Township of
ESQUIMALT

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CORP. OF TOWNSHIP
OF ESQUIMALT
DEVELOPMENT SERVICES

GREEN BUILDING CHECKLIST

The purpose of this Checklist is to make property owners and developers aware of specific green features that can be included in new developments to reduce their carbon footprints to help create a more sustainable community.

Creating walkable neighbourhoods, fostering green building technologies, making better use of our limited land base and ensuring that new development is located close to services, shops and transit are some of the means of achieving sustainability.

The Checklist which follows focuses on the use of **Green Technologies** in new buildings and major renovations. The Checklist is not a report card, it is a tool to help identify how your project can become 'greener' and to demonstrate to Council how your project will help the Township of Esquimalt meet its sustainability goals. It is not expected that each development will include all of the ideas set out in this list but Council is looking for a strong commitment to green development.

There are numerous green design standards, for example, Built Green BC; LEED ND; Living Building Challenge; Green Shores; Sustainable Sites Initiative. Esquimalt is not directing you to follow any particular standard, however, you are strongly encouraged to incorporate as many green features as possible into the design of your project .

As you review this checklist, if you have any questions please contact **Development Services at 250.414.7108** for clarification.

New development is essential to Esquimalt. We look forward to working with you to ensure that development is as green and sustainable as possible.

Other documents containing references to building and site design and sustainability, which you are advised to review, include:

- Esquimalt's Official Community Plan
- Development Protocol Policy
- Esquimalt's Pedestrian Charter
- Tree Protection Bylaw No. 2664
- A Sustainable Development Strategic Plan for the Township of Esquimalt

Adopted on January 10th, 2011

> "One-third of Canada's energy use goes to running our homes, offices and other buildings. The federal government's Office of Energy Efficiency (Natural Resources Canada) reports that a corresponding one-third of our current greenhouse gas (GHG) emissions come from the built environment."
> [Green Building and Development as a Public Good, Michael Buzzelli, CPRN Research Report June 2009]

Please answer the following questions and describe the green and innovative features of your proposed development. Depending on the size and scope of your project, some of the following points may not be applicable.

Green Building Standards

Both energy use and emissions can be reduced by changing or modifying the way we build and equip our buildings.

1	Are you building to a recognized green building standard? If yes, to what program and level?	Yes	[✓ No]
2	If not, have you consulted a Green Building or LEED consultant to discuss the inclusion of green features?	[✓ Yes]	No
3	Will you be using high-performance building envelope materials, rainscreen siding, durable interior finish materials or safe to re-use materials in this project? If so, please describe them.	[✓ Yes]	No
4	What percentage of the existing building[s], if any, will be incorporated into the new building?	N/A	%
5	Are you using any locally manufactured wood or stone products to reduce energy used in the transportation of construction materials? Please list any that are being used in this project. The intent of the project is to use Mass Timber, we will use local everywhere it is available.		
6	Have you considered advanced framing techniques to help reduce construction costs and increase energy savings?	[✓ Yes]	No
7	Will any wood used in this project be eco-certified or produced from sustainably managed forests? If so, by which organization? FSC (Forest Stewardship Council) For which parts of the building (e.g. framing, roof, sheathing etc.)? CLT (Cross Laminated Timber), Glulam, sheathing		
8	Can alternatives to Chlorofluorocarbon's and Hydro-chlorofluorocarbons which are often used in air conditioning, packaging, insulation, or solvents] be used in this project? If so, please describe these.	Yes	[✓ No]
9	List any products you are proposing that are produced using lower energy levels in manufacturing. mass timber structural components		
10	Are you using materials which have a recycled content [e.g. roofing materials, interior doors, ceramic tiles or carpets]?	[✓ Yes]	No
11	Will any interior products [e.g. cabinets, insulation or floor sheathing] contain formaldehyde?	Yes	[✓ No]

Water Management

The intent of the following features is to promote water conservation, re-use water on site, and reduce storm water run-off.

