

Salt Spring Island

Sustainability Checklist



Guide for residential construction including additions, renovations and accessory buildings.

for Single Family Dwellings

Part A is for rezoning, development permit and development variance permit applications.

Part B is for building permit applications.

What's the Sustainability Checklist?

The Sustainability Checklist lets you know how to make your residential construction project more environmentally friendly and reduce its impact on Salt Spring's natural ecosystems. It also includes information about financial incentives and other resources that can help you achieve these goals.

Why on Salt Spring?

Salt Spring Island is part of the Islands Trust, which has a mandate to preserve and protect the Islands Trust area's unique environment. Both the Islands Trust and the Capital Regional District (CRD) have signed the provincial government's Climate Action Charter, which requires communities to reduce greenhouse gas emissions. One way to do this is through adopting a more sustainable approach to land development and construction. Initiatives you take at the planning stages of your building project can dramatically reduce any negative impacts and help to create a truly sustainable community.

Who should use the Checklist?

All current and prospective Salt Spring landowners who are preparing to build a new house, a cottage, or an accessory building, or planning to remodel or add to an existing dwelling, or to build or reroute a driveway.

When should I use the Checklist?

The checklist is primarily a guidance document. The earlier you consult it, the easier it will be to include its ideas in your project. Review the checklist with your architect, designer and contractor. Completing the checklist after the working drawings are finished may result in lost opportunities and additional costs if you decide to make last-minute changes.

How do I submit the completed Checklist?

Part A

If your project requires planning permission — rezoning, development permit, or a variance — complete Part A and submit it as part of your application to the Islands Trust. A planner will be pleased to help you with your application and answer any questions you may have. Even if you don't have to complete part A, doing so could give you some good new ideas.

Part B

All residential construction projects, except for minor non-structural changes, require a Building Permit from the CRD Building Inspection Office in Ganges. Complete and submit Part B with your permit application.

How is the Checklist scored?

There is no pass-fail scoring. Implementing the suggested measures is entirely up to you. If your dwelling is in a Development Permit Area (DPA) though, some measures may be required as part of the development permit.



Islands Trust



Making a difference...together

Islands Trust contact:

Ganges Office 250-537-9144
1-500 Lower-Ganges Road,
Salt Spring Island, BC V8K 2N8
www.islandstrust.bc.ca

CRD contact:

Building Inspection Office 250-537-2711
206-118 Fulford-Ganges Road,
Salt Spring Island, BC V8K 2S4
www.crd.bc.ca



Salt Spring Island

Sustainability Checklist

for Single Family Dwellings



PART A

(for Islands Trust)

STREET ADDRESS OF PROPERTY:

For official use only:

APPLICATION NO: _____ DATE: _____

*Development proposals consistent with Official Community Plan (OCP) policies are supported. If your dwelling is located in a Development Permit Area (DPA), special restrictions apply and a development permit may be needed for siting, site preparation and other factors, and construction. Items marked with an * are requirements in some DPAs. Consult an Islands Trust planner.*

Ecosystem approach to site planning: Know the land

(OCP Volume 1 A.5.2.13 & maps 9 through 12)

1. Have you identified environmental and archaeological values, including habitat for threatened or endangered species and First Nations sites, before planning access, site clearing and design?

Yes No N/A

2. Have you located development — your driveway, septic system, house and outbuildings — away from areas with high environmental values like shorelines, streams, rare plants, and wildlife trees? Have you placed natural buffers between the development and sensitive features?

Yes No N/A

3. Have you clustered development in one area of the property to minimize site disturbance?

Yes No N/A

4. Have you considered granting a covenant for your property to protect ecological values in perpetuity?

Yes No N/A

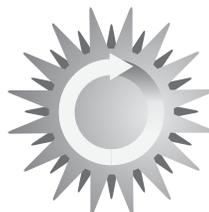
ECOLOGY TIPS

Plan ahead: walk the land with your contractor and a local biologist to find environmental benefits and cost savings.

Certain types of First Nations sites are protected under federal and provincial law and must not be disturbed. Avoid the accidental destruction of an ancient burial site and costly delays and fines by walking the land with an archaeologist before work begins.

