

green growth index

Development for a Small Planet

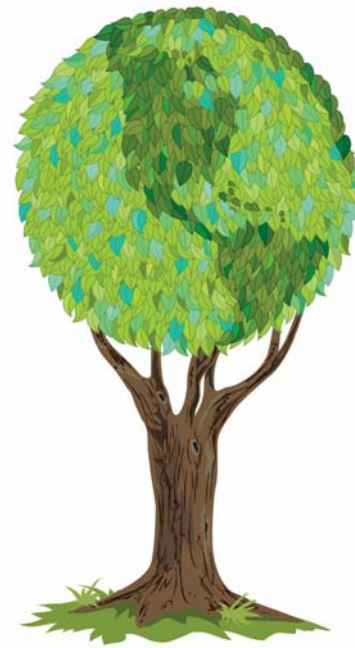
Commercial, Industrial, Multi-Family or Multi-Lot (>10) Residential Development

The development of land provides a pivotal opportunity to demonstrate how people can live, work and play in partnership with the natural environment and nature's processes. As new ways are found to incorporate more and more green features into development projects, they become the inspiration for a new way of looking at our part in the greater ecosystem.

The Green Growth Index on the following pages comes out of a commitment by Delta and its citizens to the long-term sustainability of their community. This commitment is found in the highest levels of policy guiding the municipality, from the Official Community Plan to the Delta Climate Change Initiative.

Delta's Definition of Sustainability

"In a planning context, the term 'sustainability' is used to recognize the interdependence of environmental, social and economic systems, and the need to use these resources in a way that allows future generations to use them also. It promotes linkage between the health of the environment and the livability and prosperity of communities. Sustainability involves, among other things, minimizing impacts to the environment (e.g. air, soil, water, wildlife), facilitating community health and well-being (e.g. transportation choices, affordable housing, access to recreation), supporting a diverse and strong economy, and considering the long-term implications of policy decisions."



Delta wants to recognize and applaud efforts to develop land according to sustainability principles. The Green Growth Index provides a consistent measure which developers, builders, planners and Council can use to compare the sustainability features planned for each proposal.

Aside from the pride that comes with building "green", applicants should consider other benefits that can come with providing sustainable building features. A commitment to implement green features can strengthen recommendations for rezoning, lower parking or other requirements, or support for variances needed to accommodate green features.

Instructions for completing the Index and scoring are provided on the next page.

Instructions for Using the Green Growth Index

The Steps for working with the Green Growth Index are:

1 Review the Green Growth Index:

Before you design your project, review the Green Growth Index to see how you can include green features described.

Links to helpful web pages at Metro Vancouver's "Build Smart" web site are included in the sub-titles of each section. They will provide additional information about the green features, how to achieve them, as well as design and building resources. Please access these links by viewing the Green Growth Index on the Delta website at www.corp.delta.bc.ca/GGI or by going to:

www.metrovancouver.org/buildsmart

Other useful websites are listed at the end of the checklist.

2 Planning & Design:

Plan your project while considering how you can involve the community in your design process. Design your project, incorporating community feedback and include sustainable features in your project.

3 Complete the Checklist:

Complete the checklist by noting "green" items to be included in your development, details of each feature, and information about your research where possible. Total the number of trees, branches and leaves your project will earn. (See below.)

4 Determine Your Level of Commitment to Implementation:

Consider the level of commitment you can make to implementing green features. This will provide an indication of how likely the checklist items are to be implemented. (See last section of Green Growth Index.)

5 Submit Completed Index with Development Application:

Include the completed Green Growth Index with your development application.

6 Review by Staff:

Community Planning & Development staff will review your proposal along with the answers in the Green Growth Index. Staff can then work with you to identify areas where your score could potentially be increased.

7 Report to Council:

The staff report on your application will include information about how your project can enhance the sustainability of the community. The benefits of your proposed development will be highlighted by establishing your level of commitment to implement each feature (see final section of the index.

"Ensure that land use and development are undertaken in a manner consistent with municipal objectives for environmental sustainability."

