

connecting the inlet  
katy amon

influx masterplan : hastings corridor individual design



# connecting the inlet

katy amon | larc 504 | december 2, 2008

## goal and objectives

## connecting the inlet

### Goal:

The goal of this project is to strengthen North Burnaby's connection to the Burrard inlet.

### Objectives:

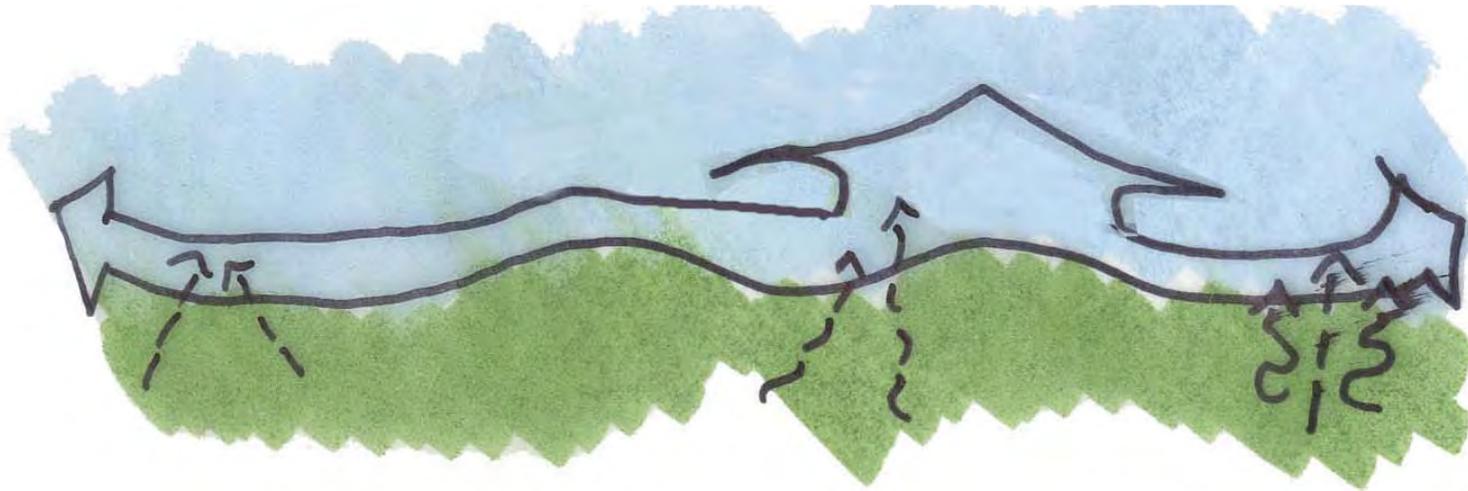
- Respond to site conditions
- Provide public access to the waterfront
- Incorporate inter urban rail as a viable means of transportation
- Incorporate the inter urban trail
- Highlight the phenomenologically rich journey
- Highlight the convergence of natural and human infrastructure
- Knit together multiple modes of transportation between the inlet and the neighbourhood



