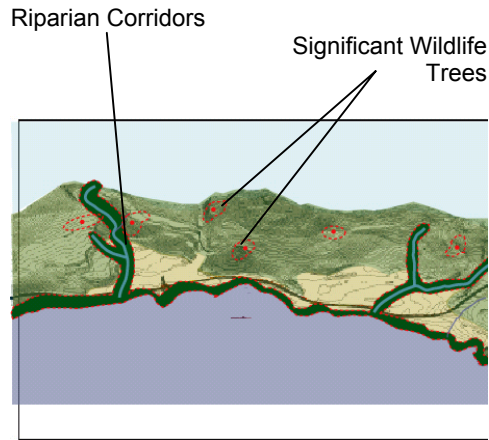


Environmental Stewardship and Design – District

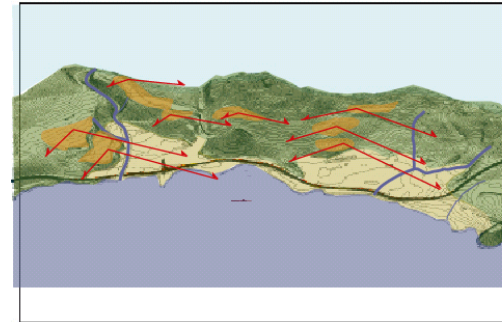
Chris Midgley

Identify and Protect Environmentally Significant Areas.

Riparian corridors, waterfront areas, and significant wildlife trees are critical features for local flora and fauna. Streams should be protected with 30m buffers, the waterfront should be able to support fish, and nesting trees should be located and protected by a tree-length.



High Flat Spots with views to Squamish, Mountains, and Howe Sound

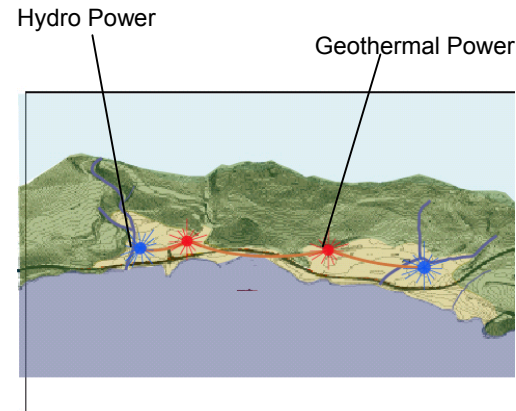


Maintain Distinct Features and Important Views.

Distinct landscape features, such as the high flat spots and expansive views that surround Britannia Beach, should be used in a way that maximize their benefit to the community. Open spaces oriented to passive recreation such as hiking, birdwatching and backcountry skiing serve social as well as ecological functions.

Layer Remediation into Public Open Space.

Public open spaces like playing fields, pathways, and waterfront areas, as well as green space around schools, libraries, and other institutions can provide ideal opportunities for innovative strategies to cleanse polluted water, and remediate contaminated soil. Properly designed green spaces should be used to enhance the environment of the district as a whole.



Use Renewable, Locally Available Power.

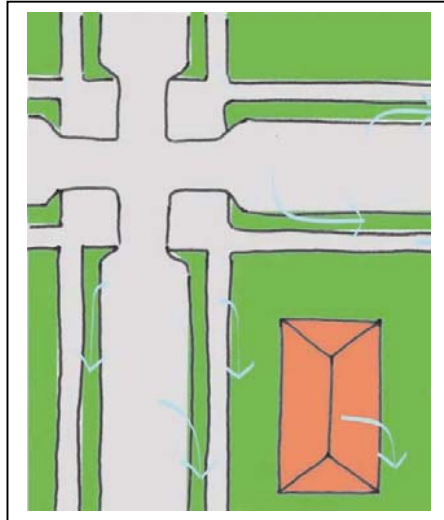
Energy for Britannia Beach can be provided locally with small scale hydro power and geothermal. There are also opportunities to exploit the energy associated with acid mine drainage. These source are either renewable, or capture harmful pollutants. This means that power generation in Britannia Beach could avoid contributing to climate change, or could even improve the environment.