Indoor Water Fixtures

12 Does your project exceed the BC Building Code requirements for public lavatory faucets and have automatic shut offs? [✓ Yes] No

13 For commercial buildings, do flushes for urinals exceed BC Building Code requirements? applicable to podium level Yes [✓ No]

14 Does your project use dual flush toilets and do these exceed the BC Building Code requirements? [✓ Yes] No

15 Does your project exceed the BC Building Code requirements for maximum flow rates for private showers? Yes [✓ No]

16 Does your project exceed the BC Building Code requirements for flow rates for kitchen and bathroom faucets? Yes [✓ No]

Storm Water

17 If your property has water frontage, are you planning to protect trees and vegetation within 60 metres of the high water mark? [Note: For properties located on the Gorge Waterway, please consult Sections 7.1.2.1 and 9.6 of the Esquimalt Official Community Plan.] Yes No [✓ N/A]

18 Will this project eliminate or reduce inflow and infiltration between storm water and sewer pipes from this property? [✓ Yes] No N/A
We will be separating storm water from sanitary on site through separte systems.

19 Will storm water run-off be collected and managed on site (rain gardens, wetlands, or ponds) or used for irrigation or re-circulating outdoor water features? If so, please describe. reflective water terrace and all storm water will be managed on site [✓ Yes] No N/A

20 Have you considered storing rain water on site (rain barrels or cisterns) for future irrigation uses? irrigation storage tank on parkade level [✓ Yes] No N/A

21 Will surface pollution into storm drains will be mitigated (oil interceptors, bio-swales)? If so, please describe. [✓ Yes] No N/A
Detailed engineering will best describe the systems in place.

22 Will this project have an engineered green roof system or has the structure been designed for a future green roof installation? [✓ Yes] No N/A

23 What percentage of the site will be maintained as naturally permeable surfaces?
Please refer to the landscape plans ____________%

Waste water

24 For larger projects, has Integrated Resource Management (IRM) been considered (e.g. heat recovery from waste water or onsite waste water treatment)? If so, please describe these. ______________________________ Yes No N/A

Natural Features/Landscaping

The way we manage the landscape can reduce water use, protect our urban forest, restore natural vegetation and help to protect the watershed and receiving bodies of water.

25 Are any healthy trees being removed? If so, how many and what species? [✓ Yes] No N/A
Consultations will proceed with the Township prior to removal and replacement
Could your site design be altered to save these trees? no
Have you consulted with our Parks Department regarding their removal? no

26 Will this project add new trees to the site and increase our urban forest? [✓ Yes] No N/A
If so, how many and what species? Please refer to the landscape plan for full details

27 Are trees [existing or new] being used to provide shade in summer or to buffer winds? [✓ Yes] No N/A

28 Will any existing native vegetation on this site be protected? Yes [✓ No] N/A
If so, please describe where and how. ____________________

29 Will new landscaped areas incorporate any plant species native to southern Vancouver Island? [✓ Yes] No N/A

30 Will xeriscaping (i.e. the use of drought tolerant plants) be utilized in dry areas? Yes No [✓ N/A]

31 Will high efficiency irrigation systems be installed (e.g. drip irrigation; 'smart' controls)? [✓ Yes] No N/A
Where in use we will incorporate high efficiency irrigation systems

32 Have you planned to control invasive species such as Scotch broom, English ivy, Himalayan and evergreen blackberry growing on the property? [✓ Yes] No N/A

33 Will topsoil will be protected and reused on the site? [✓ Yes] No N/A

Energy Efficiency

Improvements in building technology will reduce energy consumption and in turn lower greenhouse gas [GHG] emissions. These improvements will also reduce future operating costs for building occupants.