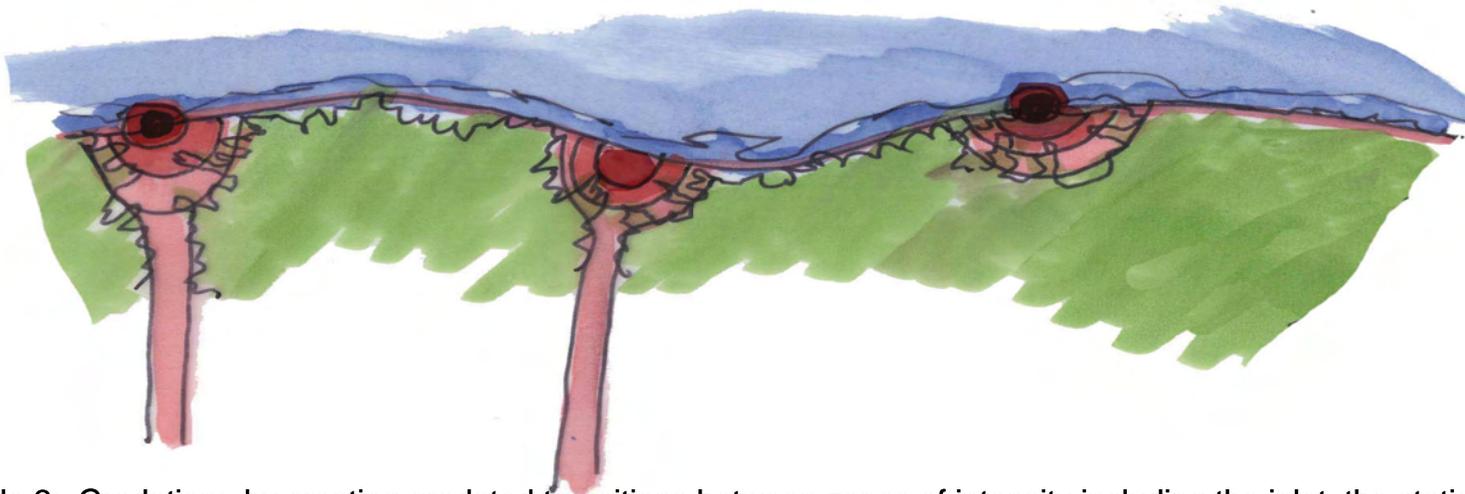
## principles

## connecting the inlet

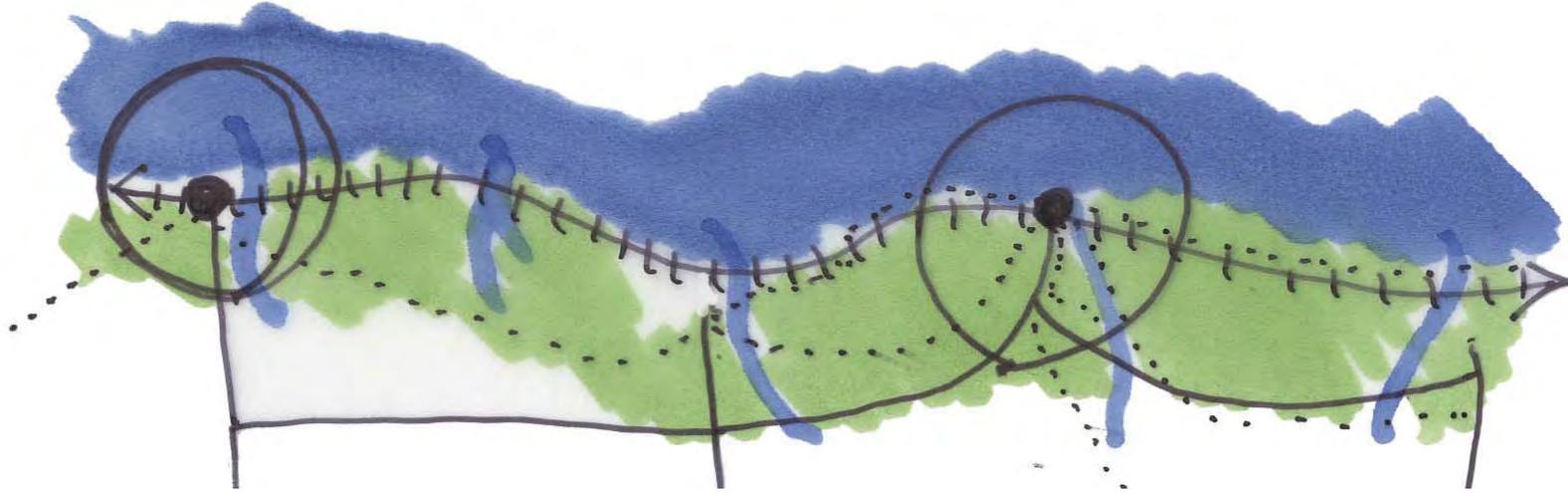
The goal and objectives are supported by five design principles:



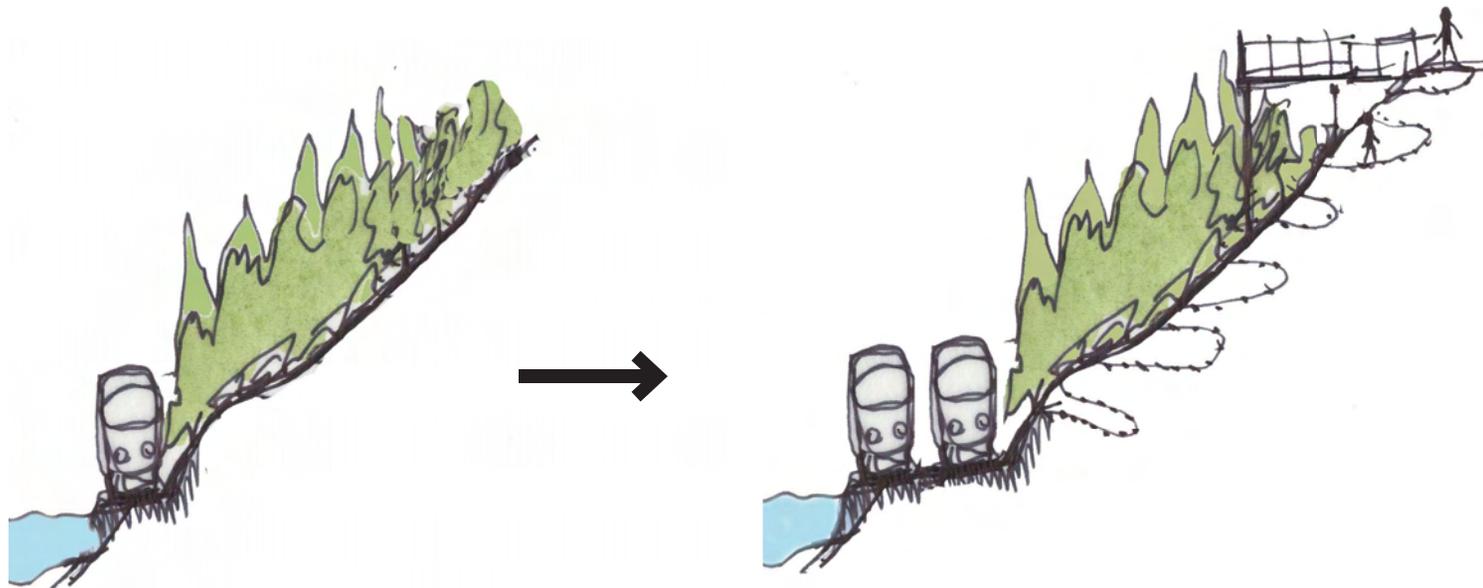
Principle 1: Create new views within and beyond the site by working with sight lines, the tree line, selective pruning and working with topography



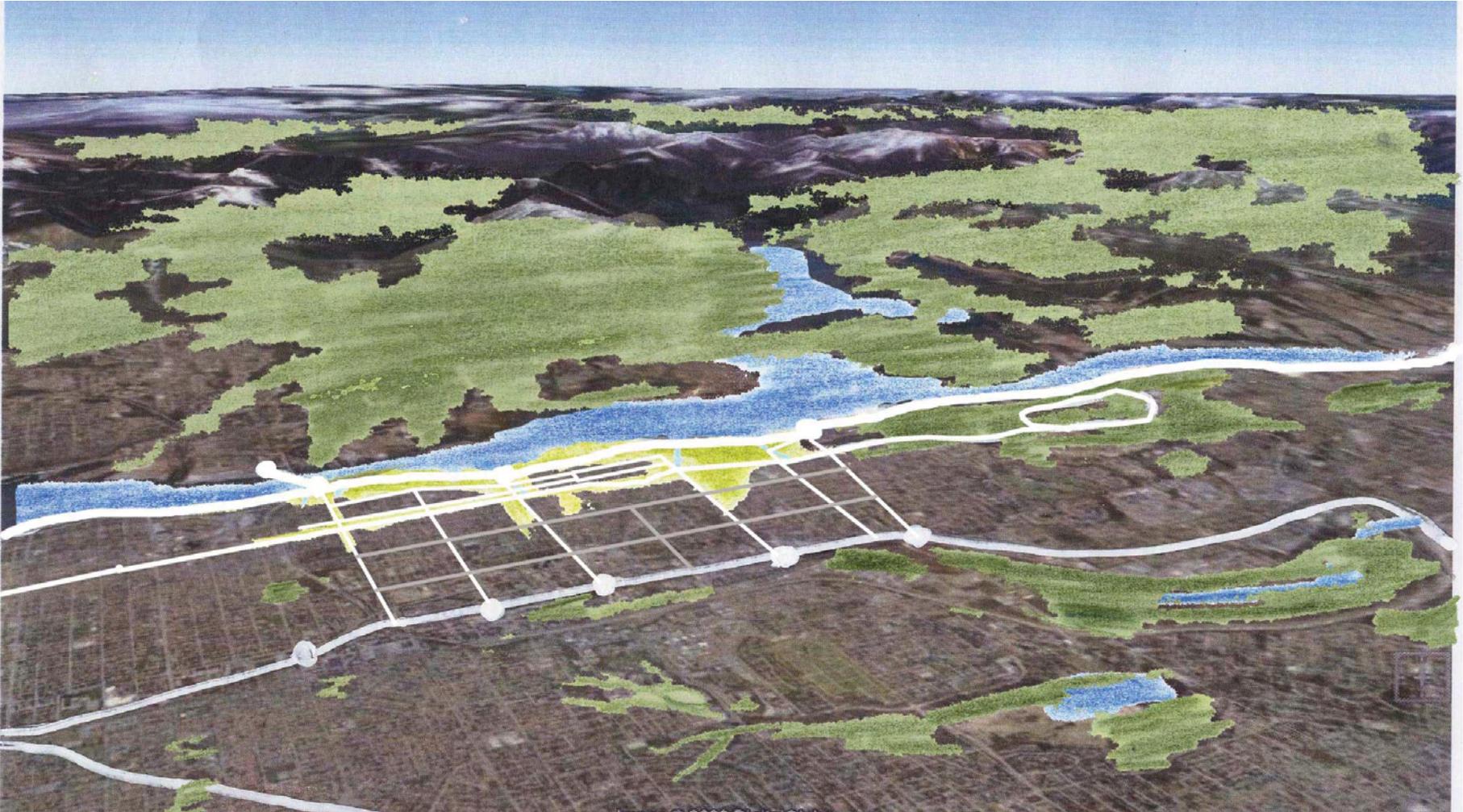
Principle 2: Gradation: by creating gradated transitions between zones of intensity including the inlet, the station and train, green bluff, and into the neighbourhood



