GREEN TEAM Master Plan

Strategically Green

To realize our Green vision – to weave together Squamish's natural systems, its social fabric, and its urban form into a more coherent and organic whole – will require a strong and lasting commitment to ecological responsibility and environmentally sensitive design. Accommodating future population and economic growth without detriment to the Valley's natural functions and forms requires the creation of alternative and environmentally sound urban systems and communities. Our Green strategies to achieve these goals are to:

Protect, enhance, and showcase natural habitats of ecological and social value by defining an urban growth boundary, conserving green spaces within these bounds for recreation and community agroforestry endeavours, and buffering sensitive riparian corridors from further urban development.

Create an interconnected transportation system by re-using the existing rail line as a trolley route to link neighbourhoods with existing transit routes and provide an alternative regional connection to the north; converting existing arterials into multi-modal greenways to accommodate local traffic, buses, cyclists and pedestrians; and by paralleling ecological functions, such as rainwater infiltration, with green infrastructure along new and existing streets.

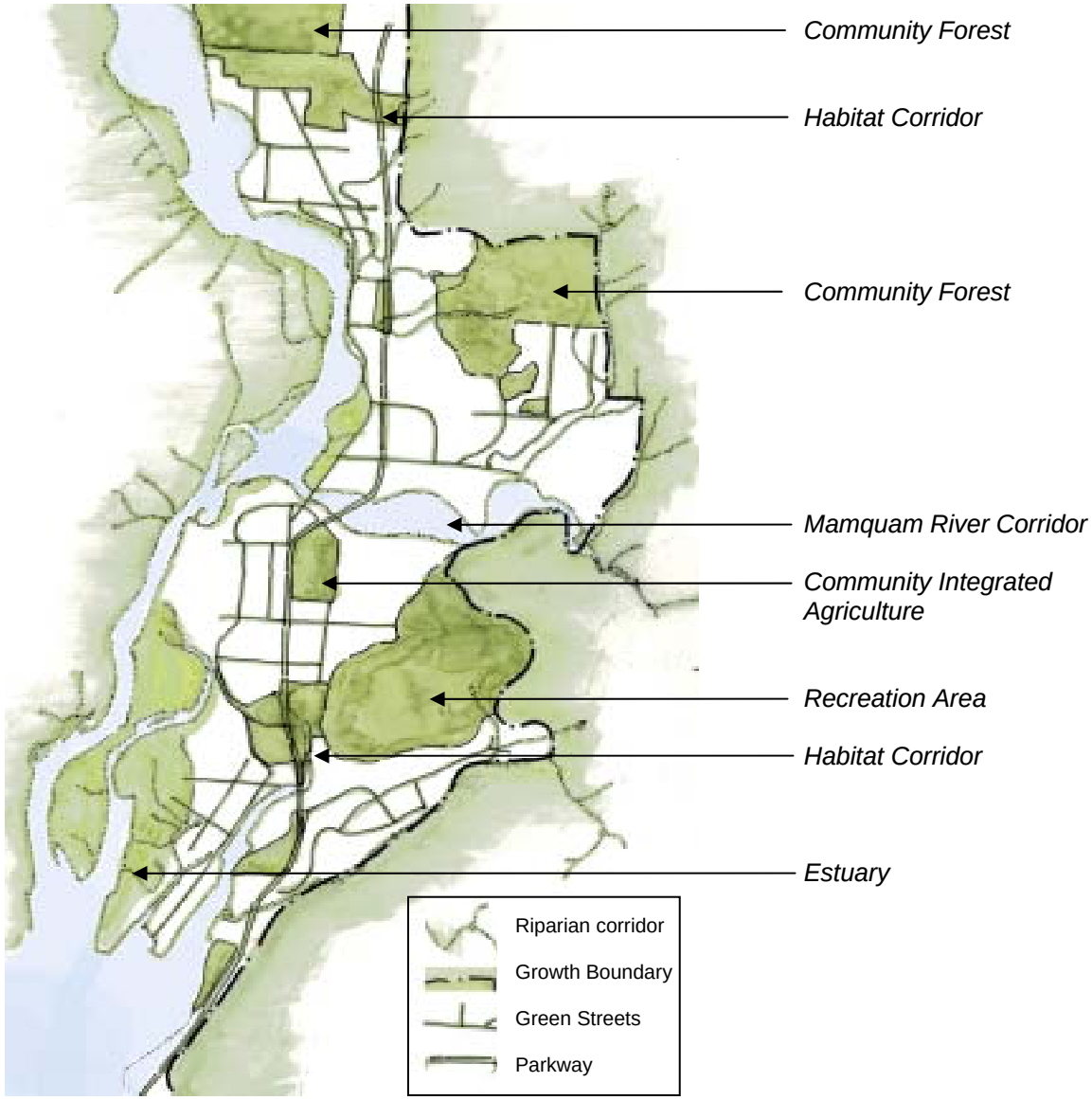
Minimize the impact of Highway 99 by buffering it along both sides with trees, opening it up at key wayfinding intersections and natural viewpoints, and constructing a planted median that functions as a stormwater swale for aesthetic enhancement and the demonstration of ecologically sensitive roadway design.