Environmental Stewardship and Design- Corridor

Heather Scott

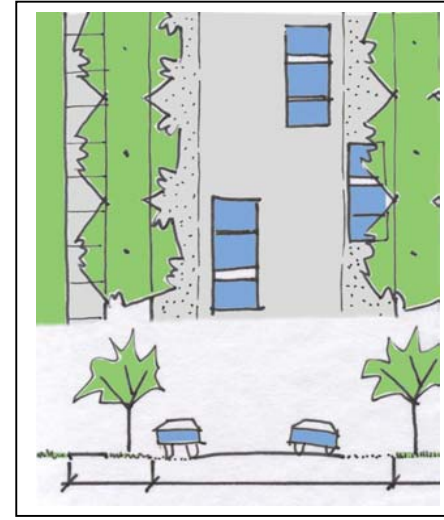
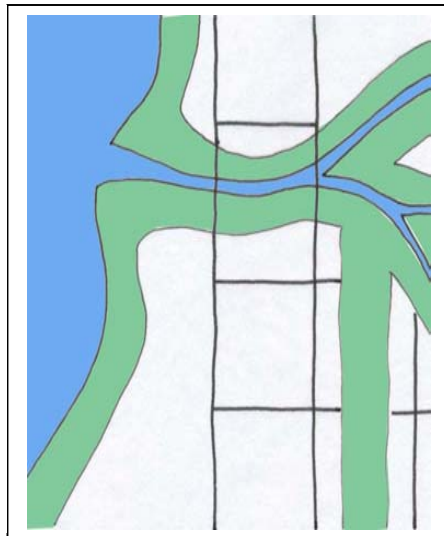
Layer the Systems

Use the infrastructure and service corridors as guiding structure for stormwater management. Street trees, grassed medians, swales and gravel verges not only add to the ecology and the appeal of the urban landscape, they help to re-infiltrate rainwater back into the water table. Incorporate these infiltration systems into a system that winds its way back to the creek.



Plan Open Space Around Natural Corridors

Open space created around natural corridors allows the development of an interconnected open space system. A 15 to 50 metre riparian corridor along either side of all water courses can be integrated into this system. This green spine creates more habitat opportunities, will help connect people to the landscape while remove pollutants from the atmosphere.



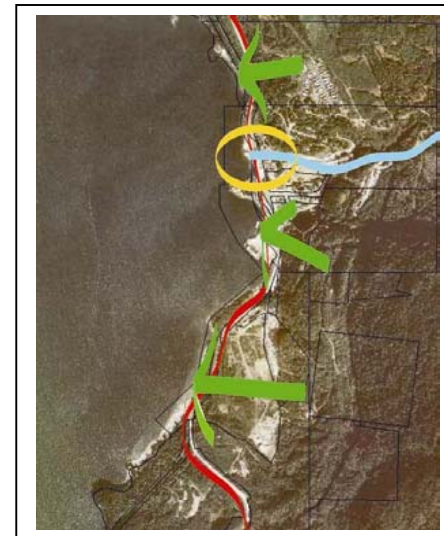
3.5m 8m 3.5m

Design Smarter, Narrower Streets

Designing narrower streets with less material (3m travel lanes) and gravel verges for parking will not only decrease their cost but will reduce the amount of runoff by reducing the overall amount of impervious surface on the site. This will allow more rainwater to infiltrate back into the groundwater system to maintain watershed health.

Maintain Wildlife Corridors

Highway 99 creates a strong barrier along the shore. Ensuring several safe crossings for animals and people will maintain the health of the ecosystem and will increase the value of the sea shore amenity. Where a watercourse encounters Howe Sound, ensure that its flow is not altered by the presence of built form. The presence of human activity at stream mouths can frighten salmon and interrupt their life cycle.