Principle 3: Dynamic equilibrium: highlight the convergence between natural and human systems and make infrastructure systems transparent.



Principle 4: Respond to existing topography and vegetation by sensitively grading, pruning and clearing and creating built form that responds to these conditions.



Principle 5: Connect networks for local and regional resiliency by linking water, green infrastructure and transportation into the larger context.



The first phase of individual analysis and design work focused on Burnaby's Burrard Inlet coastline.

Central to Influx's master plan to reduce through traffic on Hastings street, analysis and schematic design were undertaken to determine the feasibility of adding an additional train track to allow for frequent commuter train service, in lieu of the limited West Coast Express service currently offered. Analysis was also undertaken to determine optimal locations for Burnaby commuter rail stations. Analysis included: water depth at the coast line gained from hydrographic maps (Minister of Fisheries and Oceans Canada, 1992); existing trails, roads, slope, land use, and current land ownership which were determined from site visits, gis information and "burnabymap".

The scheme proposes two Burnaby stations - one at the foot of Boundary to capture commuters from the Kootney Loop, Boundary Road and the Cassiar Connector, and the other at the foot of Penzance street. This project is designed with the assumption that in working towards carbon neutrality, the number of refineries worldwide will be significantly reduced, creating a scenario where the Chevron refinery may be reappropriated for other uses.

site: conditions



connecting the inlet



This project explores a more detailed design of the Penzance station, just north of the existing Chevron Refinery, on publicly owned land, in addition to the design of a supporting mixed use development on reappropriated refinery land. This station would be connected to various north south transit connections, including SFU, and three skytrain stations.

## research + precedents

## connecting the inlet



Van Valkenburgh: turtle garden



Van Valkenburgh:  
allegheny riverfront extension



Van Valkenburgh: allegheny riverfront



Van Valkenburgh: fan pier



Design inspiration was drawn from existing site conditions, and a series of design precedents. Key precedents include a number of design projects by Michael Van Valkenburgh. Turtle garden was selected for the effective merging of built form with steep existing topography and natural systems. Allegheny Riverfront and Riverfront Extension were included as case studies of a narrow waterfront space, confined by an expressway, successfully converted to public space. Fan Pier was designed as a mixed use waterfront development with a public pier park and a transportation hub showcasing both natural and industrial waterfront treatments. The conditions embodied by these designs are akin to those in this design project: a narrow waterfront space with areas of both industrial and natural edge treatment, flanked by the train tracks and inlet, and surrounded by steep topography.