Build complete and environmentally sensitive communities by enhancing and creating nodal development around strategic locations such as transit stops, commercial areas, and community facilities to facilitate walkability; integrating different land uses, such as single and multi-family residential, commercial, civic, and industrial, within neighbourhoods; by densifying existing residential developments with infill housing in and around built areas; and adhering to high standards of efficient green building and community design.

Foster ecologically sound economic development by building an eco-industrial business park regulated by covenants and performance standards to attract environmentally-minded companies and businesses; by incorporating tourism into community agro-forestry projects by building on-site interpretive centres and accommodation; by attracting retail development to anchor the downtown, such as Mountain Equipment Co-Op (MEC), that caters to local and visiting recreation seekers; and by zoning existing industrial lands across from the Downtown for light industrial and live-work uses to foster value-added forestry product development.

Concept Plan

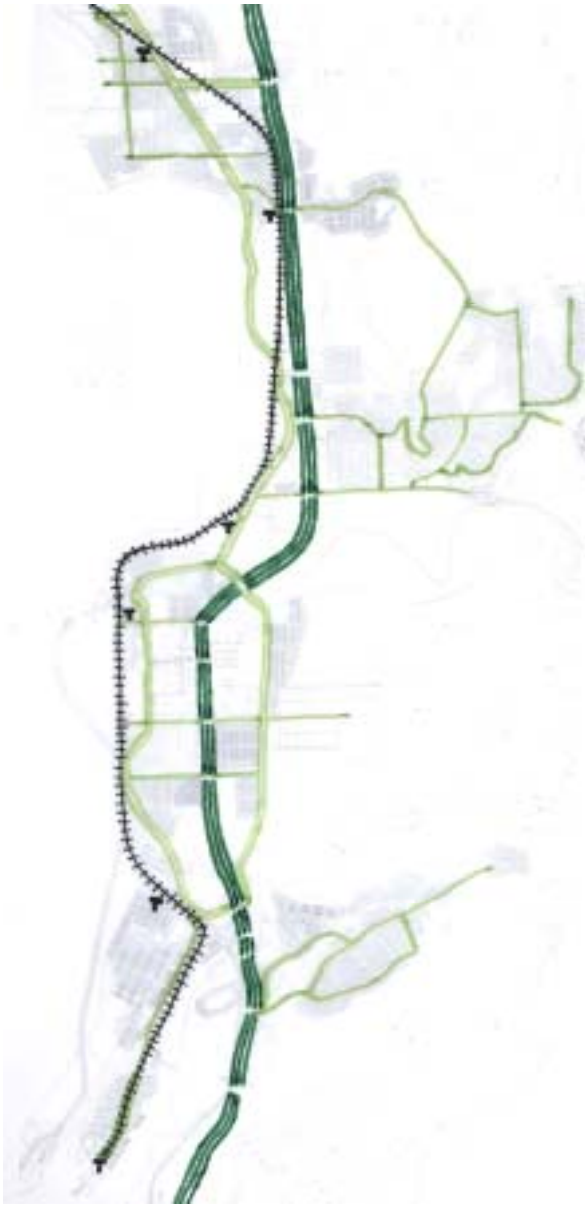
Master Plan



OPEN SPACE PLAN

Strategy:

- *Protect* natural habitats of ecological and social value by defining an urban growth boundary based on terrain and habitat integrity.
- *Conserve* green spaces such as the Estuary and the Smoke Bluffs within these bounds. Include resource management areas such as community forests and farms.
- *Buffer* riparian corridors and s*ensitively integrate* public trails along them.
- *Connect* core green areas to each other to create a network of continuous habitat and recreation corridors. Include schools and civic centres in this network.
- *Create* a green street network for each neighborhood that will convey or capture rainwater.



TRANSPORTATION STRATEGY

Strategy:

