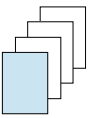


E. Ecology & Adaptability



Objective: Provide a framework for an “eco-regenerative urban community” that supports a cleaner, greener, and healthier downtown and its ability to adapt to changing environmental conditions.

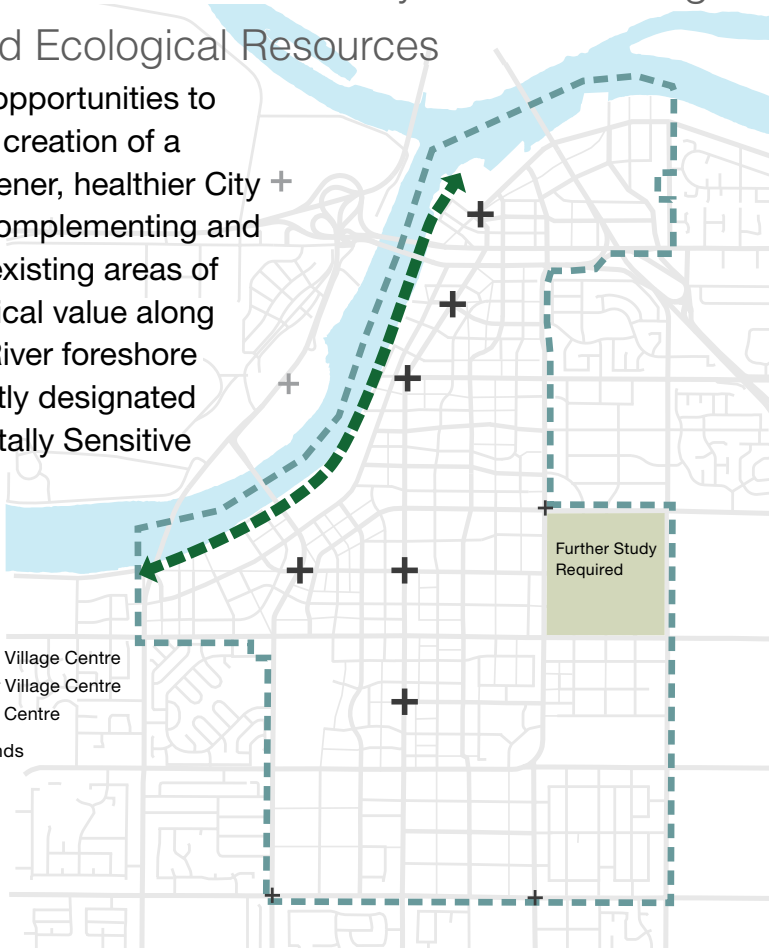
Typical cities place pressure on natural systems. The CCAP encourages a different kind of urban environment that aims to regenerate Richmond’s natural resources based on four strategies; three of which form part of the CCAP framework below. These strategies and the fourth, “Greening the Built Environment”, will be explored through upcoming CCAP planning processes.

1 “Living Landscapes” — Explore opportunities to establish an “Eco-Network” of interconnected, high functioning, ecological green spaces and related practices within the City Centre, forming part of an island-wide system and a “signature” ecological amenity

Enhanced Ecological Resources

Investigate opportunities to support the creation of a cleaner, greener, healthier City Centre by complementing and enhancing existing areas of high ecological value along the Fraser River foreshore (e.g., currently designated Environmentally Sensitive Areas).