Delta Official Community Plan


More About the Index

Ratings

The Index is both a checklist and a series of questions about the economic, social and environmental aspects of your development proposal. These categories were chosen because long-term sustainability depends on each of these categories achieving a measure of sustainability to, in turn, support the sustainability of the others.

Within categories that ask for a description of the green features of your project, information provided will be conveyed to Council for their consideration.

Each of the individual features are ranked as good, better or best and noted by icons. These ratings are based on the innovativeness, potential expense to implement as well as each feature's potential impact on overall sustainability. These are illustrated by:

a  leaf (good)

a  branch (better)

or a tree  (best).

Add up the number of leaves, branches, or trees for each section (out of the total possible) and provide a grand total out of the total possible at the end.

This rating system is purposely simple because any score is subjective and can tell only a small part of the story. In fact, you will notice that the section on economic sustainability contains no scoring system at all. This is because the scale and end users of any development can be so varied that comparisons based on a score would not be useful – like comparing apples and oranges! Much of the evaluation will be provided in the planner's report to Council through a description of the specifics of the project.

Applicability:

Some items in the Index will not always apply to every development. For example, questions about housing affordability will not be applicable in a strictly commercial development. In those cases, the maximum total possible in each category can be reduced.

Providing More Detail and Explanation:

Each category (economic, social or physical) asks for either a description of your proposal's green benefits or to check off which "green" features will be included in the development. If you feel something is missing from the Index, please provide additional details. The more information you can provide, the better you will be able to show both the planner and Council the green features of your development and your commitment to implement them.

Economic Sustainability

Describe how the proposed development will benefit Delta's economy. You might consider, for example, the following:






1. How the project, when complete, will help diversify the local economy, either by business type or size.
2. How the project will improve network or trade opportunities for new and existing businesses.
3. Are there are other economic benefits that might come from this project (e.g., units in multi-family housing designed or appropriate for home based businesses).
4. Will additional permanent employment opportunities be created by this project? How many?
5. What types of jobs will be created?

Please provide a description of how your development project will support and enhance the economic sustainability of Delta on a separate page.







Social Sustainability










Community Input















(See: [Integrated Design Process](#))

		Yes	No	Not Applicable	
	Post-construction community involvement planned. (e.g., education on sustainability features of development, set up community councils, community gardens, etc.)				
	Residents and community stakeholders are involved in the planning and design process beyond basic municipal and provincial requirements.				
Please provide additional details here:		Total			
					⊘

Housing Affordability

		Yes	No	Not Applicable	
	Will the housing units in the proposed project be affordable to Metro Vancouver residents at the median household income of \$55,231 (according to the 2006 census)? Your calculation of affordability should be based on the following:				
<p>One long-standing benchmark for affordability has stated that housing costs should not exceed 30% of gross household income. If a person at the Metro Vancouver median income provides a 10% down payment and receives a 30 year mortgage at current interest rates, this means carrying a mortgage of just over \$200,000 on a dwelling that costs around \$220,000.</p>					
<p>If it does not meet the affordability criteria above, what is the expected selling price of the dwelling units proposed?</p>					
	The proposed development includes non-market (e.g., subsidized, social, public, co-housing, co-operative) housing.)				
Number and percentage of units:					
Form of tenure (rental, co-op, owner):					
	The proposed development includes affordable (market) rental units.				
Number of units:					
Expected average rent for a: - 1 bedroom unit: - 2 bedroom unit:					
		Total			
			⊘	⊘	






Accessibility					
		Yes	No	Not Applicable	
	The project contains a mix of housing types and forms to meet the needs of different age groups or family types.				
	The project incorporates features to enhance adaptability and accessibility within the proposed housing units for people of various physical abilities (e.g., wider door openings etc.)?				
		Total			
			⊖		
Community Integration & Improvement					
		Yes	No	Not Applicable	
	The project contributes to heritage revitalization through reuse, relocation or rehabilitation of an existing structure or feature. If yes, does the project involve a heritage revitalization agreement or municipal designation of a heritage building?				
	The project is within a ten minute walk (approximately 800 m) of at least one to four of the following amenities (please circle all those applicable): schools; community, child care or health care services; public transit; commercial services; parks, recreation centres or trails. Add a “bonus branch” for more than four of the amenities within a ten minute walk.				
	The project design complements or enhances local identity (architectural design, landscaping, natural features, etc.)				
	The project will provide amenities that are open to the public; e.g. daycare, public open space, cultural space, benches, weather protection for public spaces, waste receptacles, bicycle storage.				