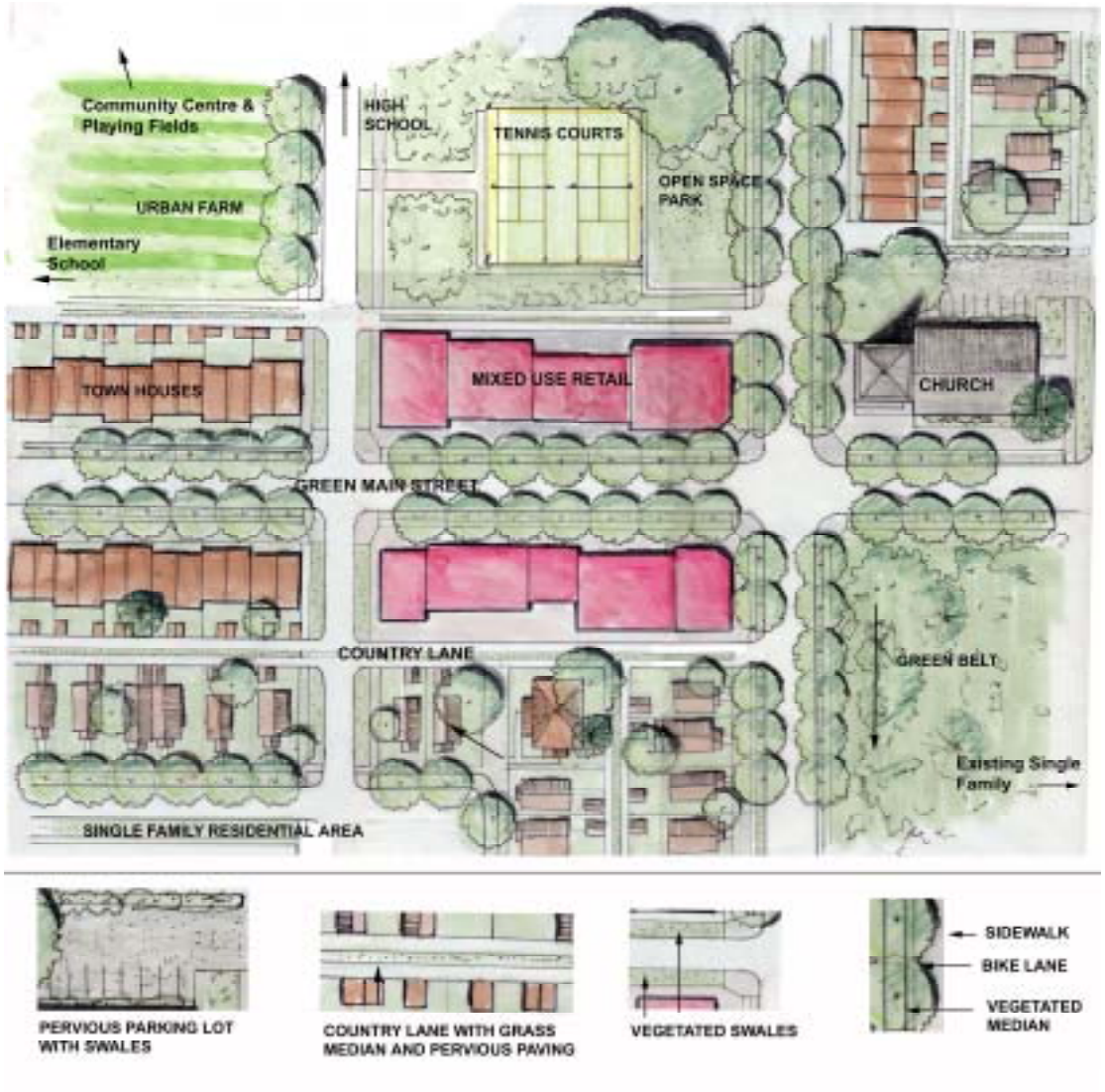
- *Create a street network by integrating and accentuating the connections between the parkway, local by-way and green infrastructure streets.*
- *Create a Squamish Valley Parkway. Green the highway with median plantings, swales and treed buffers that improve the visual qualities of the highway while functioning as ecologically sound stormwater management system.*
- *Create a local by-way that acts as an alternative means of travel to the parkway. The by-way will provide a local route through Squamish for many different transportation options.*
- *Retrofit existing streets to incorporate green infrastructure to manage storm water runoff as well as provide for more pedestrian friendly activities.*
- *Re-introduce train travel in Squamish by reusing the existing train tracks as a local trolly route that links the proposed passenger ferry to community nodes and tourist attractions throughout Squamish.*
- *Encourage alternative modes of transportation by creating a network of streets that will accommodate busses, bicycles, pedestrians and automobiles.*
- *Strengthen connections between existing neighbourhoods, transportation nodes, and various modes of transportation.*

COMPLETE COMMUNITIES

Eagle Run

An important principle of sustainability is the walkable neighbourhood. Complete communities offer choice in housing types to accommodate all ages and family types. Designing dead end –free streets and locating schools, shops, community gardens, public open space and transit within a ten minute walk of all homes ensures this is a walkable neighbourhood. All proposed neighbourhoods will be located near transit hubs to provide residents with transportation choices and link existing communities together.

PLAN VIEW OF AREA SURROUNDING BRENNAN PARK / LOGGERS LANE INTERSECTION



BRENNAN PARK COMMUNITY NODE

The area south of Brennan Park Community Centre holds great potential as an area of connection and exchange between the citizens of Squamish and to the natural processes that support the district. This area is re-envisioned as a green community node that serves the diverse needs of residents in the area.