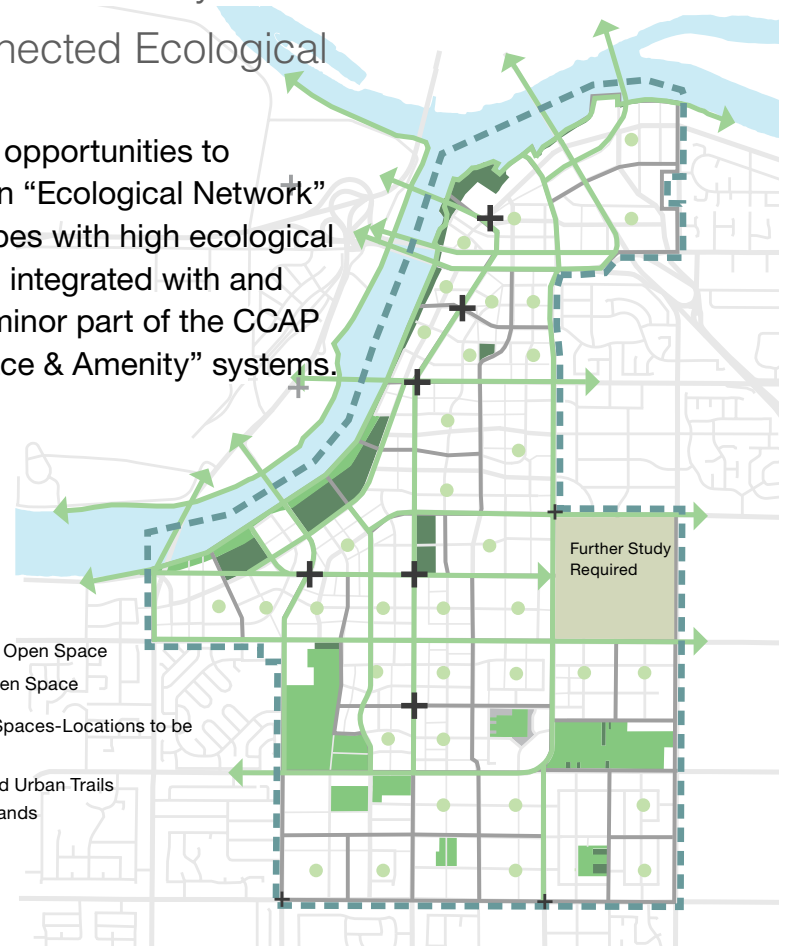
- + Proposed Major Village Centre
- + Proposed Minor Village Centre
- + Potential Village Centre
- Garden City Lands



Interconnected Ecological Network

Investigate opportunities to establish an “Ecological Network” of landscapes with high ecological functioning integrated with and forming a minor part of the CCAP “Open Space & Amenity” systems.

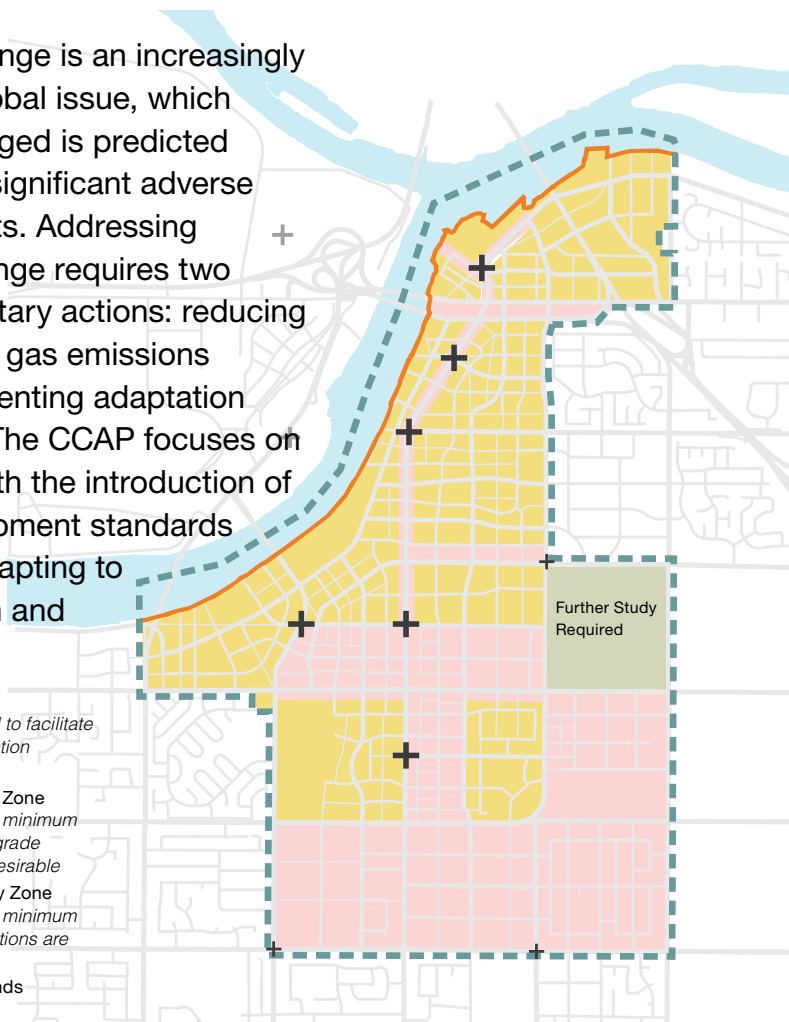
- Existing Major Open Space
- New Major Open Space
- Village Open Spaces-Locations to be determined
- Greenways and Urban Trails
- Garden City Lands



