficient revenue sources, ageing infrastructure, rapid infrastructure expansion demands, regulatory downloading, fluctuating market conditions, lack of control over external costs and a mandate for managing urban growth, curbing sprawl, planning complete and compact communities, and securing affordable housing, economic prosperity, agricultural viability and ecological health.

- 2.3 The core of sustainability is to:
- achieve a good life today
 - leave a quality future for next generations.
- 2.4 A sustainable society depends upon the achievement of 4 conditions:
- a strong, healthy and enriched Richmond society
 - a healthy ecosystem
 - a responsible and innovative economy
 - a strong leadership government and community (at all levels) - *a sustainable community depends on everyone working together and cannot be delivered by any one party acting alone.*



Figure 1: Conditions of A Sustainable Community

- 2.5 Characteristics of a sustainable community at the local level are more specifically described in Table 1.

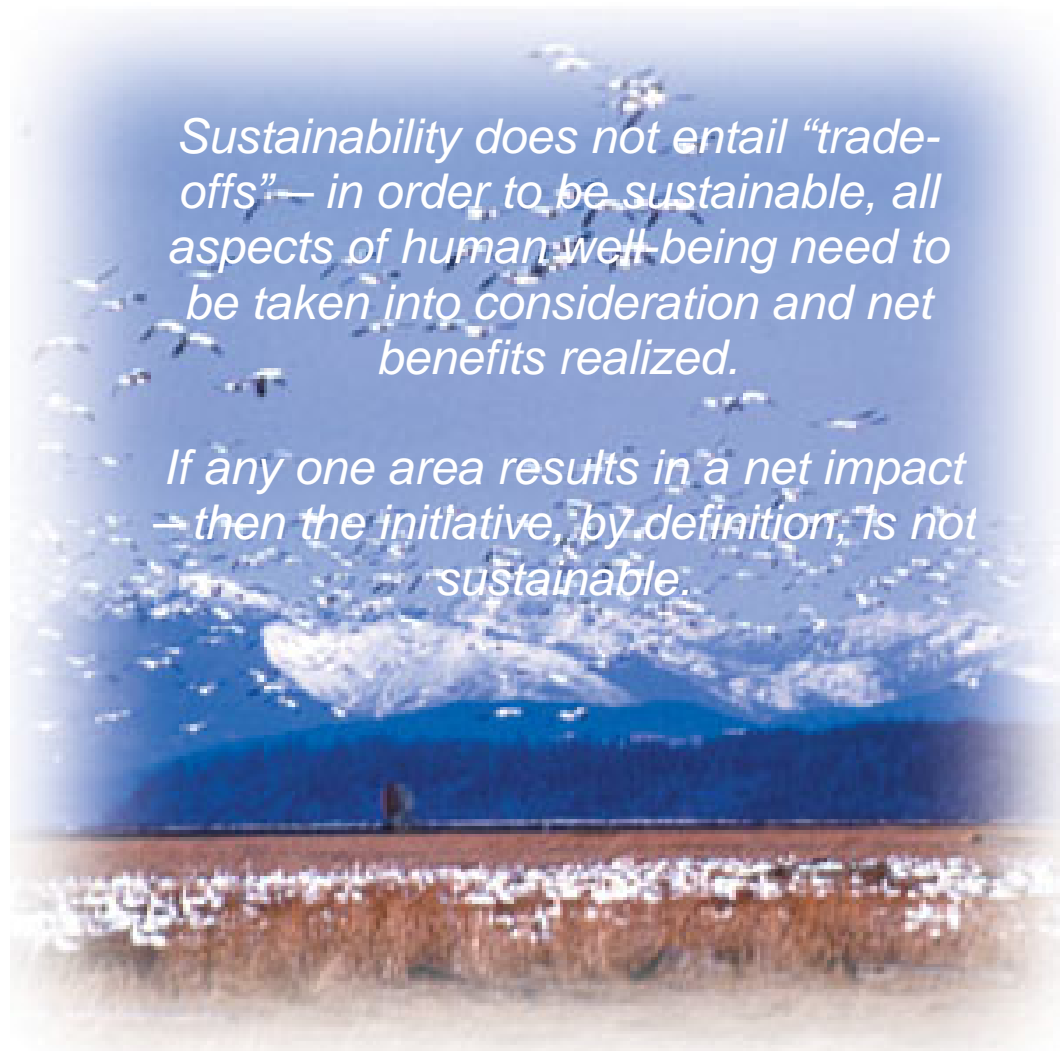
Table 1: Characteristics of Sustainable Community at the Local Level