The following components make up the new Brennan Park:

- A variety of housing types and forms (including single family and townhouses) to meets a growing and diverse population.
- An emphasis on small building parcels and maximum pervious coverage to facilitate rainwater infiltration
- A commercial-mixed use block with shops below and small-scale office space above
- All residential streets are green streets with consistent tree canopies, vegetated swales and no street curbs
- All main streets are also green, with consistent tree canopies, vegetated boulevards and conveyance to nearby natural retention areas
- All lanes are “country lanes” with re-enforced grass medians and permeable paving
- An interconnected network of sidewalks and bike lanes separated from traffic

STRENGTHENING THE SOCIAL EXPERIENCE

Proposed Single Family Development and Townhouse Neighbourhoods

Improving on existing neighbourhood design, residential streets will be designed with narrower pavement and wider landscaped boulevards to enhance the safety and comfort of children and adults.

Wherever possible, houses will have a friendly face to the street instead of a big garage door and increase opportunities for neighbourly interaction. Most new streets will put parking in the rear and have permeable parking strips that permit natural infiltration of rainwater.

VIBRANT COMMUNITY STRATEGY

Eagle Run

Local-serving shops and services mean that people can get the things they need on a daily basis without having to travel far. Many types of movement are accommodated with emphasis on pedestrian comfort.

Shops, services, and offices are framed by townhouses to make this part of town buzz with people getting from A to B or enjoying a stroll to the corner store.

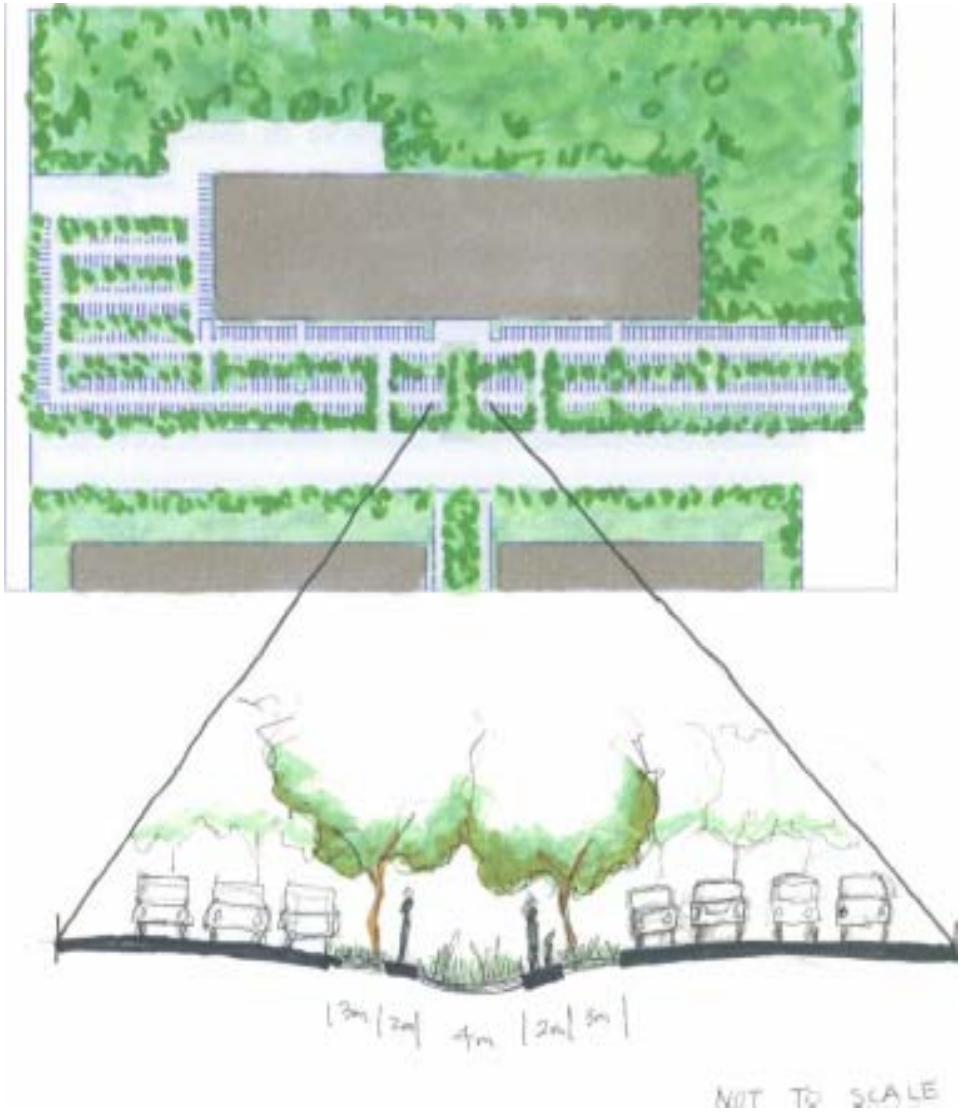
GREEN BUILDINGS

Proposed and Existing Single Family Development and Townhouse Neighbourhoods

Green building philosophies will be incorporated into the design of all new homes to minimize impact and maximize function of each residential lot.