2 Adapting to Climate Change

Climate change is an increasingly pressing global issue, which left unmanaged is predicted to result in significant adverse local impacts. Addressing climate change requires two complementary actions: reducing greenhouse gas emissions and implementing adaptation strategies. The CCAP focuses on the latter with the introduction of new development standards aimed at adapting to rising ocean and river levels.

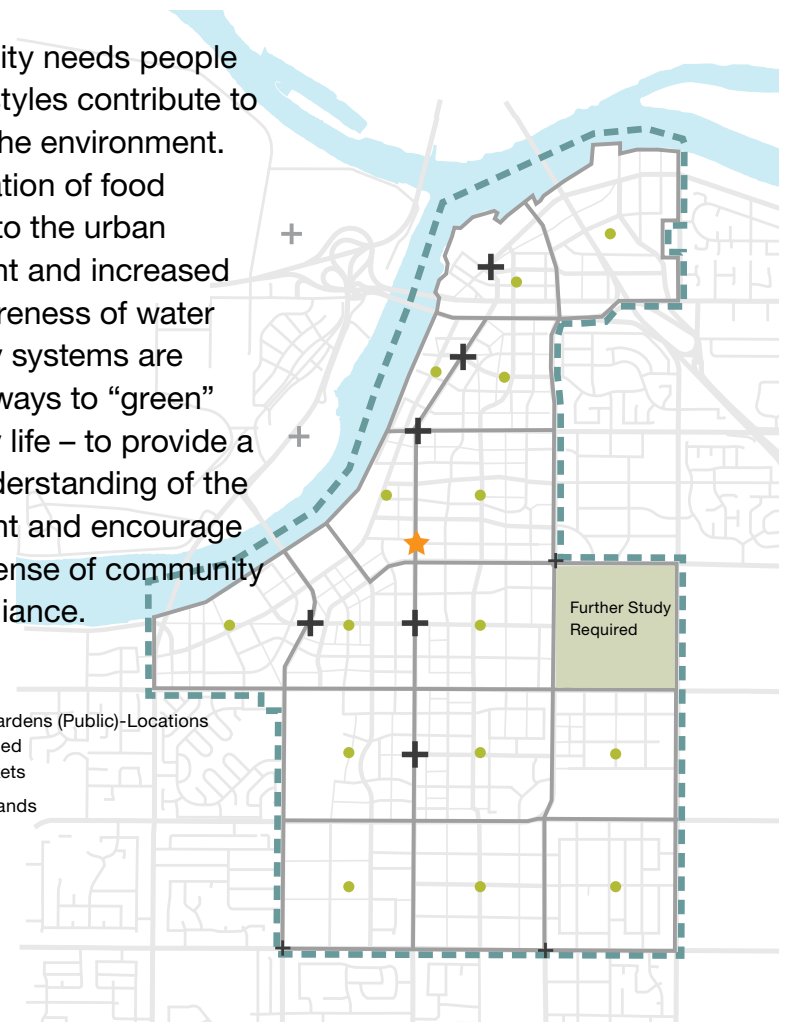
- Foreshore Zone
Area maintained to facilitate foreshore protection measures
- Comprehensive Zone
Area where new minimum residential and grade elevations are desirable
- Residential-Only Zone
Area where new minimum residential elevations are desirable
- Garden City Lands



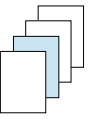
3 Greening Community Living

A healthy city needs people whose lifestyles contribute to caring for the environment. The integration of food systems into the urban environment and increased public awareness of water and energy systems are important ways to “green” community life – to provide a deeper understanding of the environment and encourage a shared sense of community and self-reliance.