A small patch of skunk cabbage or bulrushes in an otherwise dry environment indicates a mini-wetland — an important habitat for amphibians and birds. Clustering buildings and planning short driveways helps the environment and saves money.

Conservation covenants are registered on title and protect the special aspects of the land that you wish to preserve. They can also give you significant tax benefits.



Tree removal:

Think twice before you cut

5. Have you minimized tree cutting and soil disturbance? Our island's trees and soils have ecological value and represent important carbon sinks, critical in addressing climate change. When land is cleared for development, its ability to sequester carbon is lost. (OCP ref: A.6.1.6)

Yes No N/A

6. Are there any eagle or heron nests on your property? These are Provincially protected and Salt Spring Land Use Bylaw 355 at subdivision requires a 100 metre undisturbed buffer around trees containing eagle, osprey or heron nests. (OCP ref. A.5.2.8.c; LUB ref. 5.3.6)

Yes No N/A

7. Are you retaining and protecting significant trees like Garry oaks and older growth Douglas-fir and cedar? (OCP ref. A.8.2.3)

Yes No N/A

TREE TIPS

Very few old growth cedar or fir remain on Salt Spring. The dominant coastal Douglas-fir ecosystems on Salt Spring are very rare in the rest of the province. The island's Garry oak meadows are a rare subset of these shrinking ecosystems. These trees have both heritage and ecological value.

Standing dead trees provide important wildlife habitat; leave them standing unless they pose a hazard. Topping is better than felling.

You can create views by limbing taller trees instead of removing them. If you feel trees on your property must be removed to open up a view, cut trees selectively to create a viewscape framed by trees.

Consult an Islands Trust planner before removing trees and vegetation. Special restrictions apply to tree removal in Development Permit Areas. For example, in DPA 6 a permit is required for tree removal if the trunk diameter is greater than 20 cm (measured 1.5 m above the ground), and for the removal of vegetation resulting in the exposure of bare soil more than 9 m² in area. (OCP ref: E.6.1.2)

Water management: Fresh water is a precious resource (OCP ref: A.4.3.2)

8. Is your property located within a community water system's well capture zone as defined in the OCP, or within the watershed of one of Salt Spring's drinking water lakes (St. Mary, Cusheon, Weston, and Maxwell)? If so, you need to ensure the drinking water supply is not contaminated by malfunctioning septic systems, phosphorus release from soil disturbance, runoff and erosion, and fuel and chemical spills. Is your project designed to minimize risks to water supplies?*

Yes No N/A

9. If your property has a stream, a wetland, or lake frontage, are you planning to protect trees and vegetation within 60 m of the water?*
- Salt Spring's Land Use Bylaw requires buildings and structures to be setback 15m from all water bodies.

Yes No N/A

10. Are you planning to store rainwater on site by constructing a cistern, pond or wetland?

Yes No N/A

11. Have you observed the way water flows over your property and designed your landscaping and development in response?

Yes No N/A

12. For oceanfront property, permits are required to construct docks, boat ramps and breakwaters, to place fill, or to remove larger trees within 30m of the shoreline. Are you planning to site buildings well back from the high water mark, and to retain trees & vegetation within 10 m of the ocean?*

Yes No N/A

WATER MANAGEMENT TIPS

Salt Spring typically has wet winters and dry summers. Good water management involves retaining the winter rains to recharge groundwater supplies, lakes and ponds. Forested slopes, fractured bedrock, and deep organic soils hold moisture. Bare rock and pavement do not. Ensure sufficient topsoil remains on the property and that soil is not left compacted after construction.

Removing trees can result in increased runoff and stormwater damage to properties below. Landowners can be liable for damages caused to a neighbour's property. Plan stormwater retention ponds, drainage swales and wetlands to retain stormwater on site, and maintain existing drainage patterns.

The SSI Salmon Enhancement Society works with landowners to improve fish bearing streams. Provincial Riparian Area Regulations require that a registered professional biologist approve any plans to develop close to a fish-bearing stream or its tributary.