Green roofs, solar panels, detached downspouts and rain barrels are just a few of the energy saving principles that can be applied to existing and proposed housing alike.

A variety of housing types with a diversity of shapes and façades creates neighbourhoods that are unique and beautiful.



Wal-Mart Park Lot

Squamish Business Parklands

Not to scale

The goal of the Wal-Mart parking lot is to not only provide enough space for parking for customers but also to provide enough area to aid in the infiltration of runoff water. A further goal is to provide a safe and conducive environment for pedestrians in the area. Bioswales are used to capture and convey the runoff from the parking lot to a detention pond in the center of the development.

Eco-Industrial Park

Squamish Business Parklands

The President's Council on Sustainable Development (PCSD) defines an Eco-Industrial Park (EcoPark) as: "A group of businesses that work together and with the community to efficiently share resources (materials, water, energy, infrastructure, natural habitat and information), enhance economic prosperity and improve the environment."

The current Squamish Business Parklands is the eventual site of Wal-Mart and is the perfect area in which to fully implement this idea of eco-industry.

The green infrastructure would include a swale network that collects and conveys runoff water from the paved areas and roofs, a detention pond for remediation, infiltration and absorption of runoff water. Further strategies would include pollution prevention and management through strict policy and guidelines as well as energy efficiency through better design and alternative building materials.

MAMQUAM BLIND CHANNEL
AT HIGHWAY 99 BRIDGE
(Upper sketch from south)
(Lower sketch from north)

One of the “green fingers” interweaving with the urban fabric of Squamish is the Mamquam Blind Channel. It is also an important threshold, an entrance point when approaching from Vancouver, providing views into downtown Sqaumish and towards the shore. We therefore propose to develop that area into a green focal point, topped by a exiting bridge that marks the threshold.

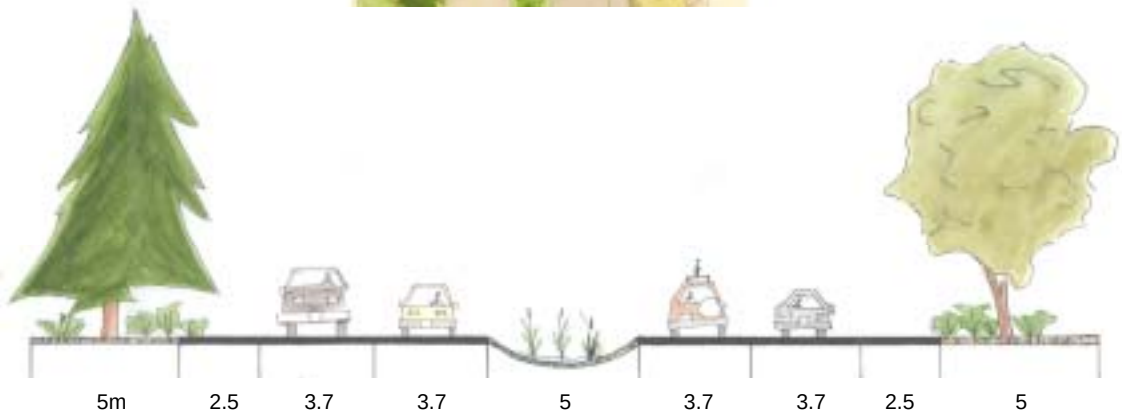
Whereas the south eastern shore of the channel is developed as a more urban river walk, the south western shore is developed into a green open space, visually buffering the new light industrial - residential area below the chief and providing a green corridor to the sea. In the future, that site North of the highway bridge, the wetland area is kept and enhanced, and nature trails are provided towards the Smoke bluffs and along the channel.

MAMQUAM RIVER CROSSING

Brennan Park, the Mamquam River, and the two primary transportation corridors converge at this significant location. This small area represents a potential focal point and an opportunity to truly engage the natural beauty of Squamish.

We propose that this river frontage be developed to provide greater and more formal access to the river, and to provide a broader array of activities. The following concepts are illustrated:

- A community farm including paths, fields, and greenhouses that extends from the Brennan Park complex to the dike.
- A path along the dike that accommodates multiple users and wheelchairs.
- Similar paths developed to water edge.
- Bridges that are articulated to provide a gateway experience when crossing the river.
- Housing and civic buildings built out to the dyke edge on both sides.