- Community Gardens (Public)-Locations to be determined
- ★ Farmers’ Markets
- Garden City Lands



E. Ecology & Adaptability



To help support a diverse and robust ecology supportive of a healthy, contemporary urban environment, a high standard of livability, and progressive economic development.

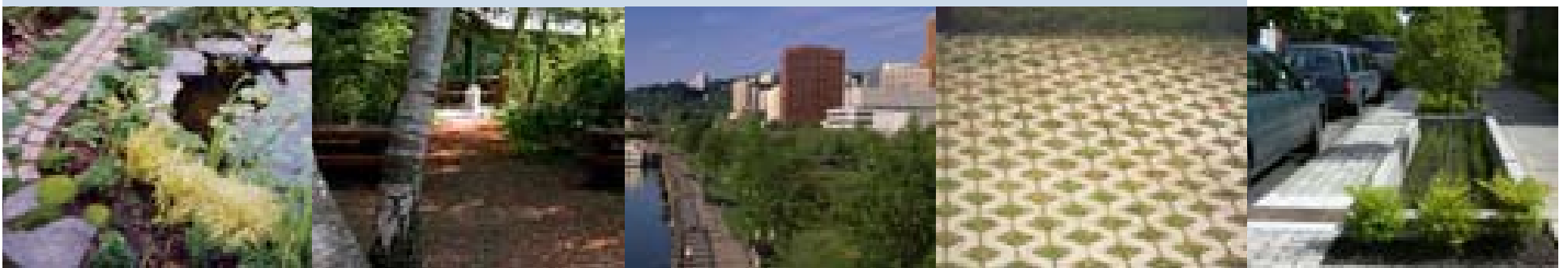
Living Landscape – Enhanced Ecological Resources

Opportunities will be investigated for enhancing and complementing the downtown’s existing areas of high ecological functioning.



Living Landscape – Interconnected Ecological Network

Opportunities for integrating an “Ecological Network” throughout the downtown will be explored.



Adapting to Climate Change

New development standards will help Richmond’s downtown adapt to rising ocean and river levels.

