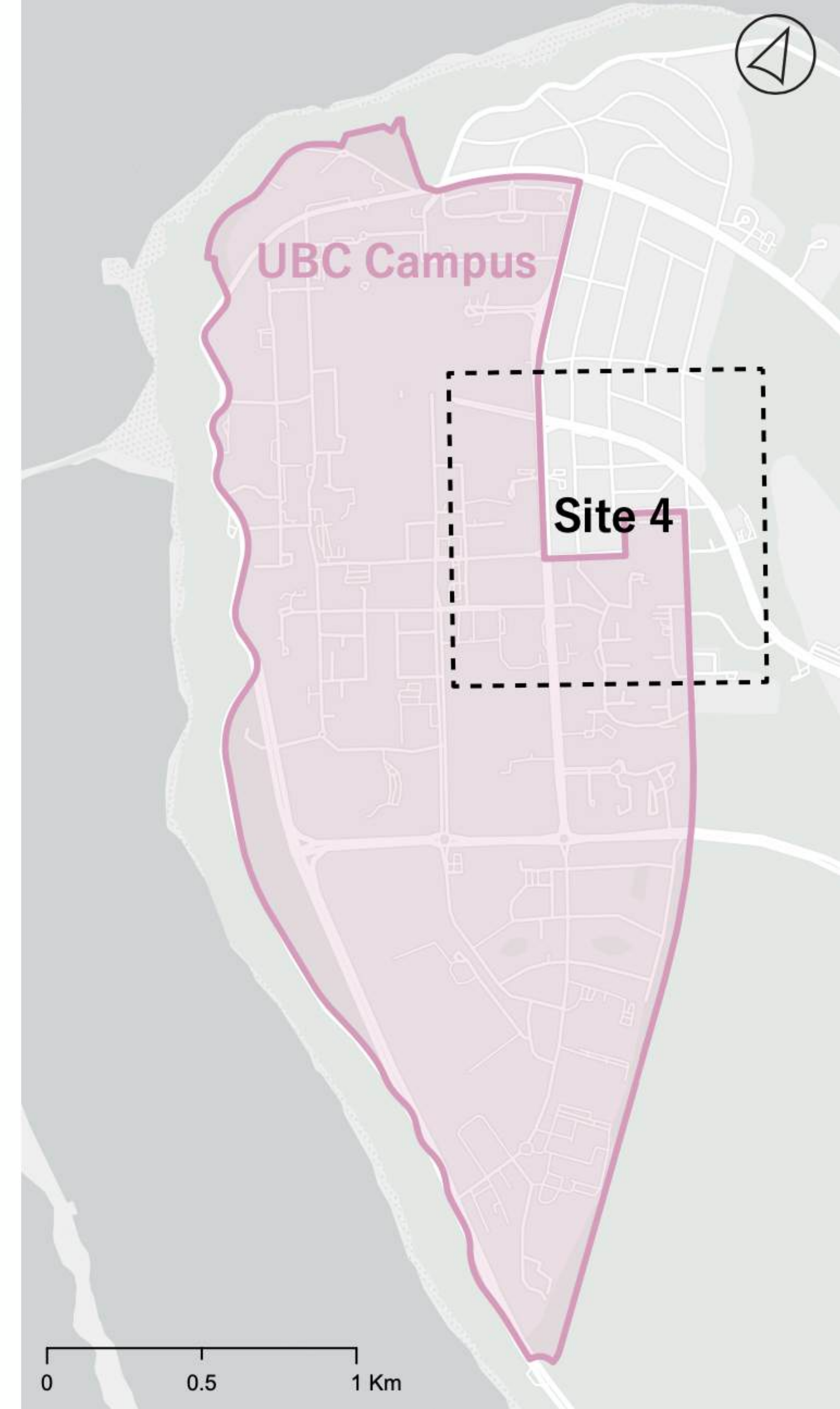


Green Network Planning

LARC 444 - Green Network Planning

Implementing Propositions Through Design - Zoom Study of Site 4

Megan Ekin



1 Previous Proposals

Connectivity

Connect Greenspaces Together

The great forest of Pacific Spirit Park is located to the east of the study site. By extending the forest to the west and into campus, ecological connectivity can be supported. Increasing the protected bike lane network and introducing a diagonal greenway across the site was proposed to connect over 50% of the site’s greenspaces. As the bike lane network is already extensive, we proposed to add 3.2km of new protected bike lanes focused on busy streets.