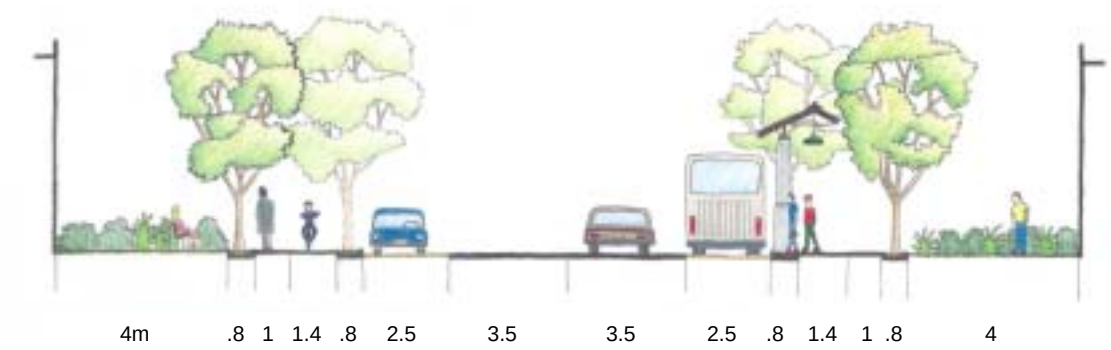


PLAN AND SECTION VIEW OF HIGHWAY 99
Plan View shows Highway 99 at Finch Street

The proposed parkway design fits within the existing highway right-of-way. At the illustraited intersection, the right-of-way is approximately 35 meters wide. This width can accommodate 4 lanes of traffic with a shoulder/right turn lane and a left turn lane.

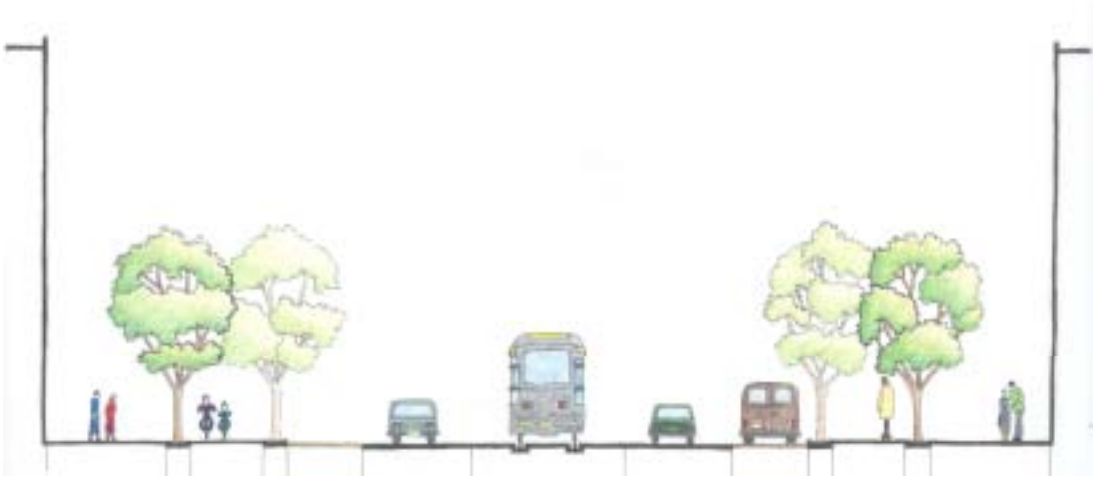
Key to the parkway is a 5 meter median that can act as a stormwater management swale. The swale could be located within the median as shown (see section) or to the immediate east or west of the roadway depending on where the optimal catchment areas are. At intersections, the median can be narrowed to accommodate a left turn lane and act as a pedestrian refuge.

A tree-lined corridor is proposed for each side of the roadway to enhance the visual experience of travelers and to buffer surrounding residents from the highway. Many tree-lined corridors currently exist along Highway 99 through Squamish and should be kept even as new highway development grows. Key intersections will be demarcated by openings in the tree plantings to give businesses along the highway necessary visibility and invite passers-by to stop and see Squamish.