	The overall design encourages interaction among people and a sense of place through design (e.g., location of amenities, connection among new and existing communities, pedestrian circulation). Please describe.				
	Individual properties are not divided by fences but by vegetation such as hedges or trees.				
		Total			
Amenities					
		Yes	No	Not Applicable	
	Non-vehicular links to continuous open space systems, linear parkways and greenways (to parks, schools, shopping and community facilities) are provided. If yes, please list.				
	Amenities shared among residents/tenants (e.g. meeting rooms, community gardens, outdoor amenity space). Please list.				
	Development offers bicycle racks, secure bicycle storage, showers or change rooms.				
	Development offers preferred parking (close to entrance or reduced parking fees) for car-share automobiles or high-efficiency vehicles (hybrids, electric, "Smart Cars").				
	The site plan facilitates easy access to public transit and features that would support alternative modes of transportation.				
		Total			
					







Integration With Natural Environmental Process

Stormwater Management

(See: [Site Selection & Design](#))

		Yes	No	Not Applicable	
	Development includes a vegetated or “green” roof.				
	Permeable paving used wherever paving is implemented (e.g. roads, shoulders, walkways, pathways through parks, etc.).				
	Roof leaders direct water onto pervious surfaces, not storm sewers (subject to approval by the Director of Engineering).				
	Development will use bioengineering technology to allow natural infiltration of rainwater on-site (e.g., stormwater infiltration trenches, engineered wetlands, swales, rain gardens).				
	Boulevards, medians and walkway edges are landscaped as much as possible with pervious materials.				
	Boulevards and medians are landscaped using soil removed for road development.				
	Sediment and erosion controls to the standards outlined in the Department of Fisheries and Ocean’s Best Practises Guide to be used during construction.				
	Sediment and pollutants captured from storm runoff (e.g., oil, debris from roads).				
		Total			








Habitat Conservation					
		Yes	No	Not Applicable	
	Existing stands of large trees will be preserved.				
	Terrestrial linkages provided for wildlife corridors				
	Provide a net gain of habitat diversity including the replanting of trees that must be removed				
	Native vegetation supporting resident wildlife species will be retained.				
		Total			

Landscaping					
See also: http://www.evergreen.ca/nativeplants					
		Yes	No	Not Applicable	
	Where applicable, existing landscape features are incorporated into design concept (e.g., pond, tree clusters)				
	Tree canopy at maturity will shade/cover at least 40% of site on commercial and residential sites; 20% on industrial sites.				
	Plant species selected based on appropriateness for the site as well as easy and environmentally friendly maintenance (e.g., native species, drought-tolerant species and those that require minimal or no pesticides).				
		Total			
				⊘	

Green Construction & Building Technology







Construction






(See: [Site Selection & Design](#))

		Yes	No	Not Applicable	
	Project results in remediation of a brownfield site.				
	Soil compaction and disturbance to vegetation minimized in areas which are not to be built on or paved				
	Water will be conserved during construction phase.				
	Airborne dust controls will be in place during construction.				
		Total			
				⊘	






Building Materials

(See: [Material Selection](#), [Indoor Environmental Quality](#), and [Product Service Info Directory](#))






		Yes	No	Not Applicable	
	At least 10% (based on project value) of a project's materials are comprised of salvaged, refurbished, or reused materials.				
	At least 15% (by value) of the building materials are comprised of recycled content.* <i>*Recycled content defined by CAN/CSO-ISO 14021-00 Environmental Labeling and Advertising Guidelines.</i>				
	At least 20% (based on value) of the building materials include products harvested, manufactured and supplied within 800 km of the project site.				
	Framing lumber is certified "environmentally friendly" according to accepted forest certification standards (e.g., ISO14001, Canadian Standards Association, Sustainable Forestry Initiative).				
	Finger jointed studs used (an engineered product which maximizes use of material)				
	Construction materials offer enhanced durability (e.g., 'Hardie' panel siding)				