## research + precedents

## connecting the inlet



Gustafson: singapore gardens



field operations: toronto riverfront



foa: yokohama port terminal



granville island



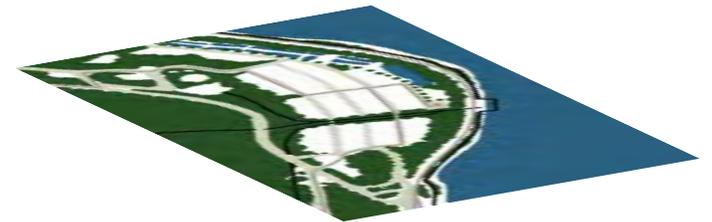
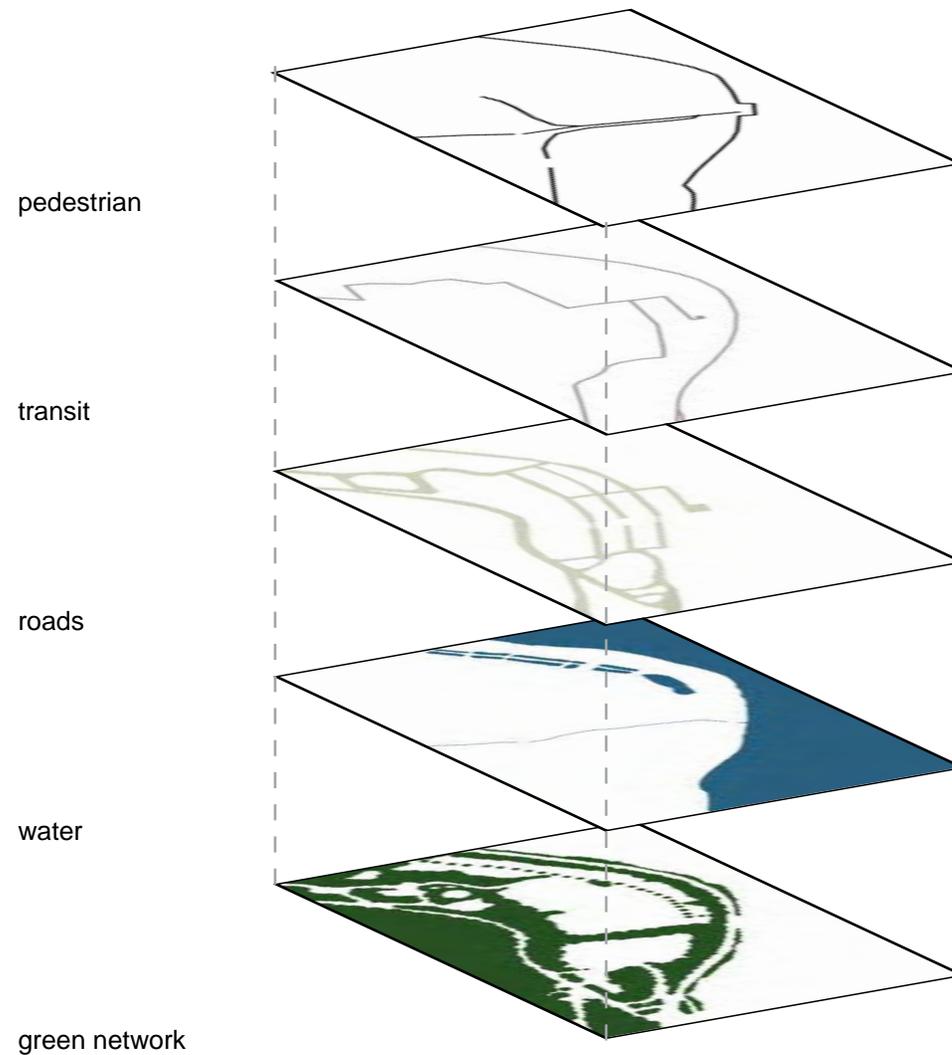
Kathryn Gustafson's design proposal for an upcoming project in Singapore was included for its exploration of the merging of ecosystems and various meshes of paths and activity modes in an urban waterfront setting, while considering the materiality of place in view of the regional landscape (Spens, 2007). The Toronto Riverfront and Yokohama Port terminal are transit stations with well connected waterfront multiuse public space. Finally, Granville Island is used as a local precedent for a waterfront development of modest style, with opportunities for waterfront interaction, and mixed use development with a focus on public space and strong pedestrian presence.