Biodiversity

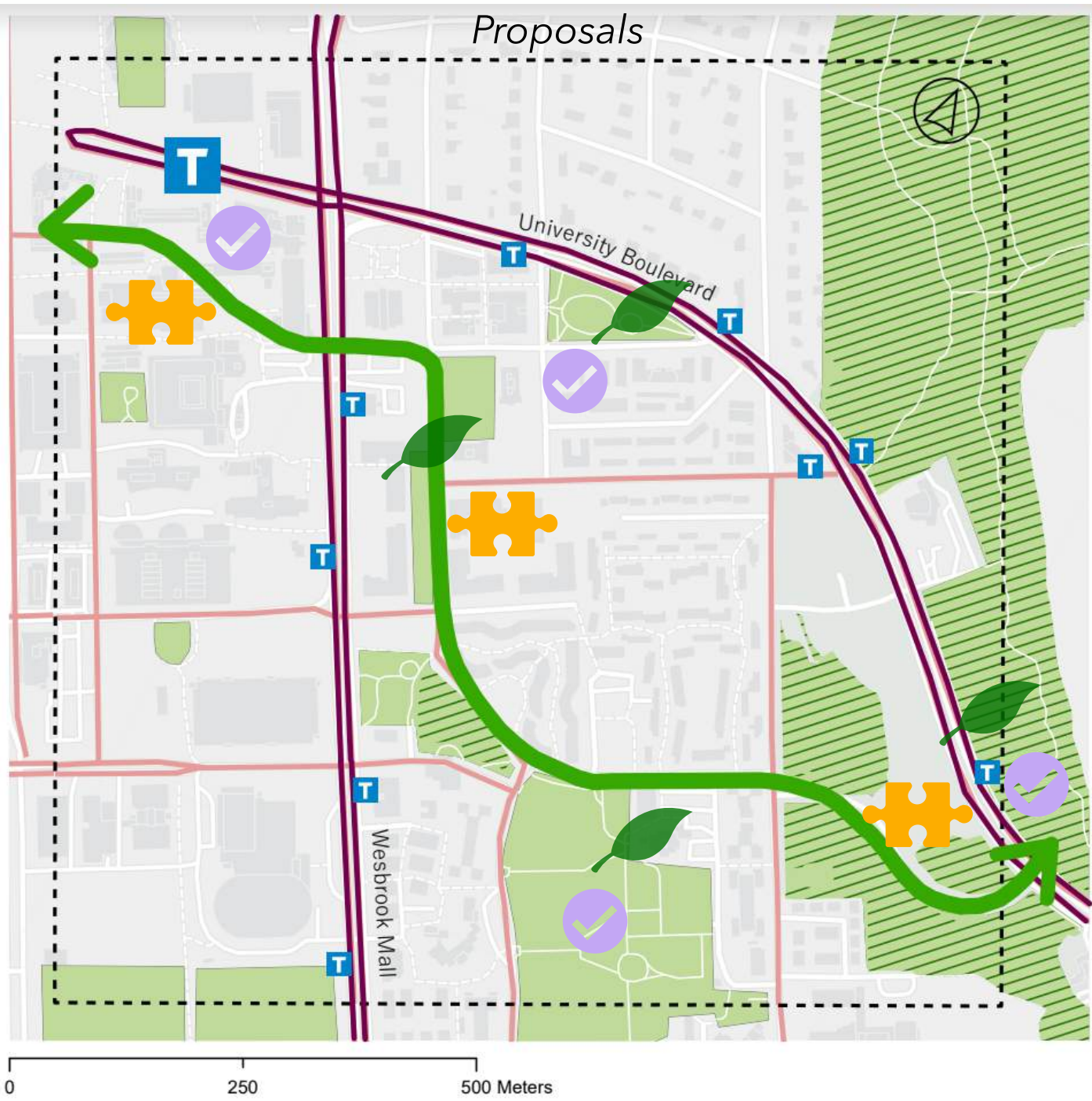
Restore Native Habitat

The study area is composed of sensitive ecosystem areas, all of forest composition. However, the quality is relatively low (ranking under 3 on a 5 point scale). To address this, increasing the diversity of native, pollinator, and habitat species within these existing greenspaces was suggested. Connecting fragmented habitat and diversifying habitat type was proposed to facilitate biodiversity; we propose this connectivity along the diagonal greenway.

Inclusivity

Create Greenspaces for Everyone

It is important to recognize and adapt to a wide rage of accessibility needs and abilities when designing spaces. One can enhance existing facilities with amenities which appeal to a wide range of recreational interests such as benches, walking trails, and playgrounds. We previously suggested to focus these amenities in Jim Everett Memorial Park and Acadia Neighbourhood Park. We proposed to also improve upon previous infrastructure such as upgrading bike lanes to be AAA friendly.