	No chlorofluorocarbons in heating, ventilating and air conditioning equipment.				
	Low-emitting interior fittings and finishes. (e.g., Interior carpets and paints meet CRI 'Green Label' standards for indoor air quality)				
		Total			

Waste Management
(See: [Construction](#))




		Yes	No	Not Applicable	
	Development will employ comprehensive waste management and recycling during construction. Job-site recycling plan posted on site.				
	Development includes facilities designed for ease of use to facilitate comprehensive waste management and recycling (e.g., on-site recycling and composting.)				
		Total			
				⊘	

Water & Energy Efficiency
(See: [Water Conservation](#) and [Energy Performance](#))

		Yes	No	Not Applicable
	Development will derive/generate clean energy on-site (solar, geothermal, wind), participate in district energy distribution system or provide infrastructure for future retro-fit to clean energy use.			
	Climate-based automatic irrigation controls			
	Hi-efficiency heating and cooling technologies incorporated (e.g., Commercial, industrial and large multi-family residential designed to achieve a 25% efficiency improvement over the Model National Energy Code for Buildings; other residential meets minimum "Energuide 80" rating)			
	Rainwater collected and re-used on-site (e.g., rain barrels)			
	Building sited and operable windows placed to maximize natural light and ventilation (compliant with Building Code restrictions).			

	Building and site lighting is designed to maintain safe light levels while avoiding off-site light spillage and night-sky lighting.				
	Compact fluorescent bulbs or LED's used in all areas of the proposed development.				
	Low energy appliances installed in all units (e.g., 'Energy Star' rated)				
	Low flow toilets installed in all units				
	Low flow showers and fixtures installed in all units				
	Minimum R-26 overall wall insulation installed.				
		Total			
Other (See: Building Rating Systems)					
If this project has been registered for third-party green development certification (e.g. LEED [Leadership in Energy and Environmental Design], BuiltGreen Gold, GreenGlobes, Energuide 80) which program and at what level?					
Is there something unique or innovative about your project that has not been addressed in this Index? If yes, please describe.					

Final Score:

	Number of Answers in Each Category		
			
Category:			
Social			
Integration with Natural Environmental Processes			
Green Construction & Building Technology			

Defining Your Level of Commitment to Implementation:

Anticipating or planning for green features, is only the first step in creating a green development. Providing a solid commitment to implement green features will be the most valuable indicator of a project's sustainability. After completing the Green Index, applicants are asked to indicate their level of commitment (1 through 3) to implementing the features they have planned for. You will find an explanation of the levels of commitment at the beginning of that section.

Finally, tell us what your level of commitment to implement each green feature checked off or the expected outcome for each component. Rather than measuring the sustainability features of a proposal (which may only be partially implemented), this measures outcomes that can actually be expected.

Here is a description of each of the levels of commitment:

1. The features checked off in the list are under consideration and there is an intention to implement them.
2. Information on the particular feature or positive outcome is detailed in the proposal, specifications included, a feasibility study provided, or is shown on plans. The details provided are specific enough to be verified by the planner as meeting the objectives of the Green Growth Index.
3. The proposed green features will be included in the development agreement, servicing agreement, landscape agreement, Development Permit or other form of covenant to ensure implementation.

1 _____

2 _____

3 _____

Signature

Useful Websites Related to Sustainable Building & Development:

» Lighthouse Sustainable Building Centre:
<http://www.sustainablebuildingcentre.com/>

» [Building Envelope Design Guide](#):
<http://www.wbdg.org/design/envelope.php>

» [The PWGSC Environmentally Responsible Construction and Renovations Handbook](#):
http://www.tpsgc-pwgsc.gc.ca/realproperty/text/pubs_ercr/toc-e.html

» [DOE Sustainable Building Technical Manual, Green Building Design, Construction and Operations](#):
<http://smartcommunities.ncat.org/pdf/sbt.pdf>

» [Pacific Northwest Pollution Prevention Resource Centre Green Construction Guide](#):
<http://pprc.org/pubs/greencon/index.cfm>

» [The Green Warrior reading list](#)