This plan illustrates mixed use development on reappropriated refinery land – featuring educational facilities, live work, residential, arts facilities and high tech industry. The development is adaptively planned as an interconnected biomorphic grid designed to fit within existing topographic restraints and existing vegetation. This is in keeping with the design principles: notably, dynamic equilibrium, responding to existing topography and vegetation, and connecting to larger systems. Gradation – sensitively layering different land uses and intensities, and the creation of views, are applied throughout the design. Key features of the additional train track, commuter station and adjoining development and pedestrian network will be further explored on page 11. Regrading is limited to the restoration of a stream, which currently ends a few metres north of Penzance Street. It will be further explored on page 10. The plan offers various trails intended to enhance the existing interurban trail into a more diverse recreation infrastructure.

## design: systems

## connecting the inlet



This project is heavily based on systems thinking, relating to the application of principles of dynamic equilibrium, transparency of infrastructure and connected systems. Pedestrian, transit, road, water and green networks were designed as connected and connective units, and the points of convergence were highlighted and celebrated, rather than hidden or fragmented.

design: green backbone

connecting the inlet

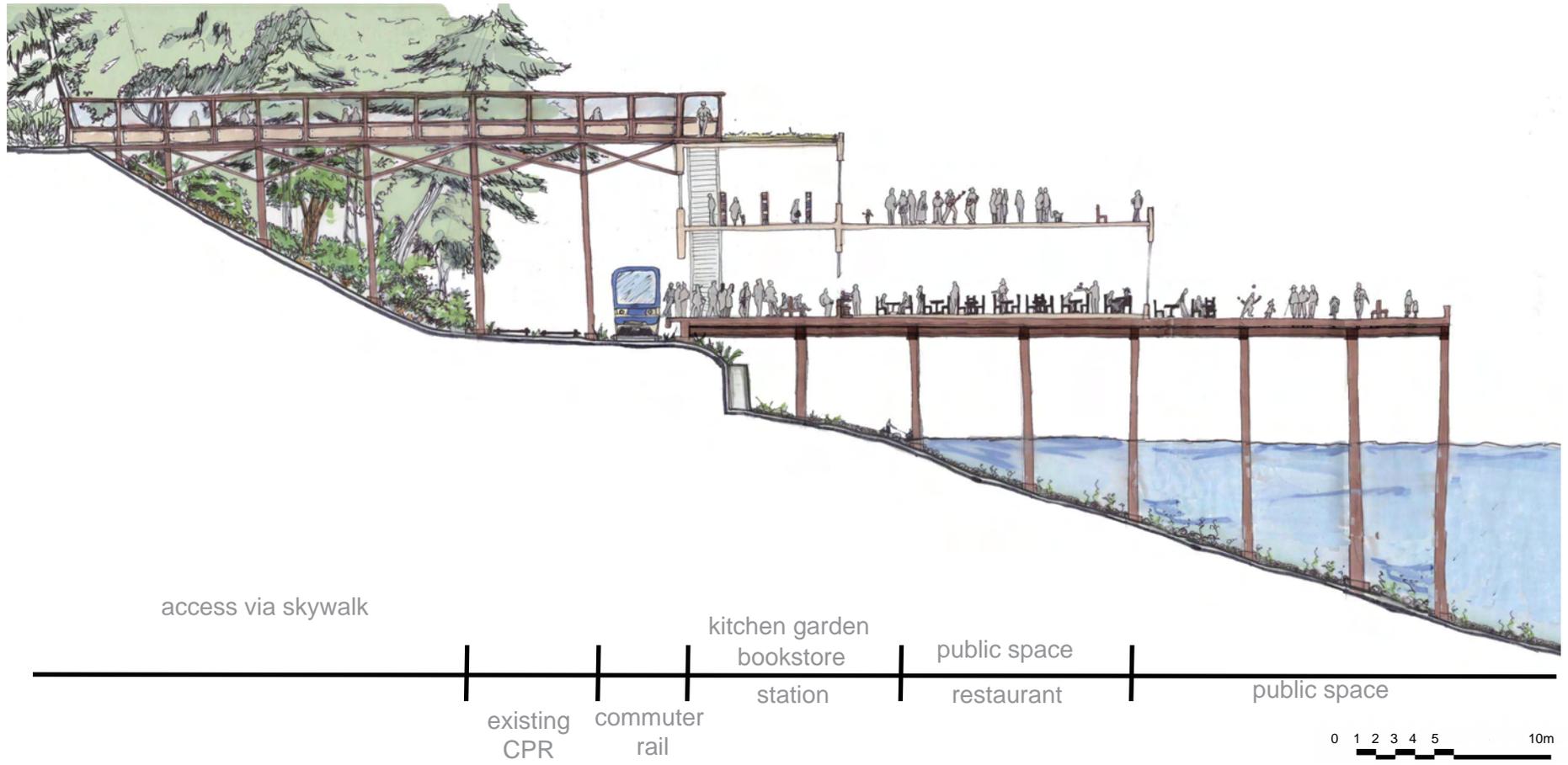


section AA

The restored stream right of way creates a backbone to the community connecting water, vegetation, pedestrians and cyclists to the Burrard inlet, commuter station and wider systems. Automobile access is achieved across, but not along the stream via two single lane bridges. In addition to natural functions, it is designed as a community amenity and recreational link.

# design: waterfront intersection

# connecting the inlet



section BB

The waterfront intersection highlights how a waterfront access point, the addition of an additional train track and a small pier development are achieved through minimal physical disruption to topography, vegetation, or current landscape function. This development features an overhead walkway, bookstore, restaurant, convenience store for mooring boats, and the commuter rail station. Above all, this space offers a significant amount of public space that is not dependent on a consumer mentality.