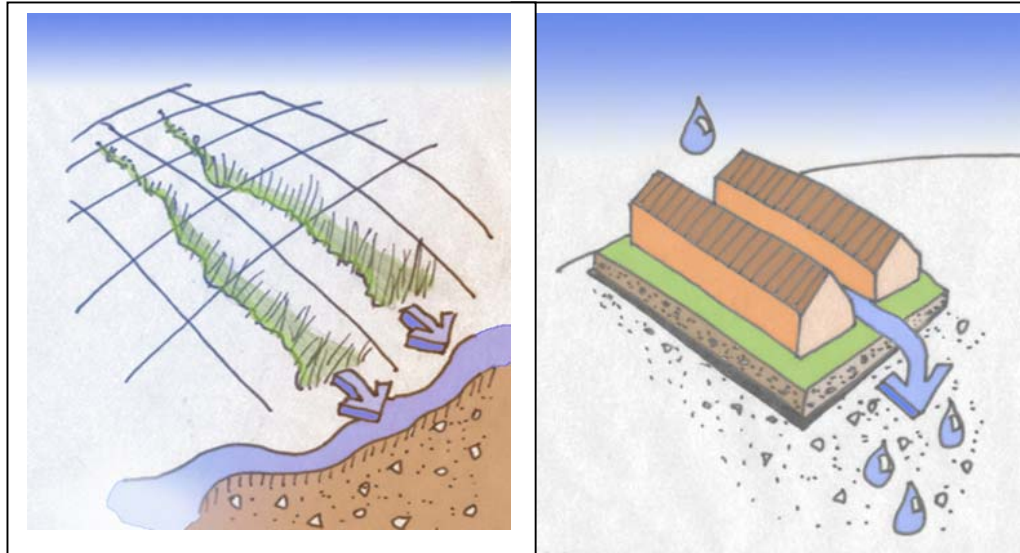


Environmental Stewardship and Design – Block

Alison Maddagh

Greywater Management

The water we use for showers, cleaning dishes and clothes is called 'greywater', and it can be filtered and reused or simply infiltrated back into the earth. A network of reedbeds may be established at the block level to collect greywater from many residences. The filtered water could then be used for irrigation or allowed to infiltrate non-contaminated soils.

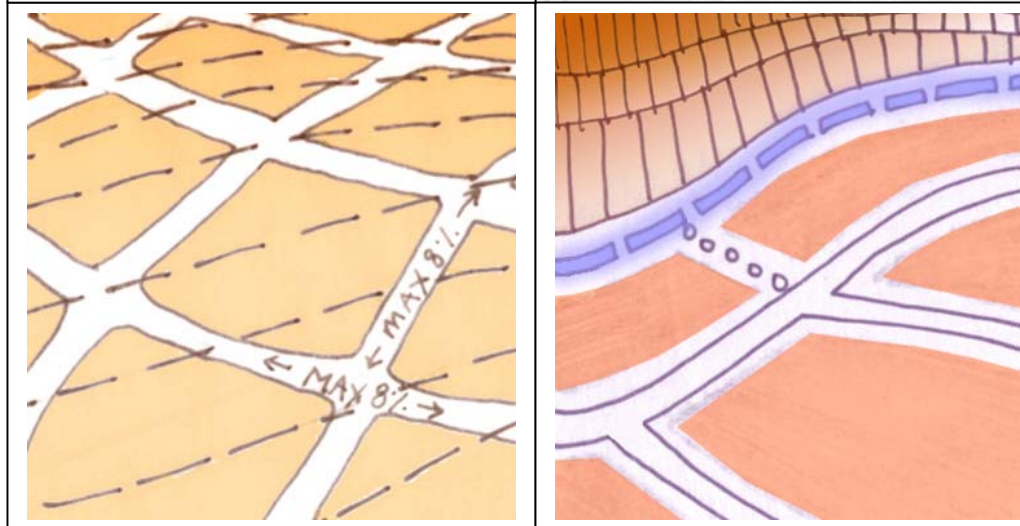


Stormwater Management

Runoff from impervious surfaces may be collected and distributed through materials to slow the rate at which it infiltrates the soil. On capped sites where the soil is toxic, stormwater cannot infiltrate. In such sites, the water can either be harvested for irrigation purposes or conveyed off the capped site and allowed to infiltrate non-contaminated soils.