Features	
<i>Community Security & Enrichment</i>	<ul style="list-style-type: none"> • basic needs are met (e.g., affordable housing, health care, affordable nutritious food, employment, etc.)
	<ul style="list-style-type: none"> • high degree of security (e.g., daily safety, protected from natural elements including climate change, energy and food security, etc.)
	<ul style="list-style-type: none"> • equitable opportunities for fulfillment (e.g., education, range of employment, volunteerism, creative & artistic fulfillment, accessible recreation and culture facilities and programs, health and well-being)
	<ul style="list-style-type: none"> • a strong sense of community and cultural diversity
	<ul style="list-style-type: none"> • capacity for resiliency and adaptability to respond to change
	<ul style="list-style-type: none"> • focus on learning and education and an ethic of caring
<i>Creating Smart Communities</i>	<ul style="list-style-type: none"> • an urban form with a high degree of supporting sustainable lifestyles (e.g., complete/compact communities, sustainable transportation, affordable housing, low-impact development, mixed-uses, etc.)
	<ul style="list-style-type: none"> • a prosperous economic system organized around cooperation, local production, resource efficiency and intra-generational equity
	<ul style="list-style-type: none"> • a high degree of resource self-sufficiency and use of renewable resources within their rates of regeneration
<i>Environment Sustainability</i>	<ul style="list-style-type: none"> • effective management of natural assets so that economic, social and ecological services provided by local ecosystems are optimized over the long-term
	<ul style="list-style-type: none"> • human systems are designed to function as a part of a living eco-productive landscape, stressing regeneration and resiliency, and mimicking natural patterns and processes
	<ul style="list-style-type: none"> • toxins are well-managed which includes the elimination of toxins that pose an unacceptable risk to environment and humans
	<ul style="list-style-type: none"> • healthy urban environments exist and are equitably accessible to all citizens today and in the future
	<ul style="list-style-type: none"> • a web of ecologically-designed and well-connected greenways exist throughout the community to regenerate and protect biodiversity
<i>Leadership Community & Governance</i>	<ul style="list-style-type: none"> • a leadership-based government and community (development, business, residents, etc.) ready to undertake new modes of business and development
	<ul style="list-style-type: none"> • the use of a sustainability-based decision-making by government and the community
	<ul style="list-style-type: none"> • a highly participatory governance process

- 2.6 There is no blueprint for achieving local sustainability. Rather, each community has its own unique conditions which provide opportunities and constraints in context of their community assets and external forces.
- 2.7 However, while there may be no clear recipe, it is recognized that the pathway forward to realizing opportunities requires comprehensive decision-making.

Sustainability-based decision-making strives to:

- **equitably** consider all communities (e.g., current and future generations, developed and developing communities, etc.)
- **integrate** consideration of economic prosperity, community well-being and ecological integrity, aiming to develop initiatives which mutually reinforce each other and yield greater benefits in combination than when implemented alone.
- identifies and **protects** assets and resources by mitigating risks, ensuring stability and renewal, and **enriching** quality of life.



3. The Power of Local Communities

- 3.1 Cities are major centres for driving sustainable development. By the year 2030, it has been projected that 60% of the world's population (4.9 billion) will be living in urban areas.
- 3.2 Cities depend on areas significantly larger than their size for their existence and development. For example, a North American city the size of Vancouver can typically depend on a land area up to 175 times larger than its political area.
- 3.3 Local governments are positioned to be able to make significant on-the-ground change and facilitate the creation of Smart Cities. In partnership with their broader communities, local governments are able to effect change in all facets of local sustainability - environmental, economic and social.
- 3.4 Specifically, municipal governments can affect change through:
- their representation of local interests and inter-governmental relations
 - their delivery of community planning and municipal services
 - their ability to lead by example as a corporate entity and
 - their opportunity to partner with the broader community to effect system-wide change.
- 3.5 The City of Richmond is strongly positioned to accelerate transition to greater sustainability. This strength originates from the City's:
- institutional assets, including a dedication towards community care and a culture of innovation and continual improvement
 - geographical location, which provides to the City the ability to live within a stunning, rich and productive ecosystem, which in turn is supportive of the development of a strong local economic base, and a healthy and enriching living environment
 - community assets, including a diverse range of community services and an active and engaged participatory community.