The boardwalk, stabilized by piles and gabions, is intended to run along various stretches of Burnaby's waterfront, connecting to the existing inter urban trail with periodic crossing points. A buffer is planted between the train tracks and beach walkway, lined by a bench, which shows possible programming and the amazing view of Indian arm and Burnaby mountain.



Taking a step back, this redeveloped brownfield site offers a number of uses, many of which are public. These include alternative transit, recreational opportunities of hiking, walking and biking, kayak rental, boat mooring, and general beach activities. The design unobtrusively offers space for the bridging of natural and cultural activities and infrastructure, within a forest environment, offering the people of Burnaby an important amenity. The siting of the commuter rail opens up the opportunity for a phenomenologically rich journey showcasing natural, post industrial and industrial waterfront landscapes, and an alternative to sitting in auto traffic on Hastings street.

Americans with Disabilities Act retrieved from: <http://www.ada.gov/>  
City of Burnaby retrieved from: <http://www.city.burnaby.bc.ca/burnabymap.html>  
Dines, N. & C. Harris (1997) "Time Saver Standards for Landscape Architecture: 2nd edition" McGraw-Hill Professional IMBA  
(2004) "Trail Solutions" Boulder, CO: International Mountain Biking Association.  
Field Operations et al (2007) "Concept Plan Presentation 1/17/07: lake ontario park"  
Foreign Office Architects retrieved from [http://www.arcspace.com/architects/foreign\\_office/yokohama/yokohama\\_index.htm](http://www.arcspace.com/architects/foreign_office/yokohama/yokohama_index.htm) November 5, 2008.  
Intergovernmental Panel on Climate Change (2001) "IPCC Third Assessment Report"  
Minister of Fisheries and Oceans Canada (1992) Burrard Inlet: Vancouver Harbour hydrographic map.  
Spens, M. (2007) "Deep Explorations Into Site/Non-Site: The Work of Gustafson Porter" in Architectural Design 77 (2), Pages 66 - 75  
Michael Van Valkenburgh projects retrieved from: <http://www.mvvainc.com/index.php#/PROJECTS/> October 30, 2008.

### Images:

<http://www.drclue.com/images/huntPhotos/vancouverGranvilleIsland.jpg> (retrieved November 28, 2008)  
<http://www.mvvainc.com/index.php#/PROJECTS/> (Retrieved October 30, 2008.)  
[http://www.arcspace.com/architects/foreign\\_office/yokohama/yokohama\\_index.htm](http://www.arcspace.com/architects/foreign_office/yokohama/yokohama_index.htm) (Retrieved November 5, 2008)  
Field Operations et al (2007) "Concept Plan Presentation 1/17/07: lake ontario park"  
Spens, M. (2007) "Deep Explorations Into Site/Non-Site: The Work of Gustafson Porter" in Architectural Design 77 (2), Pages 66 - 75