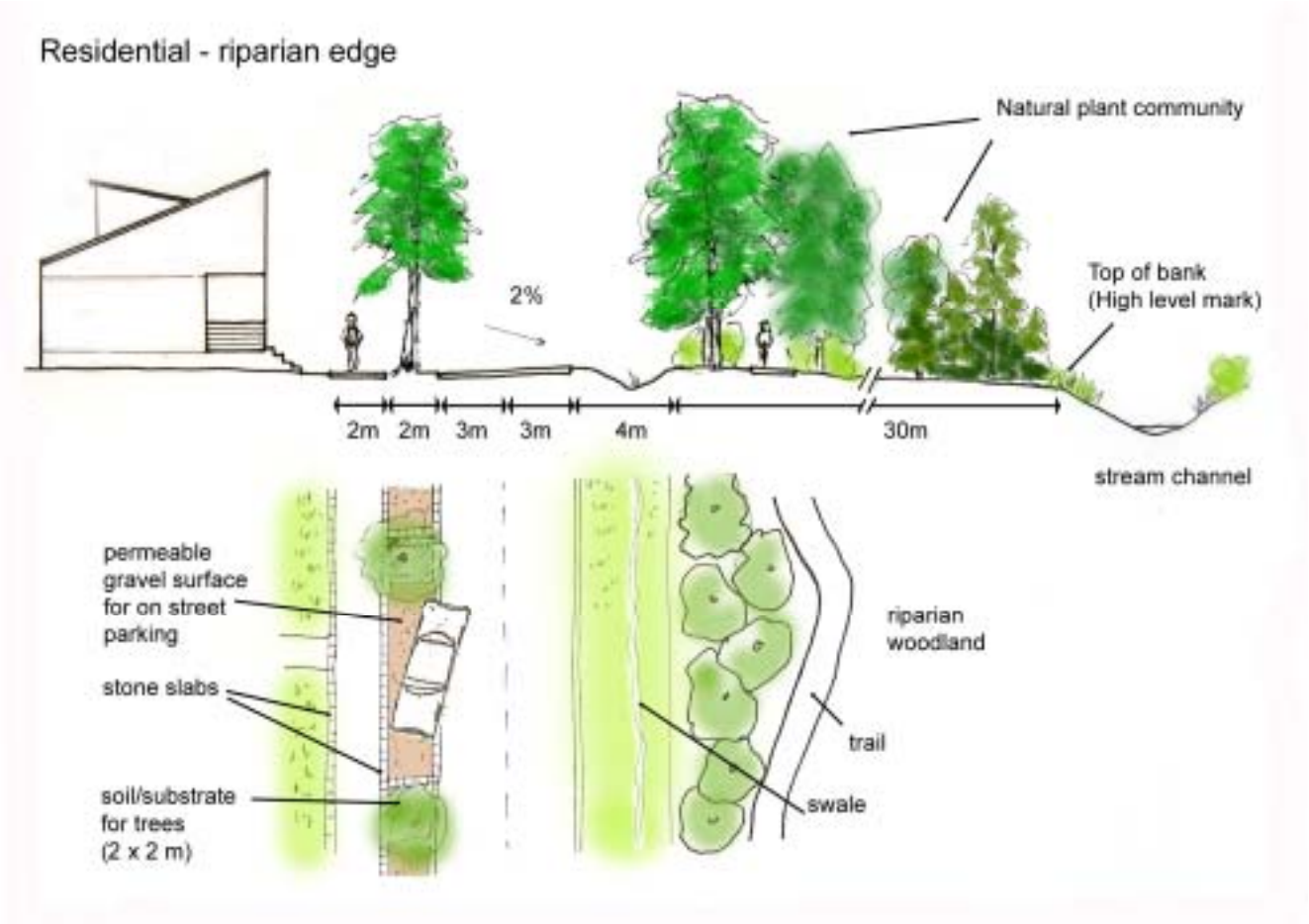
CROSS SECTION OF LOCAL ARTERIAL

The proposed By-Way will act as an alternative arterial for local access in and around Squamish. The roadway fits within the existing street right-of-way which is typically 20 meters. There are two lanes of traffic with a parking shoulder to each side that can accommodate bus stops. The parking lane will be paved with a porous surface to maximize water absorption. These roadways encourage many different modes of transportation. There are bike lanes and pedestrian lanes to either side of the main roadway.