Block Layout on Slopes

The shape of each block should conform to the topography of the site. In order to minimize slope along streets it may be appropriate to angle blocks against contour lines such that grade change is evenly distributed between each street and its cross street. As a result, the shape of each block may be skewed in such a way that it is tapered on one side and flared on another.



Blocks Along Steep Slopes

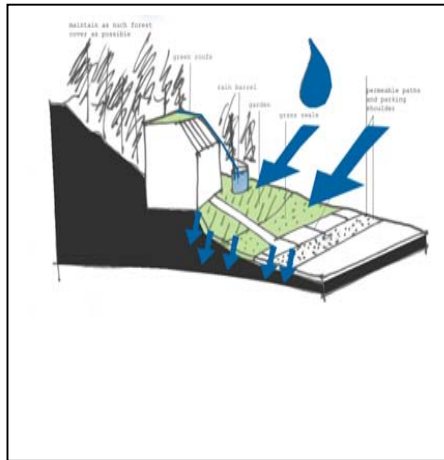
In general, it is not advisable to develop areas exceeding 15% slope. Blocks should wrap around the base of steep slopes so that buildings (shown in orange) are tucked into the slope, with no rear street access. A buffer strip between the base of the slope and the building (shown in blue) may be maintained for infiltration swales, habitat, and pedestrian access.

Environmental Stewardship and Design – Parcel

Leila Zeppelin

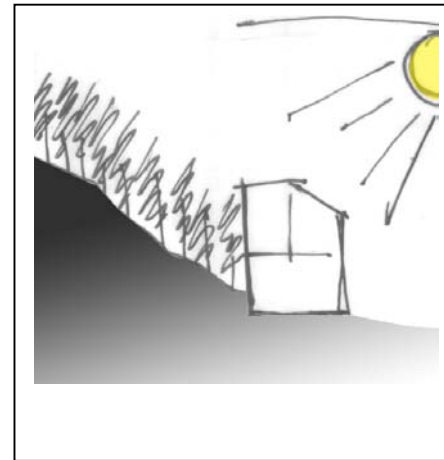
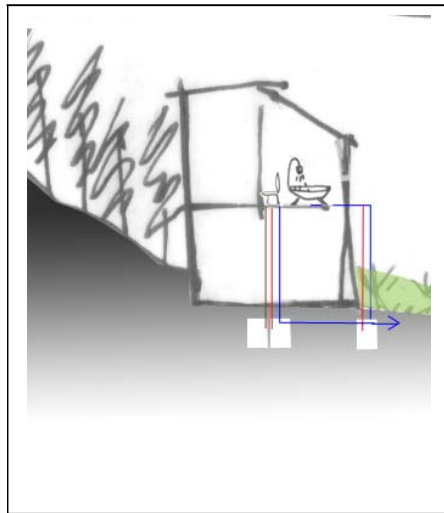
Permeable Parcels

Incorporating stormwater best management practices (BMPs) into the parcel design can greatly reduce total nutrient export. The goal is to drastically reduce impermeable surfaces. In Britannia, preserving as much forest cover as possible is necessary. The concave lawn and garden collect and infiltrate stormwater while pervious pavers or crushed stone paths and a gravel shoulder contribute to maximum infiltration. Green roofs and rain barrels could be another alternative to capturing water on-site



Smart Waste and Water

A composting toilet combined with greywater filtration can completely eliminate a home's contribution to off-site liquid waste. Simple blackwater systems are now available to treat home waste. Treated correctly, clean discharges from black and greywater systems provide an excellent and safe source for irrigation and for slow release into gardens or infiltration storm systems, thus ensuring summer base flows in nearby streams.



Parcel Placement

Buildings should be placed in response to natural features and phenomenon. Britannia's dramatic topography and southern exposure should be regarded when placing buildings. They should occupy the lower part of slopes to ensure slope stability. Buildings should also take advantage of south facing slopes to harness solar energy. Collection and use of solar radiation at a house-by-house scale can greatly reduce reliance on off-site energy sources.

Smart Materials

Minimizing, reusing, and recycling construction and demolition waste will reduce the energy consumption of buildings before they are occupied. Use of local building materials (including wood and stone) should be used when possible. Materials from old buildings should also be reused and creatively transformed into new ones.