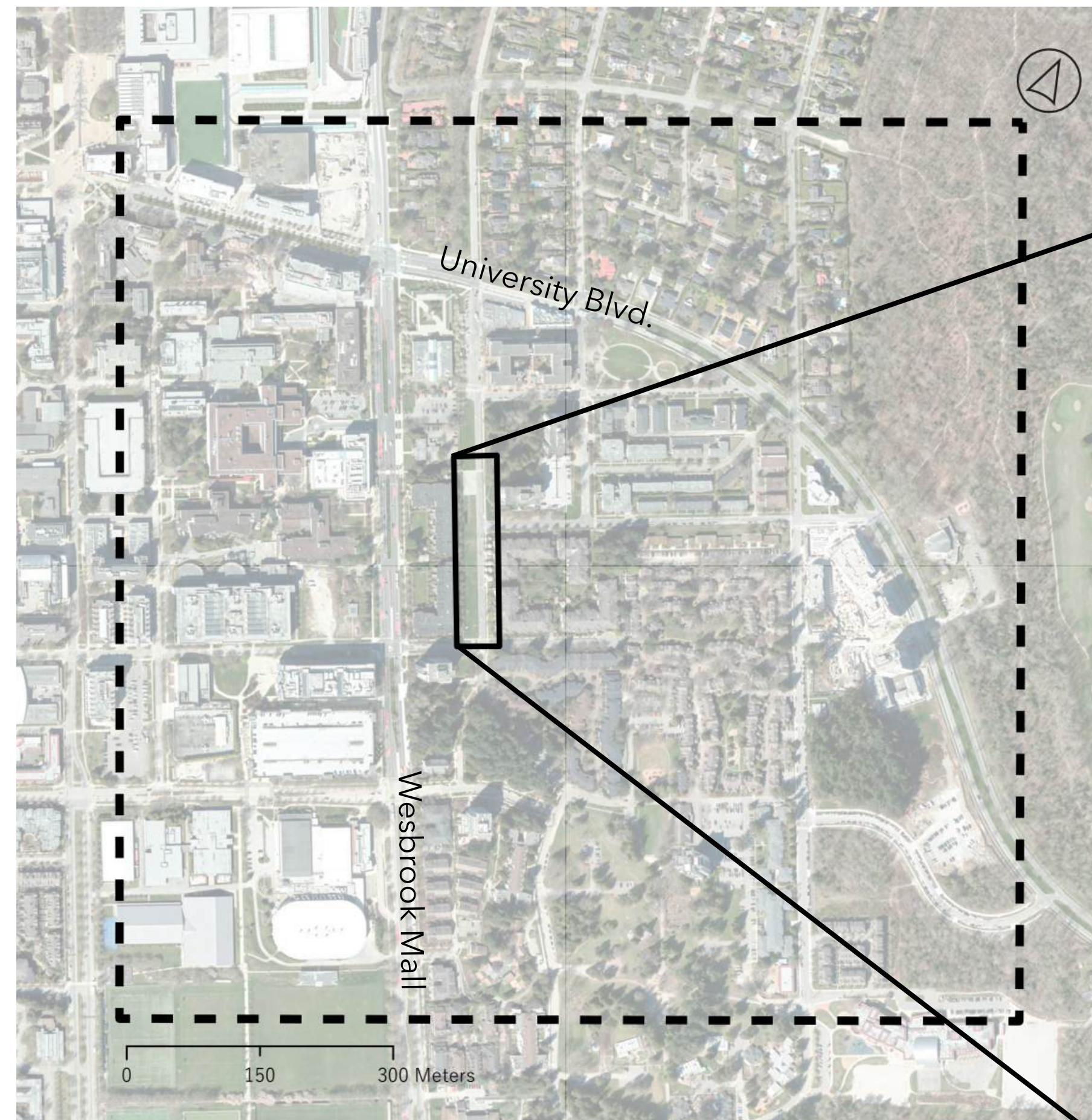
-  Transit Stops
-  Painted Bike Lanes
-  Protected Bike Lanes
-  Potential Greenway
-  Sensitive Forest Ecosystems
-  Greenspace
-  Study Area

2 Zoom Site

The Zoom Study Site is located within Site 4 along Western Parkway on the north eastern boundary of UBC campus. The UEL Community Garden is part of this site. There are few street trees (only located on the eastern site of Western Pkwy.) and the site contains a large linear lawn with no additional plantings. There is one-way street parking for permit holders (northward) mixed with no street parking on the roadway. Moreover, there is no protected or painted bike lane. The building surrounding the site are all residential.

Notably, this site is located where a new Greenway was previously proposed in efforts to enhance biodiversity, inclusivity, and connectivity.

A



Community Garden

No Street Parking
on Western Pkwy.