34 Will the building design be certified by an independent energy auditor/analyst? Yes No [✓ N/A]
If so, what will the rating be? ____________

35 Have you considered passive solar design principles for space heating and cooling or planned for natural day lighting? [✓ Yes] No N/A

36 Does the design and siting of buildings maximize exposure to natural light? [✓ Yes] No N/A
What percentage of interior spaces will be illuminated by sunlight? ________%

37 Will heating and cooling systems be of enhanced energy efficiency (ie. geothermal, air source heat pump, solar hot water, solar air exchange, etc.). Yes [✓ No] N/A
If so, please describe. ____________________
If you are considering a heat pump, what measures will you take to mitigate any noise associated with the pump? ____________________

38 Has the building been designed to be solar ready? Yes No N/A

39 Have you considered using roof mounted photovoltaic panels to convert solar energy to electricity? [✓ Yes] No N/A

40 Do windows exceed the BC Building Code heat transfer coefficient standards? [✓ Yes] No N/A

41 Are energy efficient appliances being installed in this project?
If so, please describe. Energy Star

42 Will high efficiency light fixtures be used in this project? [✓ Yes] No N/A
If so, please describe. LED

43 Will building occupants have control over thermal, ventilation and light levels? [✓ Yes] No N/A

44 Will outdoor areas have automatic lighting [i.e. motion sensors or time set]? [✓ Yes] No N/A

45 Will underground parking areas have automatic lighting? [✓ Yes] No N/A

Air Quality

The following items are intended to ensure optimal air quality for building occupants by reducing the use of products which give off gases and odours and allowing occupants control over ventilation.

46	Will ventilation systems be protected from contamination during construction and certified clean post construction?	[✓ Yes]	No	N/A
47	Are you using any natural, non-toxic, water soluble or low-VOC [volatile organic compound] paints, finishes or other products? If so, please describe. ____________	[✓ Yes]	No	N/A
48	Will the building have windows that occupants can open?	[✓ Yes]	No	N/A
49	Will hard floor surface materials cover more than 75% of the liveable floor area?	[✓ Yes]	No	N/A
50	Will fresh air intakes be located away from air pollution sources?	[✓ Yes]	No	N/A

Solid Waste

Reuse and recycling of material reduces the impact on our landfills, lowers transportation costs, extends the life-cycle of products, and reduces the amount of natural resources used to manufacture new products.

51	Will materials be recycled during demolition of existing buildings and structures? If so, please describe. ____________ Any material that can be recovered through recyling will be appropriately disposed of	[✓ Yes]	No	N/A
52	Will materials be recycled during the construction phase? If so, please describe. ____________ We are using an efficient off-site fabrication to minimize waste	[✓ Yes]	No	N/A
53	Does your project provide enhanced waste diversion facilities i.e. on-site recycling for cardboard, bottles, cans and or recyclables or on-site composting?	[✓ Yes]	No	N/A
54	For new commercial development, are you providing waste and recycling receptacles for customers?	[✓ Yes]	No	N/A

Green Mobility

The intent is to encourage the use of sustainable transportation modes and walking to reduce our reliance on personal vehicles that burn fossil fuels which contributes to poor air quality.

55	Is pedestrian lighting provided in the pathways through parking and landscaped areas and at the entrances to your building[s]?	[✓ Yes]	No	N/A
56	For commercial developments, are pedestrians provided with a safe path[s] through the parking areas and across vehicles accesses?	[✓ Yes]	No	N/A
57	Is access provided for those with assisted mobility devices?	[✓ Yes]	No	N/A
58	Are accessible bike racks provided for visitors?	[✓ Yes]	No	N/A
59	Are secure covered bicycle parking and dedicated lockers provided for residents or employees?	[✓ Yes]	No	N/A

60 Does your development provide residents or employees with any of the following features to reduce personal automobile use [check all that apply]:

- ☑ transit passes
- ☑ car share memberships
- ☑ shared bicycles for short term use We are engaging with a local bike renter
- ☐ weather protected bus shelters There is no bus route next to our project
- ☑ plug-ins for electric vehicles

Is there something unique or innovative about your project that has not been addressed by this Checklist? If so, please add extra pages to describe it.