Landscaping: Go native, avoid turf

13. Are you landscaping with native, drought hardy vegetation rather than lawns and water demanding ornamentals? (OCP ref: A.4.3.2)

Yes No N/A

14. Are you minimizing impervious surfaces and planning to use permeable paving rather than conventional asphalt or concrete? (OCP ref: A.4.3.2)

Yes No N/A

15. Will you avoid the use of synthetic pesticides & fertilizers? (OCP ref: A.5.2.12)

Yes No N/A

16. Have you planned to control invasive species like Scotch broom, holly, English ivy, Himalayan and evergreen blackberry growing on the property? (OCP ref: A.5.2.27)

Yes No N/A

17. Are you planning an organic fruit and vegetable garden? (OCP ref: B.6.2.1.9)

Yes No N/A

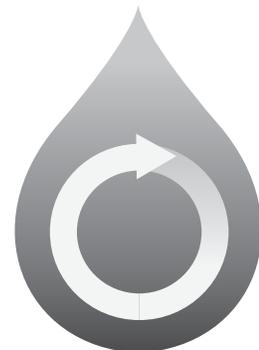
ECOLOGICAL LANDSCAPING TIPS

Avoid non-native plants that spread into and alter our natural ecosystems. The highly invasive Scotch broom originated from three seeds brought from Scotland a century ago. The SSI Conservancy has information on invasive species, and how best to control them.

If turf is to be installed, reduce area as much as possible. Consider using other ground cover than turf grass. Minimize impervious surfaces generally.

Pesticides and chemical fertilizers decrease the biological diversity of the soil and are counter-productive to a healthy landscape. Many plant "pest" problems can be addressed by feeding the soil with organic material such as compost.

Growing organic food (or buying local organic food) is one of the best ways to reduce carbon emissions. Becoming more self-sufficient in food is an objective of the Area Farm Plan and of the SSI Community Energy Strategy.





Salt Spring Island

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for Single Family Dwellings



PART B

(for CRD building permit)

STREET ADDRESS OF PROPERTY:

(circle all that apply) NEW CONSTRUCTION ADDITION / RENOVATION HOUSE SUITE COTTAGE OTHER

For official use only:

APPLICATION NO: _____ DATE: _____

Wherever possible, property owners should review and complete Part B early in the design process. Submit as part of the building permit application. The checklist does not include items required by the BC Building Code. References to methods and materials in this checklist does not imply their suitability in all circumstances. Discuss options with your designer and contractor.

Site Plan

1. Review Part A of this checklist. Have you taken opportunities to reduce the number of trees to be cut and to otherwise minimize the ecological impact of your building through good site design?

Yes No N/A

2. Have you registered or applied for a permit under the Soil Removal and Deposit Bylaw 419?

Yes No N/A

ECOLOGICAL PLAN REVIEW TIPS (see Part A)

Take time to get to know your land before selecting your house site. Protect existing drainage patterns, trees and understory by siting buildings and driveways to avoid sensitive areas and minimize disturbance.

Construction Site Management

3. Are you planning to avoid outdoor burning of slash and wood debris through berming and/or chipping or trucking?

Yes No N/A

4. Do you have a construction waste recycling plan and a no-burn policy on site?

Yes No N/A

5. Are trees and other natural features protected during construction?

Yes No N/A

6. Do you have a plan to reduce erosion and sedimentation during construction?

Yes No N/A

SITE MANAGEMENT TIPS

Good management significantly reduces the amount of construction waste to be recycled or landfilled.

Outdoor burning is strongly discouraged because of local air pollution and GHG emissions.

Branches may be piled densely in alternating layers with other clean wood debris to form a long narrow mound or berm. The material will gradually decompose to form rich soil. Woody berms can be used to slow runoff from a sloping site and to create raised planting beds.

If you've had to cut down large trees, consider milling them on site to use in your project. Wood unsuitable for construction can be cut, split and stored under cover for at least one year before using as firewood.



House Design

7. Is your design compact and resource-efficient to reduce the building's ecological footprint?
- Yes No N/A
8. Have you used passive solar design principles for space heating and cooling and planned for natural daylighting and natural ventilation?
- Yes No N/A
9. Have you set performance objectives for your house? (e.g. annual consumption targets for water, electricity, firewood and/or propane, or a third party industry standard such as BuiltGreen Platinum or EGH 85 rating)
- Yes No N/A
10. Have you used Hot-2000 or similar software to optimize your design for energy performance?
- Yes No N/A
11. Are you planning a net zero energy house? A net zero energy home produces as much energy as it consumes annually.
- Yes No N/A

DESIGN TIPS

Good passive solar design is the key to an environmentally sustainable home. By taking the 'House as a System' approach and by setting energy and water consumption targets, your designer can create a healthy, comfortable and efficient sustainable home.