4. City of Richmond – Sustainability in Action

- 4.1 The City of Richmond has undertaken a wide range of initiatives which have been formulated to support the achievement of the four characteristics of a sustainable community:
- Community Security &, Enrichment
 - Creating Smart Communities
 - Environmental Sustainability
 - Leadership Community & Governance.

- 4.2 Initiatives considered to incorporate elements of higher sustainability value are identified in Table 2. Sustainability value is characterized as elements which:
- incorporate a high degree of **relevance**
 - ~ directed at priority areas which enable the community to respond and adapt to global changes and sustainability imperatives (e.g., climate change, energy reliance, resource renewal, etc.)
 - ~ contribute to a meaningful level of improvement
 - catalyze systemic change and create **legacy** (quality improvements for today which create value for tomorrow)
 - mutually **reinforce** benefits (e.g., social, economic and environmental)
 - incorporate **comprehensive** decision-making
 - showcase **innovation** and demonstrate do-ability.
- 4.3 Established initiatives include:
- Council support for international sustainability efforts, including advocating support for the Kyoto Protocol to the Canadian Government
 - embedding sustainability-based decision-making into corporate service areas, including Council adopted Environmental Purchasing policy, High Performance Building policy and Green Fleet policy
 - agricultural and environmental resource protection, including adoption of the Agricultural Viability strategy, the securing of the Richmond Nature Park and an Environmental Sensitive Areas work program in effect for over 40 years
 - early adoption of innovative technology, showcasing innovation and demonstrating success at the building, development site and community level
 - a suite of community partnership and engagement initiatives aimed at encouraging inclusive governance and community empowerment.

Table 2: City of Richmond Sustainability Initiatives

Community Security & Enrichment	Creating Smart Communities	Healthy Ecosystem	Leadership Governance (Fiscally-Wise, Green, Participatory & Learning)
<i>Active Initiatives</i>			
<p><i>Security</i></p> <ul style="list-style-type: none"> Affordable Housing: <ul style="list-style-type: none"> ~ Statutory Reserve Fund ~ Affordable Seniors Supportive Housing Design Guidelines Child Care Program <ul style="list-style-type: none"> ~ Statutory Reserve Fund ~ Development Policy Diversity Services <ul style="list-style-type: none"> ~ Working Poor fund ~ Fee Subsidy program Emergency Preparedness Program <p><i>Wellness</i></p> <ul style="list-style-type: none"> Addiction Management <ul style="list-style-type: none"> ~ Substance Abuse Strategy ~ Problem Gambling Prevention and Treatment Strategy Seniors Wellness Coordinator Garrett Wellness Centre <p><i>Enrichment</i></p> <ul style="list-style-type: none"> Asset Development Garrett Wellness Centre Grants Program Intercultural Strategic Plan Parks, Recreation and Cultural Services Master Plan Public Art <ul style="list-style-type: none"> ~ Public Art Program ~ Arts Strategy 	<p><i>Protecting Agricultural Resources</i></p> <ul style="list-style-type: none"> Agricultural Viability Strategy <p><i>Creating Compact & Complete Communities</i></p> <ul style="list-style-type: none"> Official Community Plan West Cambie Area plan Transportation Program <ul style="list-style-type: none"> ~ Canada Line ~ Neighbourhood Traffic Safety Program ~ Richmond Transit Program ~ TravelSmart Program ~ Richmond Cycling Network ~ Commuter Skills Cycling Courses ~ Awareness Campaigns (e.g., Island City by Bike tour) Innovative Park Development/Services <ul style="list-style-type: none"> ~ Garden City Park ~ Paulik Gardens Neighbourhood Park ~ Richmond 2010 Trails Strategy Innovating Development Projects <ul style="list-style-type: none"> ~ the Lotus ~ Pinnacle ~ No 3 Road Restoration Project <p><i>Fostering Sustainable Lifestyles</i></p> <ul style="list-style-type: none"> Water Metering Program Recycling & Solid Waste Program Community Gardens 	<p><i>Resource Protection</i></p> <ul style="list-style-type: none"> Natural Areas Acquisition <ul style="list-style-type: none"> ~ Richmond Nature Park ~ NE Bog Forest ~ Terra Nova Parks Environmentally Sensitive Areas Program <ul style="list-style-type: none"> ~ Inventory ~ Development Permit bylaw Urban Forest Management <ul style="list-style-type: none"> ~ Urban Forest Management Strategy ~ City of Richmond Tree By-law Riparian Areas Response Strategy Pollution Prevention Program <ul style="list-style-type: none"> ~ Pollution Prevention & Spill Clean Up Bylaw ~ Dangerous Goods Spill Response Plan <p><i>Engaging Community</i></p> <ul style="list-style-type: none"> Outreach Programs <p><i>Well-Managed</i></p> <ul style="list-style-type: none"> State of Environment Reporting 	<p><i>Participatory Decision-Making</i></p> <ul style="list-style-type: none"> Advisory Committees (social, environmental, economic, agricultural) Public Processes <p><i>Sustainable Servicing</i></p> <ul style="list-style-type: none"> Customer Service-Based Delivery Environmental Purchasing Policy/ Guidebook Financial Sustainability Plan City FleetSmart Program <ul style="list-style-type: none"> ~ Green Fleet Policy ~ Anti-Idling Program ~ Alternatives Fuel & Fuel Efficiency Program ~ City Car-Pool Program High Performance Building Program <ul style="list-style-type: none"> ~ High Performance Building Policy ~ Energy Management Program ~ Clean Green Team Employee Wellness Program <p><i>Engaging Community</i></p> <ul style="list-style-type: none"> Outreach Programs <p><i>Demonstrating Innovation</i></p> <ul style="list-style-type: none"> Richmond Oval Initiatives <ul style="list-style-type: none"> ~ Green Building ~ Living Landscape ~ Construction Environmental Management Plan