Lawn

Residential Buildings

A

0 15 30 Meters



3 Precedent Studies

1



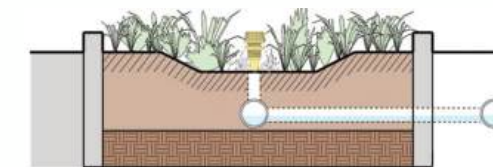
Indianapolis Cultural Trail, Indiana USA
Permeable Pavement

Decreasing the amount of impervious surface cover through the use of permeable pavement materials allows water to infiltrate through streets and sidewalks, reducing runoff.

2



Indianapolis Cultural Trail, Indiana USA
Bioswales



Bioswales planted with specifically chosen, drought-tolerant, native plant species enable stormwater to drain into the ground. They reduce runoff, flow rate, volume and pollutants and recharge the groundwater.

3



UBC Farm, Vancouver BC
xʷcičəsəm Garden (Musqueam Garden)

The garden aims to serve educational and research needs related to Indigenous knowledge and its intersections with other ways of knowing. It includes over 60 medicinal plants native to British Columbia.

4



Olympic Village, Vancouver BC
Soil Cells

By placing soil cells below sidewalks, bike lanes, and roads, they provide extra space for trees to develop larger root networks and mature into the full size they would reach in their natural setting. They also allow rainwater to infiltrate into the ground or be collected and used later by the tree.

5



Esplanade Avenue, North Vancouver BC
AAA Bike Network

The City of North Vancouver has developed an All Ages and Abilities bicycle network plan. The aim of the network is to provide an interconnecting system of bicycle facilities which appeal to all users, including children and seniors.

6



120 Cedargrove Road, Bolton Ontario
Rainwater Garden

Including more rain gardens in urban infrastructure projects can help offset the obstructions that impervious cover (such as concrete, roads, or buildings) create in the natural water cycle. Rain gardens can help in stabilizing the underground water table.

4 Zoom Site Proposals

As adding new greenspace is proven to be difficult, these propositions try to use *the existing space* of the site with goals to enhance the connectivity, biodiversity and inclusivity. Design examples from the precedent studies are utilized in this proposal.

Connectivity

First, I propose to create a protected bike lane along Western Pkwy. This zoom site is part of the larger horizontal greenway (previously discussed) and this protected bike lane would be part of this larger proposition. Additionally, Western Pkwy. leads to residential areas, and as street parking is limited (only with permit), traffic patterns could be changed to include this protected bike lane, making it a one-way street. I would also propose to add trees, plants, and a pathway through the current lawn space; both increasing walkability (as there is no sidewalk on that side of the road) and connectivity through the space.

Biodiversity

To promote biodiversity, I would propose adding more trees, native plants (including pollinator species) to the site; notably along the lawn space. I suggest adding a diversity of species to promote resiliency and strength to the ecosystem. To further support these trees and plants, I would suggest adding rainwater infrastructure such as a bioswale bike lane median, permeable pavement (bike lane), and soil cells for trees. This would aid in water drainage and provide biota with a healthy habitat to thrive. Adding a rain garden within the existing community garden would be a good way to promote water drainage in the area.

Inclusivity

In addition to pollinator and native species, I propose planting culturally significant plants to the Indigenous communities in this area. Using examples from UBC Farm, adding native plants along with informational signs, the space can become a place for learning and knowledge exchange. Moreover, ensuring the bike lane is AAA, adding benches, and a walking path also promotes the inclusivity of the space. This space has the potential to be a greenspace for everyone to enjoy!



Example sketch rendering of proposals



Proposed cross section diagram along Western Parkway (Streetmix)



References

Precedent Studies:

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- 3** University of British Columbia. (n.d.). *Xw'ci'cəsəm Garden*. xw'ci'cəsəm: Indigenous Health Research and Education Garden at UBC Farm. <https://lfs-iherg.sites.olt.ubc.ca/the-garden>
- 4** The City of Vancouver. (n.d.). *Rainwater Management in Olympic Village*. Rain City Strategy. <https://vancouver.ca/files/cov/olympic-village-brochure.pdf>
- 5** Todd, D. (2021, July 6). *A complete guide to building and maintaining a rain garden: TRCA*. Toronto and Region Conservation Authority (TRCA). <https://trca.ca/news/complete-guide-building-maintaining-rain-garden/>
- 6** *All ages & abilities (AAA) Bicycle Network*. City of North Vancouver. (n.d.). <https://www.cnv.org/Streets-Transportation/Travel-Options/Cycling/AAA-Bicycle-Network>

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- Ink, S. (2016, October 5). *Bioswales*. National Association of City Transportation Officials. <https://nacto.org/publication/urban-street-design-guide/street-design-elements/stormwater-management/bioswales/>