Match south-facing window areas with interior mass (e.g. concrete or tile floors, masonry feature walls, plaster or thick drywall) to store passive solar gains and reduce temperature swings. Avoid large areas of non-south glazing and large skylights; they cause overheating and glare during the summer and lose heat during the winter.

Use of Hot-2000 or equivalent modelling software at the preliminary design stage can result in major energy and cost savings. Re-running the program at the working drawing stage can help fine-tune your plans.

A near net zero energy house is feasible using current technology. CMHC found that in this climate it was theoretically possible to retrofit a 1969 bungalow to become a net zero energy home by adding insulation (R-50 ceiling, R-26 walls and R-10 slab), high-performance windows, high efficiency lighting and appliances, and a rooftop solar electric (PV) system.

Building Materials

12. Are you using foundation options that will provide good thermal performance and water resistance, and efficient resource use?
- Yes No N/A
13. Are you using resource efficient framing and wall options that optimise structural and thermal performance and reduce environmental impact?
- Yes No N/A
14. Are you using more insulation, insulation with recycled content, and windows with a higher energy rating than required in this area by the BC Building Code?
- Yes No N/A

BUILDING MATERIALS TIPS

The building code is a minimum standard. Adding insulation reduces operating energy costs and increases comfort.

Various techniques and materials may be used to reduce a home's ecological footprint, but determining the best solution is not always straightforward. Depending on the circumstances, a 'high-tech' wall system using fossil fuel derived products may, or may not, score better than a conventional well-insulated wall, or a wall system built of natural materials. Ask your designer which techniques are appropriate for your home. Materials must be compatible with the design and with other building systems, plus meet performance objectives.

Foundation options include fabric forms, foundation drainage membranes, insulated concrete forms (ICF), and portland cement substitutes such as fly ash.

Above grade, raised heel trusses, advanced framing techniques (e.g. 24" centres, elimination of non-bearing double headers), sustainably harvested FSC certified wood, structural insulated panels (SIPS), and insulated rammed earth walls may be appropriate choices, depending on the building design.

Provide a continuous air barrier. Air leakage through cracks, e.g. around beams and trim, significantly reduces energy performance. A blower door test towards the end of construction will identify unintentional air leakage paths, and is required if the house is to be rated.



Mechanical & Electrical Systems

15. If heat loads justify, are you using heat pump technologies for space heating such as ground, water, or air source heat pumps, including air source ductless systems?

Yes No N/A

16. Are you installing a central heat recovery ventilator system?

Yes No N/A

17. Are you installing a high efficiency wood burning appliance, pellet stove, or efficient propane gas fireplace rather than a conventional fireplace?

Yes No N/A

18. Are you purchasing EnergyStar appliances?

Yes No N/A

MECHANICAL SYSTEMS TIPS

Heat pumps are excellent where heat loads are large, as in older houses and large new homes. If your house is compact and well-insulated, the space heating loads may be too small to justify a heat pump; electric baseboard heaters may be the best solution.

Radiant floor distribution systems can circulate hot water from various sources — boiler, heat pump, solar system — and provide even, dust-free silent heat. They do not necessarily save energy.

Central heat recovery ventilation (HRV) systems control humidity and ensure good indoor air quality.

Greywater or drain-water heat recovery systems can recover heat from the hot water used in showers, bathtubs, sinks, dishwashers, and clothes washers.

Always burn dry wood that has been seasoned under cover for at least one year. A conventional open fireplace wastes energy and creates air pollution. Low-emissions wood stoves and fireplaces not only produce less air pollution — they're more efficient, heating your house with less wood.

Water Conservation

19. Are you harvesting rainwater from roofs and storing it in tanks, cisterns, and/or ponds?

Yes No N/A

20. Are you using dual flush toilets, low flow shower heads and faucet aerators?

Yes No N/A

21. Are you using greywater separation and treatment for irrigation or reuse?

Yes No N/A

WATER CONSERVATION TIPS

Rainwater collected from the roof can be more than sufficient to meet annual household needs. 100 sq. m. of roof yields 86,000 litres, given 86 cm annual rainfall. Rainwater may be used for toilet flushing, laundry and garden irrigation. After treatment, rainwater may be used for all household needs, including drinking water. Install a metal, slate or clay tile roof if you plan to use rainwater for potable water and check with the CRD for current regulations.