Community Security &, Enrichment	Creating Smart Communities	Healthy Ecosystem	Leadership Governance (Fiscally-Wise, Green, Participatory & Learning)
<i>Under Development</i>			
<ul style="list-style-type: none"> Affordable Housing ~ Affordable Housing Strategy ~ Amenity Contribution Policy ~ Secondary Suites Policy Cultural Industries Strategy Flood Management Strategy Museum & Heritage Strategy Steveston Conservation Guidelines 	<ul style="list-style-type: none"> City Centre Area Plan – Transit-Orientated Development East Richmond Drainage Strategy Parks and Open Space 	<ul style="list-style-type: none"> Land Management – Environmental Clauses Olympic Environmental Sustainability Strategic Plan 	<ul style="list-style-type: none"> Review of park construction practices to reduce materials and waste flows
<i>Under Investigation</i>			
	<ul style="list-style-type: none"> District Geothermal Utility 	<ul style="list-style-type: none"> Living Landscape 	
<i>Past City Initiatives – Completed or No Longer Active</i>			
	<ul style="list-style-type: none"> 1-Tonne Community Challenge 	<ul style="list-style-type: none"> Mayor's Environmental Awards 	International Advocacy <ul style="list-style-type: none"> Support of Kyoto Protocol Sustainability Speaker Series

Getting Results - City's Energy Management Program

The City of Richmond has been improving its corporate energy use for over 15 years. This effort has resulted in significant results, including the City being acknowledged as the first Power Smart Certified municipality in BC in 2001.

The City's Energy Management Program has resulted in:

- reduced corporate energy usage (over 4,000,000 kWh/year in energy savings- enough to power over 300 Richmond homes)
- reduced greenhouse gas emissions and contribution to climate change (over 1,800,000 kg of CO₂/year in reduced emissions)
- reduced operational costs (approximately \$205,000 /year in savings)
- opportunity for Richmond to capitalize on securing grant and initiative funding

Today, Richmond is still the only recognized Power Smart Certified municipality in BC. In order to be proactive and to build on our success, the City is seeking to achieve a further reduction of 7% in hydro energy consumption over the next three years.

- 4.4 The City is also developing the Richmond Olympic Oval and is in preparation for being a host City for the 2010 Olympic Games – a Games whose bid was built on sustainability commitments.

“A stronger Canada whose spirit is raised by its passion for sport, culture and sustainability.”

VANOC's Sustainability Vision

Leading Edge Innovation – The Olympic Oval Story

The Richmond Olympic Oval won't just be a showcase for sports, it will also be a model for cutting-edge green design. The high-profile facility provides an excellent opportunity for increasing the visibility of green building value and demonstrating how green development practices make strong business sense and result in community legacies to be proud of.

