

# Sustainability Street

## Design Brief



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# introduction

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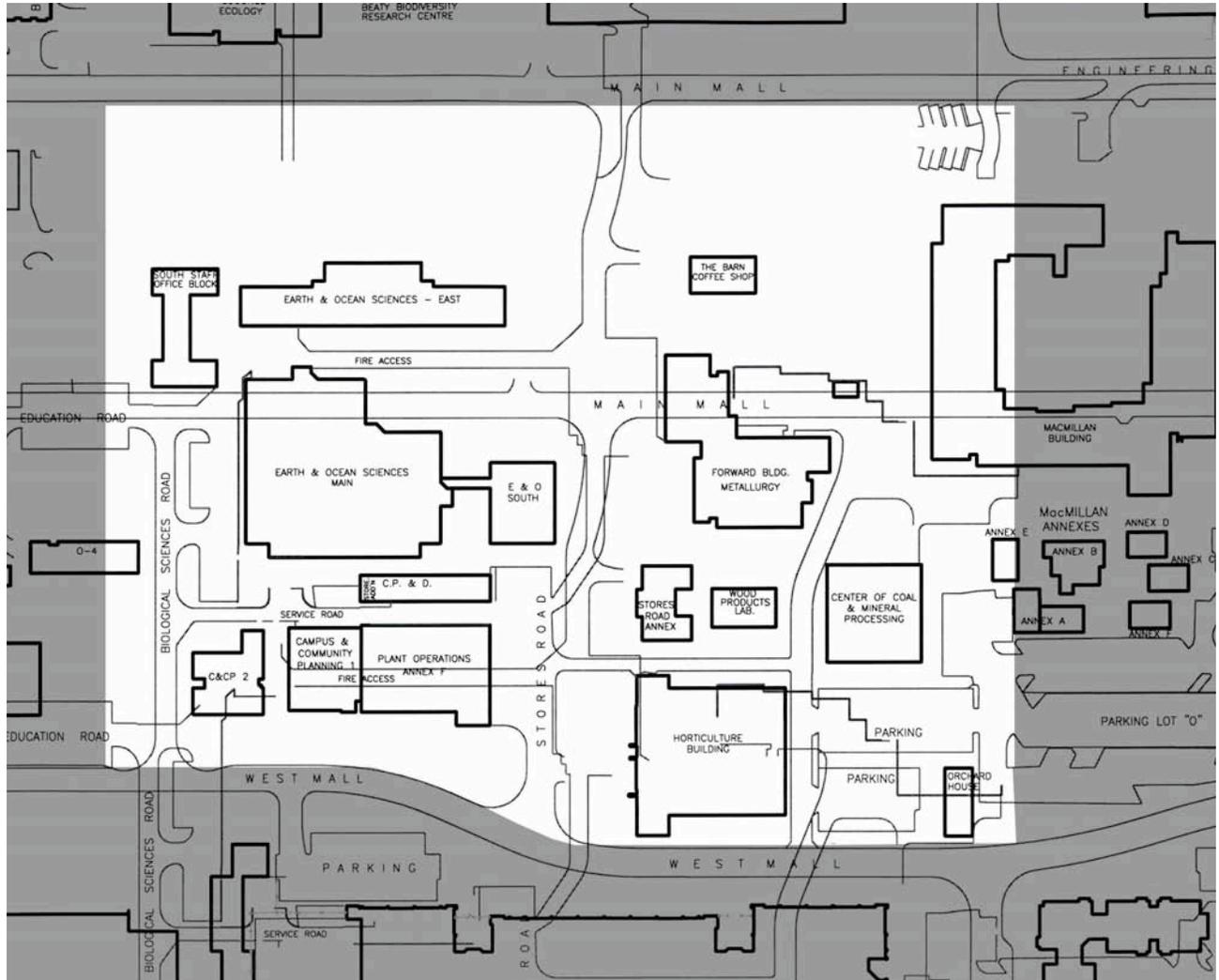
The Sustainability Street project was initiated with the aspiration of creating a unique and inspiring on-the-ground demonstration of sustainable design at UBC. With a view to other green street designs, such as the City of Vancouver's Crown Street, this project was seen as an opportunity to push the limits of innovation and provide a showcase of sustainability to the UBC community, the city, and beyond.

In early May, 2005, the process was launched with a Vision Workshop attended by more than twenty stakeholders in which a myriad of possibilities for Sustainability Street were discussed and documented. A follow up session was held at the end of May in which additional stakeholders were invited into the process.

This Design Brief provides a set of instructions used to guide the charrette participants. These instructions were crafted in response to input from the Sustainability Street workshops on May 13<sup>th</sup>, 2005 and May 27<sup>th</sup>, 2005.