Six litre toilets are required; dual flush toilets give the option of using only three litres per flush.

Low flow shower heads vary in water consumption from about two litres per minute to six litres per minute. Read the fine print before you buy.

Greywater from laundry, showers and baths can be filtered and treated for reuse to flush toilet, or water gardens. Commercial systems are approved for use in BC.

A waterless composting toilet is permitted and is the ultimate water saving device, but a septic system must still be installed to handle wastewater, grease and food debris from kitchen sinks, and to meet regulatory requirements. A registered practitioner is required to design and install residential wastewater systems in BC.

Interior & Exterior Finishes

22. Are you using a roofing material suitable for rainwater harvesting for potable use?

Yes No N/A

23. Are you sourcing local wood and stone where possible to reduce transportation energy?

Yes No N/A

24. Are you using low maintenance exterior cladding and trim to reduce the need for paint and stain?

Yes No N/A

25. Are you using environmentally friendly, water soluble low-VOC paints and finishes?

Yes No N/A

26. Are you using materials with recycled content?

Yes No N/A

FINISHING MATERIALS TIPS

Local materials, such as stone, sustainably harvested wood, and locally-sourced natural earth plasters, are non-toxic, have low embodied energy, and often are very attractive.

Natural, non-toxic and low VOC paints and coatings are now widely available and labelled as such.

Many products are available with recycled content, for example, roofing, interior doors, ceramic tiles, and carpets. Ask your building supplier.

Natural linoleum, bamboo and cork are three of many greener alternatives to vinyl flooring.



Renewable Energy

27. Are you installing a clothesline?
Yes No N/A
28. Are you installing a solar water heating system?
Yes No N/A
29. If your property has a seasonal creek, a micro hydro generator may be an option. Have you looked into a micro hydro system?
Yes No N/A
30. Roof-mounted photovoltaic (PV) panels can provide enough electricity from the sun to run an energy-efficient home or cottage during summer months. A single panel can pump water from a pond to a garden irrigation system, or power a computer and emergency lights. Have you looked into installing a PV system?
Yes No N/A

RENEWABLE ENERGY TIPS

The clothesline is one of the simplest solar technologies, and a good way to save energy.

An unshaded south-facing roof and space for a solar preheat tank are the prerequisites for a solar hot water system. A solar water heater can supply up to 60% of your annual domestic hot water energy needs. Provincial and federal grants are currently available to offset some of the initial costs.

If your micro hydro, PV, or wind energy system is connected to BC Hydro, whenever the system generates excess electricity you can “run the meter backwards,” to reduce your electricity bill. Contact BC Hydro, or a qualified installer for details on net metering.

Maintenance

31. Do you schedule annual cleaning for chimneys and regular inspection and servicing for mechanical equipment, including water treatment equipment?
Yes No N/A
32. Do you occasionally inspect the outside of your home during, or just after, heavy rain to check for any drainage problems such as blocked eaves troughs?
Yes No N/A
33. Do you purchase environmentally friendly cleaning products and use organic gardening methods?
Yes No N/A
34. Do you recycle all household recyclables and compost garden and kitchen waste?
Yes No N/A



HOME OPERATING TIPS

Careful use can typically reduce energy and water consumption in a home by 10% to 20%. Use programmable thermostats to set back the temperature at night and when the house is unoccupied. Remind family members about energy and water conservation, and “turn it off”. Smart meters are available to help people track energy consumption.

An “operating manual” or binder with equipment and materials information, along with a photographic record of construction and list of trades used will be very helpful long after construction’s done.

Schedule regular servicing activities, such as filter cleaning or replacement, and chimney and eaves trough cleaning, into the household calendar. Filters include air filters on furnaces and HRVs and screens on air intakes, and filters on home water purification systems.

Plan infrequent maintenance projects, such as exterior painting and septic tank pump out, well in advance. Postponing these tasks can lead to serious problems and major, expensive repairs.