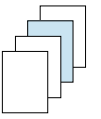


Greening Community Living

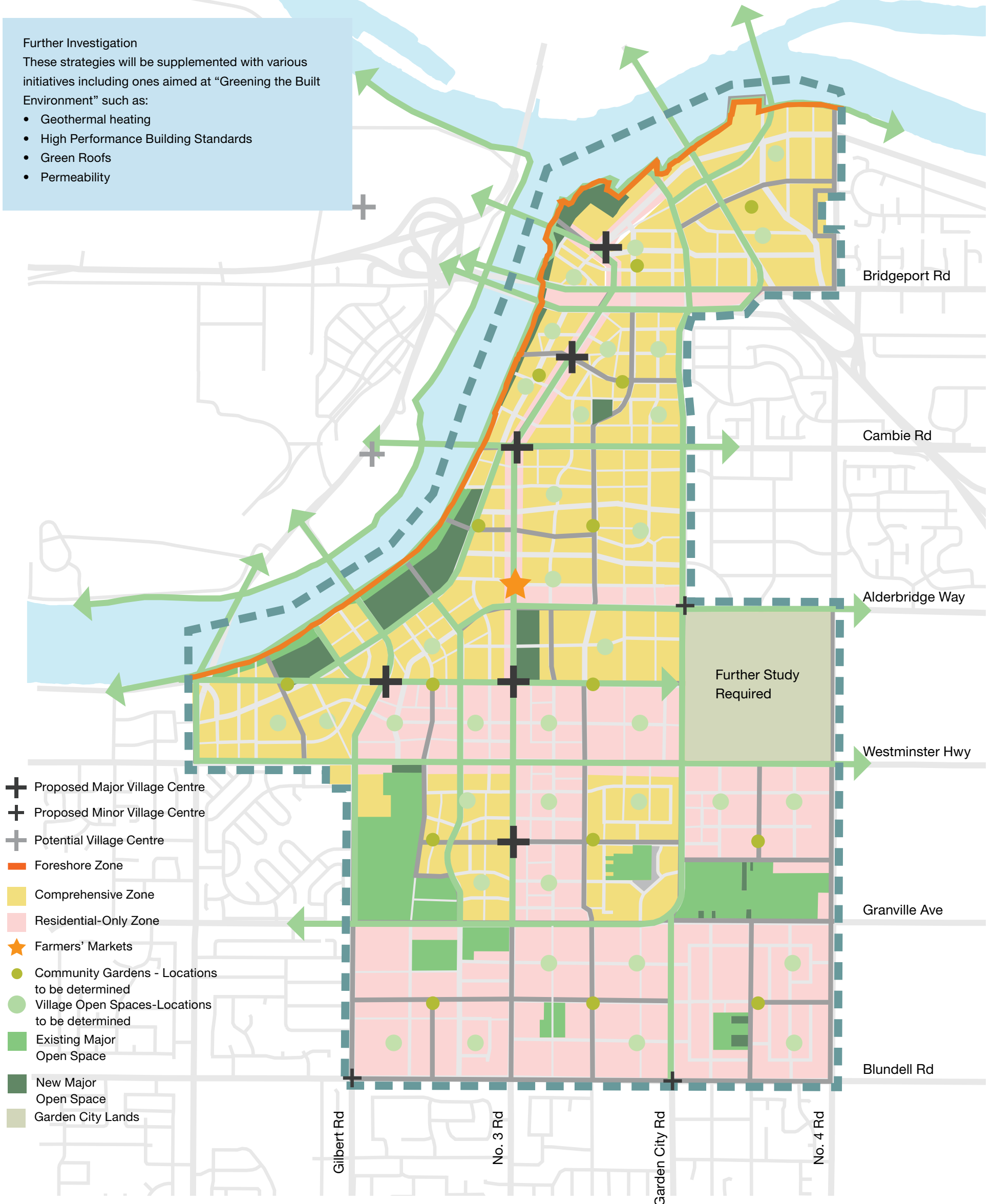
Community gardens and farmers’ markets are important ways to “green” life in the downtown.



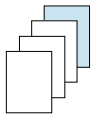
E. Ecology & Adaptability



Strategies based on the “Living Landscape”, “Adapting to Climate Change”, and “Greening Community Living” combine to provide a layering of features describing a rich and diverse ecological network supportive of both natural and human systems.



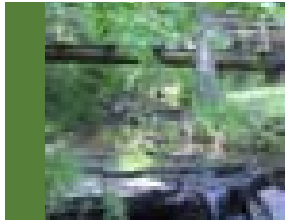
E. Ecology & Adaptability



“Build Green” promotes an approach to community development and living that strives to provide for the best outcome for the human and natural environments, both now and in the future.

In support of “Build Green”, the CCAP is based on Smart Growth principles that promote compact urban centers aimed at reducing sprawl, supporting alternative transportation systems, and providing diverse social, economic, and environmental benefits. In addition, the CCAP objective for “Ecology & Adaptability” identifies four core strategies.

Living Landscape



Purpose

To balance higher density development, quality of life, and a healthy City Centre ecology by supporting ecological functions, reducing urban impacts on natural systems, providing for more sustainable modes of servicing, reducing demands on civic infrastructure, and supporting healthy living.

Strategy

To explore opportunities to establish an “Eco-Network” of interconnected, high functioning, ecological green spaces and related practices within the City Centre, forming part of an island-wide system and a “signature” ecological amenity contributing to:

- » Community health (e.g., clean air and water, passive recreation, etc.)
- » “Green” infrastructure initiatives related to pollutant removal, carbon sequestering, nutrient regeneration, temperature moderation, biodiversity, and stormwater, groundwater, and flood management
- » Economic development through the establishment of a high amenity environment attractive to progressive businesses, their employees and customers, and others

- » Long term agricultural viability (e.g., protection of irrigation water supply/quality)

- » A beautiful and distinctive community

Status: The proposed “Eco-Network” concept is a “principle” and will be the subject of further research and analysis. Recommendations arising from this work will be presented for Council consideration and subsequent inclusion, as appropriate, in the CCAP.