Longevity

At its onset, the Oval is being built with a vision for the future. The Oval's flexible design means that while it will provide a first-class speed skating Oval for 2010 Olympic Games and beyond, it will also be able to be transformed into a multi-sport and wellness facility for servicing the needs of the local and broader community for years to come.

Building & Site Performance

The City is building the Oval to meet leading edge high performance building standards – breaking new ground for athletic stadiums in the region and across the country.

The structure is being designed to protect site resources and qualify for silver status on the Leadership in Energy and Environmental Design Scale (LEED®). One of the key elements that will help earn the Oval its silver status and reduce long-term maintenance costs is the energy efficiency measures being undertaken. Rainwater will also be collected and used to help address the project's water needs and reduce demands on centralized drinking water supplies.

Another key element being incorporated into the Oval is the innovative use of salvaged pine-beetle-kill wood for its ceiling. With a size of about 100 metres by 200 metres, the roof is believed to be the largest surface ever covered in the once-discarded wood. While it won't address the pine beetle epidemic directly, showcasing the use of the wood will hopefully help encourage its use elsewhere.

Other timber used in the building will come from trees that were felled on the site to accommodate the building. Cuttings taken from the original oak trees that were planted on site when the area was owned by Richmond Pioneer Samuel Brighthouse will also be re-planted along the site's new Samuel Brighthouse Heritage Boulevard.

Environmental Regeneration

While all these measures work to significantly reduce impacts, it is no longer enough to continue to solely conduct mitigation efforts. In an effort to move in a direction which is more restorative and replenishes ecological health, the Oval project includes an enhancement of the area's intertidal marsh and a biofiltration stormwater pond to improve surface water quality. The Oval will also feature a Fraser River Experiential Walk designed to highlight the area's natural assets and showcase sustainability development initiatives.

“Ultimately, it is about creating a great place – a place which offers a legacy community amenity within a broader landscape that is enriching and inspiring for years to come.”

Creating Legacy – Terra Nova Natural Area and Rural Parks

With a combined area of almost 100 acres, the Terra Nova Parks form a significant migratory bird habitat area on the Pacific Flyway and make an important contribution to the Fraser River Estuary Ecosystem.

The Parks have been designed in partnership with the Richmond community and external agencies to create thriving landscapes which support a suite of ecological and social sustainability functions.

Notable features include:

- ~ a wide mixture of diverse landscapes, including fallow fields, hedgerows, remnant orchards, woodlots and waterways designed to integrate with public amenities
- ~ an emphasis on urban agriculture with over 100 individual community garden plots, a Demonstration Garden and dedication of space provided for the Sharing Farm, an organization who grows food for the Food Bank and educates about food security
- ~ a community school program engaging over 120 children in community gardening which will be supported by a demonstration kitchen and classroom planned for completion in 2007
- ~ heritage precinct representing early farming and fishing settlements in Richmond
- ~ public art and site interpretation to encourage learning and discovery of Richmond's unique history and area ecology.

“The combination of existing environmental, agricultural and heritage features along with park amenities and programming is creating a rich legacy for the Richmond community today and for future generations.”

- 4.5 The City is currently in the pursuit of developing of number of significant initiatives which feature various elements of sustainability. These include:
- an Affordable Housing Strategy
 - a City Centre Area Plan based on Transit-Orientated Development
 - an expansion of the City's energy management program into the community in partnership with BC Hydro
 - an exploration of a district-wide energy utility
 - an exploration of a "living landscape" strategy for regenerating Richmond's natural resources.

A New Approach – The City's Affordable Housing Strategy

Greater Vancouver has the highest housing costs in Canada and housing affordability continues to be a growing concern.

Richmond is committed to improving its supply of "affordable housing" and is presently updating its 1994 Affordable Housing Strategy. It is anticipated that a new Affordable Housing Strategy will be approved in the Spring 2007.

The updated Affordable Housing Strategy is being developed to:

- be based on Principles which include: Partnerships, Certainty and Financial Viability,
- establish City priorities and specific measurable targets (e.g., subsidized rental housing, affordable low market rental),
- outline City responsibilities (e.g., manage a City Affordable Housing Reserve, partner with senior governments, regional authorities, NGOs and developers),
- outline developer responsibilities (e.g., build, or in lieu of building, provide cash which the City will use for affordable housing projects),
- implement a range residential rezoning mechanisms (e.g., density bonusing, inclusionary zoning to encourage new single-family residential rezoning projects to include built affordable market rental housing units like secondary suites, flex-houses and coach houses on single family lots).