A variety of policy and research documents also provided essential input to the Design Brief. Combined with best management practices for sustainable development, this information was synthesized with the community input to craft instructions for the charrette team that are reflective of both local and broad contexts.

# study area map



**Buildings within site boundary**

Campus and Community Planning 1  
 Campus and Community Planning 2  
 Stores Road Annex (Linguistics)  
 Campus Planning & Development  
 Centre of Coal & Mineral Processing  
 Earth and Ocean Sciences Main  
 Earth and Ocean Sciences South  
 Earth and Ocean Sciences East  
 Plant Operations

South Staff Office Block  
 Horticulture (incl. Greenhouses)  
 Wood Products Lab  
 Orchard House  
 University Services  
 MacMillan (Food and Land Systems)  
 Forward (Metallurgy)  
 The Barn Coffee Shop

# vision statement

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The vision for Sustainability Street is:

- A fun place that attracts people from the campus and beyond to congregate, meet, converse, work, play, and express themselves
- A place of lifelong learning that serves as an outdoor classroom and learning lab, and that showcases a wide array of innovations in sustainable practices and technologies
- A natural and healthy place that contributes to the natural riches of the UBC lands by providing a diversity of habitat for plants, birds, and insects
- A place that is different, inspiring, and beautiful

## historical information (natural and cultural)

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The pre-colonial natural history of the study site suggests that the area was likely heavily wooded with primarily coniferous vegetation, and gently sloping towards the ocean. While no large streams are evident in the immediate vicinity, the terrain suggests the possibility that ephemeral watercourses may have once directed water in a north-west pattern across the site and towards the ocean.

The settlement history of the site was likely limited in terms of pre-colonial populations. While the north-west coast aboriginal populations in the vicinity likely fished the waters surrounding Point Grey, inclement conditions at water's edge were not amenable to permanent settlement. The largest settlement near to the site of the current UBC Lands was located to the south – proximate to the current Musqueam reserve lands at a place known as Qipulexen.

The development of the UBC University Lands was enabled through a process that included initial treaty negotiations with local First Nations groups in the late 18<sup>th</sup> and 19<sup>th</sup> centuries and the eventual designation of the lands as government reserve in 1862. The exact site of the campus was chosen in 1910 and land was cleared and building began in the decade that followed.

The current iteration of Stores Road appears to have come after the construction of several buildings relating to campus maintenance and services, when it became an access point for distribution of supplies to academic and service buildings. Older buildings in the vicinity include the current Plant Operations Annex "C" which has been known as the "paint shop" and was constructed in 1940 and once used by the Department of Physical Plant. Other long term buildings include the Campus Planning and Development offices (1948, 1952), Horticulture Building (1948) and the Geophysics and Astronomy Building (1950).

# ubc planning principles

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The following planning principles from UBC's "A Legacy and a Promise" principle paper provide a set of guiding rules that can be used as a basis for design.

## **UBC: A Complete Community**

PRINCIPLE 1: The University Lands: As One

PRINCIPLE 2: The Community: Vibrant and Ever Changing

## **UBC: A Unique Place**

PRINCIPLE 3: The Experience: A Place to Remember

## **UBC: A Regional and Global Leader**

PRINCIPLE 4: The Environment: Incredible Riches

PRINCIPLE 5: The Endowment: A Legacy Retained

PRINCIPLE 6: The Community: Vibrant and Ever Changing

PRINCIPLE 7: The Opportunity: Global Leadership in a Changing World

PRINCIPLE 8: The Process: Open and Integrated

The design of Sustainability Street should achieve the following economic goals:

- EC 1 Limit construction costs by using recycled, recovered and reclaimed materials
- EC 2 Make Sustainability Street a resource-exchange place for campus community
- EC 3 Design Sustainability Street as a centre for production and contribution to the local economy (e.g. urban agriculture, plant sale, partner with UBC Farm)
- EC 4 Achieve sewerage cost savings by treatment on site
- EC 5 Explore options to reduce or eliminate the need for irrigation, pesticides and chemical fertilizers
- EC 6 Develop strategies that will ensure greater success in obtaining federal funding for on the ground research and education

The design of Sustainability Street should achieve the following social goals:

- S 1 Improve the connectivity of paths between buildings, key points and amenities within the area
- S 2 Provide small-scale pedestrian connections
- S 3 Create opportunities for bicycle use and other non-vehicular modes of transport
- S 4 Create an interconnected network of social spaces that clearly communicates opportunities for interaction, relaxation, contemplation, recreation, study, and eating
- S 5 Provide a variety of flexible spaces for community gathering at all hours
- S 6 Provide learning opportunities about our First Nations culture and history
- S 7 Incorporate strategies for research-based and experiential learning
- S 8 Provide areas that accommodate the teaching and research objectives of the various faculties, and for professional, inter-professional and interdisciplinary education
- S 9 Express the activities of the various faculties in the landscape
- S 10 Create a universally accessible (including intellectually accessible) place

The design of Sustainability Street should achieve the following environmental goals:

- EN 1 Improve access to transit stops (community shuttle), transit frequency and hours of service
- EN 2 Provide connectivity to other green spaces
- EN 3 Allow for natural hydrological functioning of the landscape
- EN 4 Provide opportunities for the capturing, treatment and reuse of waste waters
- EN 5 Incorporate alternative technologies for buildings and infrastructure including the use of energy from clean and renewable sources
- EN 6 Reduce the land area used for road, lane, loading and parking surfaces
- EN 7 Provide additional green space and canopy cover to maximize infiltration and evapotranspiration rates at the site
- EN 8 Provide the necessary conditions for a range of plant, bird and insect habitat
- EN 9 Use materials with low embodied energy (requires life cycle analyses)
- EN 10 Reduce light pollution
- EN 11 Optimize synergies between adjacent activities/buildings/uses/waste re-use

# team instructions

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Charrette participants will initially be divided into three groups, **Social, Economic** and **Environmental**, and will spend the first part of the day discussing strategies specific to these aspects of sustainability. Following this work, these original teams will be dissolved and four new working teams will be formed to address particular site functions and activities. Each of these new working teams will be responsible for exploring a particular set of goals related to their team's focus (below). The breakdown of teams and goals for the latter part of the Charrette is as follows:

<b>TEAMS</b>	<b>GOALS</b>
Infrastructure & Utilities	EC1, EC4, EN4, EN5, EN10, EN11
Urban Form	EC1, S1, S2, S3, S4, S5, S7, S8, S9, S10, EN1, EN2, EN6, EN9
Ecological	EC5, S7, S8, EN3, EN4, EN7, EN8
Activities & Programs	EC2, EC3, EC6, S3, S6, S7, S8, EN11

## appendix - documents (regulatory / policy)

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UBC Physical Planning Principles (1999 - active)

([http://www.planning.ubc.ca/corebus/pdfs/pdf-landuse/Planning\\_Principles.pdf](http://www.planning.ubc.ca/corebus/pdfs/pdf-landuse/Planning_Principles.pdf))

UBC Trek 2010 – Green Paper

UBC Official Community Plan (2003) ([http://www.planning.ubc.ca/corebus/pdfs/pdf-landuse/OCP\\_UBC\\_Jan03.pdf](http://www.planning.ubc.ca/corebus/pdfs/pdf-landuse/OCP_UBC_Jan03.pdf))

UBC Landscape Plan (<http://www.uala.ubc.ca/urbdesign.html>)

UBC Policy on Sustainable Development (Policy#5)

<http://www.universitycounsel.ubc.ca/policies/policy5.pdf>

UBC Policy on Environmental Compliance (Policy#6)

<http://www.universitycounsel.ubc.ca/policies/policy6.pdf>

UBC Policy on Safety (Policy#7)

<http://www.universitycounsel.ubc.ca/policies/policy7.pdf>

UBC Strategic Transportation Plan ([http://www.planning.ubc.ca/corebus/pdfs/pdf-landuse/STP\\_Draft\\_13May05.pdf](http://www.planning.ubc.ca/corebus/pdfs/pdf-landuse/STP_Draft_13May05.pdf))

UBC Signage goals (<http://www.planning.ubc.ca/corebus/signage.html>)

UBC Accessibility Targets (<http://www.planning.ubc.ca/corebus/access.html>)

GVRD Liveable Region Strategic Plan (1999) (<http://www.gvrd.bc.ca/growth/lrsp.htm>)

GVRD Stormwater Management Plan (1999)

([http://www.gvrd.bc.ca/sewerage/stormwater\\_reports\\_1997\\_2002/lwmp\\_storm\\_mgmtplan/vol6.pdf](http://www.gvrd.bc.ca/sewerage/stormwater_reports_1997_2002/lwmp_storm_mgmtplan/vol6.pdf))

Weather, Climate and the Future: B.C.'s Plan (Dec. 2004)

([http://wlapwww.gov.bc.ca/air/climate/cc\\_plan/pdfs/bc\\_climatechange\\_plan.pdf](http://wlapwww.gov.bc.ca/air/climate/cc_plan/pdfs/bc_climatechange_plan.pdf))