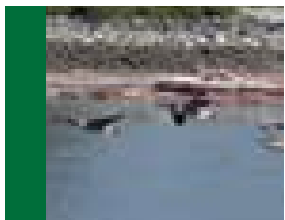
Initiatives

Major Ecological Spines – Multi-purpose, linear green spaces designed to protect areas of high ecological value (e.g., Fraser River foreshore) and establish an ecologically based “signature” connection with the Richmond Nature Park (e.g., ecologically enhanced street and trail designs integrated with road rights-of-ways, parks, and/or private development, and incorporating features such as Environmentally Sensitive Areas, permeable paving, and naturalized planting)

Eco-Ways – A comprehensive network of greenways of varying sizes designed and maintained to support a higher level of ecological functioning (e.g., ecologically enhanced street and trail designs integrated with road rights-of-ways, parks, and/or private development, and incorporating features such as permeable paving and naturalized planting)

Eco-Banks – Landscapes with high ecological functioning integrated with and forming a minor part of the CCAP “Open Space & Amenity” systems (e.g., City-owned park areas comprised of existing and/or new naturalized planting and complementary features)

Adapting to Climate Change



Purpose

To proactively integrate adaptation strategies into community development practices to help reduce community vulnerability to key anticipated effects of climate change.

Strategy

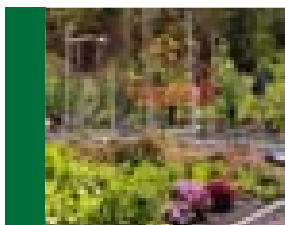
Addressing climate change requires two complementary actions: reducing greenhouse gas emissions and implementing adaptation strategies. The CCAP focuses on the latter with the introduction of new development standards aimed at adapting to rising ocean and river levels.

Initiatives

In addition to work being undertaken as part of Richmond’s Flood Management Strategy and proposed Climate Change Assessment and Adaptation Strategy, CCAP proposes:

- » Foreshore Precinct – A contiguous riverfront area, under City ownership, secured, designed, and maintained to facilitate the implementation of long-term, adaptable foreshore protection measures
- » Redevelopment Zone – Areas where new minimum elevations for habitable residential floor space will be established and opportunities for incrementally establishing higher grade levels will be examined and pursued
- » Residential Zone – Areas where new minimum elevations for habitable residential floor space will be established, but existing development precludes higher grade levels

Greening Community Living



Purpose

To make environmental sustainable living easier and more convenient for residents and businesses

Strategy

Adopting more sustainable lifestyle choices is a fundamental objective of Smart Growth. “Greening Community Living” focuses on complementary initiatives aimed at encouraging a deeper understanding of environmental systems, a shared sense of community, and a renewed sense of self-reliance.

Features will be integrated with various public and private sector uses (e.g., parks, community space, residential and commercial development, etc.)

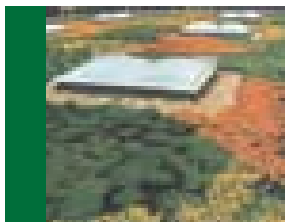
Initiatives

Urban Agriculture – Community gardens and farmers’ markets

Eco-Amenities – Features established in each village that encourage and support lifestyle changes, such as educational resources and community services (e.g., interpretive signage, demonstration projects, grey-water irrigation system, district heating, etc.)

Resource & Waste Management – Systems and services (e.g., recycling, composting, water and energy use, etc.) aimed meeting the special challenges of a high density environment

Greening the Built Environment



Purpose

Buildings represent a significant investment, both in terms of financial and natural resources – with building construction in North America accounting for 17% of the world’s fresh water withdrawals, 25% of the world’s wood harvest, 35% of CO2 emissions, and 54% of energy consumption. To help address this, CCAP seeks to establish and institutionalize progressive standards for building design, construction, maintenance, and operation that use natural resources more efficiently

Strategy

To establish targets, standards, and initiatives with a focus on improved water and energy use. Features will be integrated with various public and private sector uses (e.g., parks, community space, residential and commercial development, etc.).

Initiatives

Consideration will be given to a range of initiatives, including requirements for:

- » High performance building certification (e.g., LEED)
- » Geothermal heating
- » Green roofs
- » Site permeability standards