The anticipated benefits of the Updated Strategy include:

- more affordable housing will be built for a wide range of Richmond residents,
- City priorities will be addressed (e.g., subsidized rental housing, affordable low market rental)
- City and developer roles and responsibilities will be better defined,
- partnerships will be facilitated.

Turning the Tides – City Exploration of an On-Site Energy Utility

The concept of an Energy District Utility is being explored for the area adjacent to the Richmond Oval. The Energy Utility is looking to harness on-site renewable energy sources to heat and cool adjacent residential buildings.

The Energy Utility is exploring integrating:

- geothermal energy extracted from or deposited to the earth
- the heat generated from making ice at the Oval
- the extraction of heat from domestic water before it "goes down the drain" at the Oval, and
- solar energy.

This energy would then be used for the heating and cooling of the adjacent residential buildings in the area.

Unique to the area adjacent to the Oval is a constant source of heat which would otherwise be wasted. The Richmond Olympic Oval has a refrigeration process that emits a large quantity of heat energy as it makes ice. The traditional method of dealing with this excess heat is to use a mechanical system to evaporate water (and the heat energy) into the air. Rather than wasting this energy, the City is exploring capturing this resource and using it to create a renewable heating and cooling cycle for servicing adjacent buildings. The amount of energy resource available is sufficient to service hundreds of residential units, significantly reducing demand on natural gas and hydro-electrical sources.

Although it can have higher initial capital costs, geothermal heating is one of the most efficient ways to heat a building with low ongoing operating costs.

Geothermal energy has the added benefit that it reduces reliance on non-renewable energy sources and requires no burning of fossil fuels at the heating site. This means a significant reduction in greenhouse gas emissions.

Anticipated Results

1. Potentially the world's most advanced ambient temperature Geothermal Energy District Utility.
2. A sustainable energy system that is easily expandable and can be replicated elsewhere in the City.
3. Greenhouse gas emissions reduced.
4. Lower costs for heating and cooling than any comparable development
5. Reduced community reliance on a non-renewal energy source.

5. The Next Steps..... a Positive Challenge

- 5.1 Richmond's existing mix of resources, including its natural ecosystem, strong agricultural base, compact urban form, regional transit services, economic advantages and socially-resourced community, establish a strong foundation for sustainable community development.
- 5.2 The list of the City of Richmond corporate accomplishments is also extensive, with a wide range of initiatives being developed throughout the organization.
- 5.3 Unfortunately, the results of global conditions such as climate change, and continued local challenges indicate that there remains an imperative for significant action throughout the world, at all levels.
- 5.4 A cursory review of the global conditions and challenges suggest that potential sustainable imperatives for the City of Richmond, include:
 - climate change
 - agricultural and local economic viability, including reducing dependency on non-renewable energy sources
 - biodiversity and local ecosystem renewal
 - individual and community capacity.
- 5.5 The City of Richmond has the opportunity to build on its success and elevate its sustainability performance to new levels. Key directional changes include:
 - i. the establishment of a strategic approach with dedicated sustained energies, professional expertise and cross-cutting strategies and initiatives aimed at most effectively advancing sustainability for the Corporation and broader community
~ a shift from incorporating specific sustainability elements into initiatives to a sustainability-based driven agenda
 - ii. the development of sustainability-based economic, social and environmental action plans which fit seamlessly together
~ a shift from separate plans to a series of coherent plans working together
 - iii. the establishment of a corporate sustainability-based decision-making model
~ a shift from decision-making based on balance and trade-offs to decision-making based on optimization and maximizing value

6. Charting our Path

Sustainability is about transformational changes to create lasting community legacies.

The City of Richmond is well-poised to embrace the sustainability imperative:

We are about leadership, innovation and embracement of change.

We are about seizing the opportunities of today to create visionary leadership and legacies for generations to come.

We are in the midst of making significant choices and decisions which will shape our future.

By capitalizing on today's achievements and seeking those transformational changes which embed sustainability into the fabric of our community, the City of Richmond can become leaders in sustainability and help create and shape Richmond as an enduring and enriched community.

“Many cities have policies, programs and projected related to community well-being, economic prosperity and environmental protection. What differentiates the leads in sustainability is the scope of their vision, the level of their commitment, the comprehensiveness of their approach, the collaborative nature of the process they are following and the innovativeness and creativity of the solutions they are employing”

(EKOS 2000)

.... charting our path