Baking soda and vinegar work just as well as commercial cleansers for many household cleaning jobs and are better for the environment.

Plan to drive less. Automobiles are a major source of local air and noise pollution on Salt Spring, and are the largest single contributor to Salt Spring’s greenhouse gas emissions. Reduced automobile dependence is an island objective. If you are considering a move, look for a location within easy walking or cycling distance of a village or transit route.

Thank you

for completing the Salt Spring Island Sustainability Checklist for Single Family Dwellings.
Please let us know if this checklist was helpful to you, and how it can be improved.



RESOURCES

Home Labelling Programs

If you would like assurance that your house meets current greenbuilding standards, you can get your home certified by an independent third party.

Several home labelling systems are currently used in Canada, including Energy Star, LEED® Canada for homes, R-2000, and BuiltGreen™.

These labels all use the same “Hot-2000” software for energy analysis.

These are the available options in BC:

New Home Labelling Programs

R-2000 CHBA-BC

www.chbabc.org/
1-800-933-6777

BuiltGreen™ BC CHBA-BC

www.chbabc.org/
1-800-231-1336

LEED® Canada for Homes

www.cagbc.org
866-941-1184

Home Retrofit Labelling Programs

EcoEnergy for houses CityGreen

www.citygreen.ca
1-866-381-9995

Grants

Some federal, provincial and CRD grants are available for energy & water conservation. The following were current at time of publication, check for additional grants with CRD and CityGreen.

BC Hydro Power Smart Rebates

See BC Hydro's website for current incentives and discount coupons.
www.bchydro.com/powersmart

Solar BC

\$1,000 point-of-sale discount (plus a further \$625 EcoEnergy/Live SmartBC rebate) towards a solar hot water system.
www.solarbc.ca
1-866-650-6527

EcoEnergy / Live Smart BC provide grants to homeowners and landlords upgrading existing homes for energy efficiency and some renewable energy and water conservation measures.

A special CRD rebate of \$75 is available to Salt Spring residents. All these are available on Salt Spring through CityGreen
www.citygreen.ca
1-866-381-9995

Information

Energy and buildings

CMHC www.cmhc-schl.gc.ca/en/

NRCAN www.oee.nrcan.gc.ca

CRD www.crd.bc.ca

CityGreen

www.citygreen.ca
1-866-381-9995

Solplan Review is the independent Canadian journal of energy conservation, building science and construction practice for residential construction.
604-689-1841

BC Sustainable Energy Association

www.bcsea.org

Lighthouse Sustainable Building Centre

www.sustainablebuildingcentre.com

Water

Capital Regional District Water Services

www.crd.bc.ca/water
250-474-9684

Information on water conservation technology and rainwater harvesting in Greater Victoria

Islands Trust Fund

Rainwater Harvesting on the Gulf Islands, a series of publications, including project schematics and links.
www.islandstrustfund.bc.ca

Watersheds

Capital Regional District

Stormwater, Harbours & Watersheds program
www.crd.bc.ca/watersheds
Residential tips to watershed protection, best practices, natural areas atlas & more

Land Development

BC Ministry of Environment

Develop with Care March 2006 online manual
www.env.gov.bc.ca/wld/documents/bmp/devwithcare2006/develop_with_care_intro.html

Conservation Covenants

SSI Conservancy

www.saltspringconservancy.ca/

Islands Trust Fund

www.islandstrustfund.bc.ca

TLC-The Land Conservancy of BC

www.conservancy.bc.ca

Local Resources

The following organizations have information and programs to assist residents in reducing our ecological footprints:

SSI Conservancy

www.saltspringconservancy.ca/

SSI Energy Strategy

www.saltspringenergystrategy.org

I-SEA Institute of Sustainability Education & Action

www.i-sea.org

Cusheon Lake Stewardship

www.cusheonlakestewardship.com

Mayne Island

Integrated Water Systems Society

www.mayneisland.com/water/index.htm

SSI Salmon Enhancement Society

250-537-8983

Island Natural Growers

information on organic farming & gardening
www.cog.ca/ing/i/index.htm

The Salt Spring Sustainability Checklist

is downloadable at:

www.saltspringenergystrategy.org

www.islandstrust.bc.ca

www.crd.bc.ca