CROSS SECTION OF TROLLY AT DOWNTOWN WATERFRONT

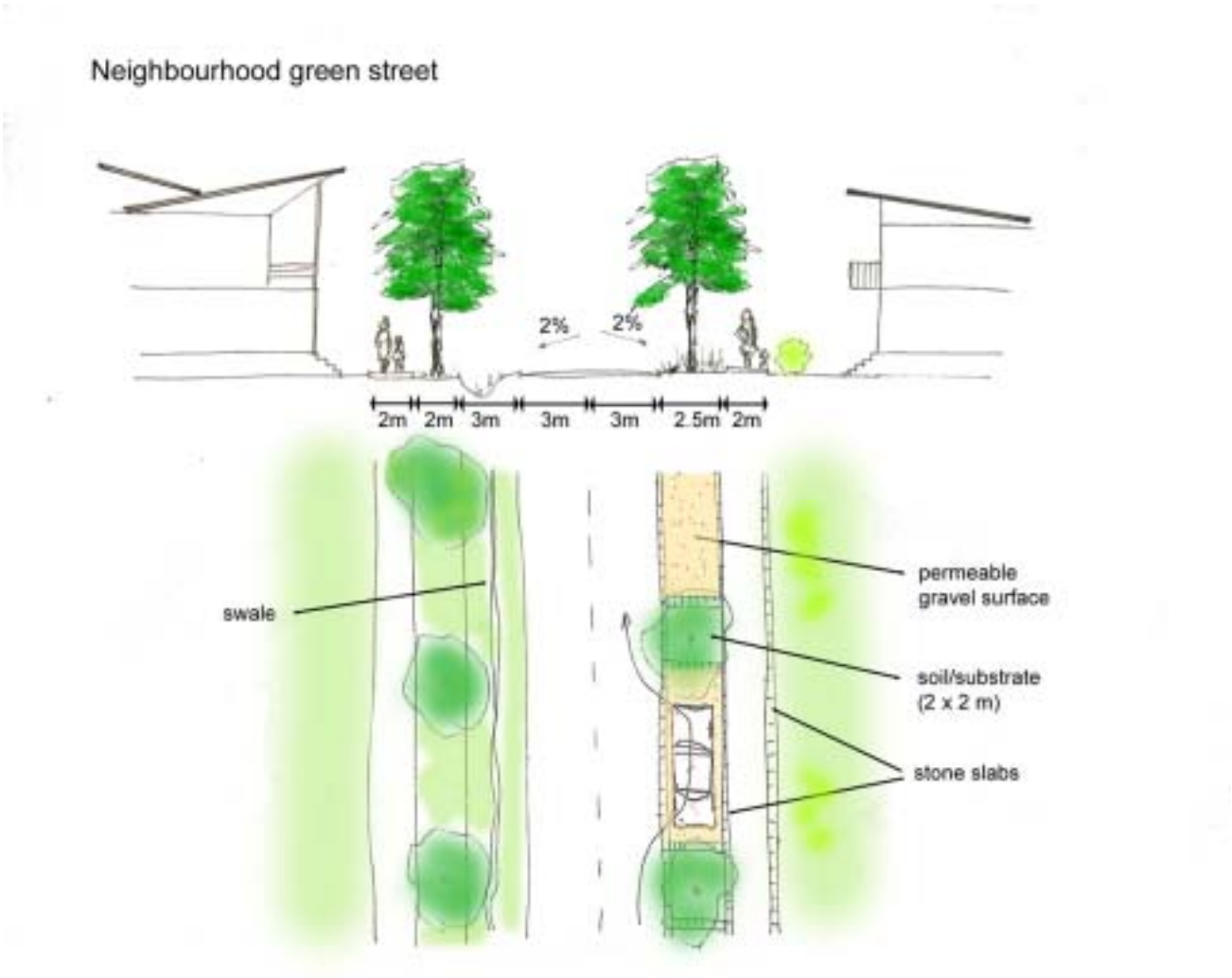
The main through street at the waterfront south of downtown is proposed as two lanes of traffic with parking to either side with trolley tracks running down the center of the street. The trolley lane will act as an alternating turn lane when not in use by the trolley car.



RESIDENTIAL – RIPARIAN EDGE

Along streams and rivers a 30 m riparian buffer from the top of bank of the stream to the right of way of the street is provided.

A natural plant community is allowed to develop in the riparian zone with grasses, shrubs and small trees such as alder and willows near the stream and larger broadleaved and coniferous trees farther away from the stream.

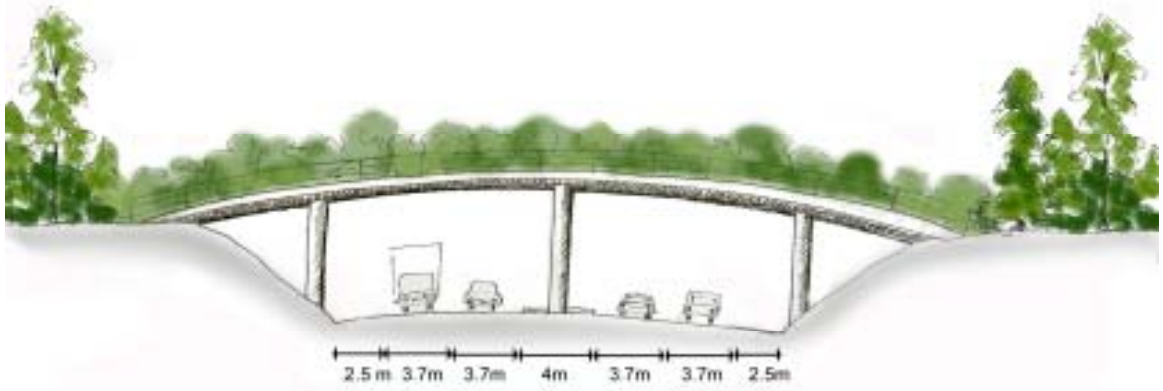


NEIGHBOURHOOD GREEN STREET

Neighbourhood streets are designed with green infrastructure such as swales and permeable gravel surfaces in parking areas.

Stone slabs, which also allow water to infiltrate into the soil, are used as borders between the pavement and the gravel.

Trees on both sides provide shade, shelter and a friendly environment.



WILDLIFE BRIDGE

(North of Brackendale, near Alice Lake Provincial Park)

Located where Alice Lake Provincial Park almost reaches Highway 99, a 25m wide Wildlife Bridge provides a save wildlife corridor to the forest north east of Brackendale and the ecologically important Squamish River area. Fences on both sides of the bridge, and along the highway prevent wildlife from crossing the highway and lead them towards the bridge.