

## Summer 2021 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Initiative (USI) is pleased to offer current UBC graduate students the opportunity to work on funded sustainability internship projects. Successful candidates work under the mentorship of a partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region.

- Visit the [Sustainability Scholars Program website](#) to learn [how the program works](#) and to [apply](#).
- Be sure to review the [application guide](#) to confirm your eligibility before applying.

**Applications close at midnight on Sunday January 31, 2021.**

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### **Project Title:**

Green Rainwater Infrastructure Assets Inventory for Private Sites and Civic Facilities

### **Project description:**

The purpose of this project is to provide a better understanding and visualization of the City of Vancouver's catalogue of green rainwater infrastructure (GRI) assets on private sites and civic facilities. GRI is an emerging field and approach to rainwater management that uses both engineered and ecosystem-based practices to protect, restore and mimic the natural water cycle. It uses soils, plants, trees and built structures such as resilient roofs (blue, blue-green and green roofs), swales, rainwater tree trenches and rain gardens to capture, store and clean rainwater before being absorbed in the ground or returning it to our waterways and atmosphere. GRI can also include harvesting and reuse systems that utilize non-potable water uses for onsite irrigation and/or toilet flushing purposes.

This work will be in support of the recently enacted *Rain City Strategy*, a document that reimagines and transforms how Vancouver manages rainwater with the goals of improving water quality, resilience, and livability through creating healthy urban ecosystems. Specific to this project is the *Buildings and Sites Action Plan*, one of three implementation action plans that aims to advance the implementation of GRI on private sites and civic facilities. The *Rainwater Management Bulletin* provides further direction for this project in that it establishes the site-specific requirements developer's must meet in submitting rainwater management plans, including guidelines for volume reduction, release rate and water quality.

The desired outcome for this project is a mapping tool that will be used internally within the Development Water Resources Management Branch of the Integrated Strategy and Utilities Planning Division in Engineering Services for cataloguing and visualizing GRI assets on private sites and civic facilities. In developing the tool, the Scholar will have to employ quantitative and qualitative skillsets to extract and integrate data into a GIS mapping overlay, a process that requires considerable insight into GRI technologies and ample critical analysis. The project is also intended to be used as an engagement piece for communicating the benefits of GRI to both internal and external stakeholders. Finally, there is potential for this project to be incorporated into a future update of VanMap as a layer for public use purposes.

In completing this project, the Scholar will be provided with all of the necessary data, software and equipment by the City.

# SUSTAINABILITY SCHOLARS PROGRAM

## **Deliverables:**

The Scholar will deliver a GIS map overlay providing clear visualization of green rainwater infrastructure assets in private sites and civic facilities in the City of Vancouver, complemented by a final presentation to key stakeholders. Through the process of completing the GIS map layer, at minimum the following should be identified:

- total number of the proposed and existing GRI assets;
- general location of the proposed and existing GRI assets;
- identify the different building typologies where GRI assets are proposed;
- identify the different neighborhoods across the city that have an established GRI design;
- total rainwater volume captured and cleaned per GRI asset; and
- the functional status of civic GRI assets.

An associated report will provide further analysis on the GIS map overlay. The analysis is expected to address aspects, such as:

- influences on the number of GRI assets implemented/proposed in specific neighborhoods or areas across the city (e.g. type of development, space availability, soil condition, water level);
- how GRI assets affect the sewer discharge/loading with the current 24 mm capture and treatment requirements, in addition to forecasting the increased 48 mm capture and treatment requirements; and
- how GRI assets affect the water quality of the city's surrounding waterbodies.
- Time permitting: research of best practice methodologies for information collection to direct future policy improvements and incentive program development related GRI implementation.

## **Time Commitment:**

- This project will take **250** hours to complete.
- This project must be completed between May 3 to August 13, 2021.
- The scholar is to complete hours between 8 am to 5 pm, Monday through Friday, approximately 20 hours per week.

## **Required/preferred Skills and Background**

- Excellent research and writing skills
- Demonstrated interest in GRI or rainwater management practices
- Familiarity with research methodologies and survey techniques
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Project management and organizational skills
- GIS training or experience
- Sewer modelling experience would be an asset
- Proficiency in Microsoft Word and Excel
- Understanding of hydrology, hydraulic, water quality, and geotechnical principles

# SUSTAINABILITY SCHOLARS PROGRAM

Applications close **midnight Sunday January 31, 2021**

Apply here: [Click here to apply](#)

Contact Karen Taylor at [sustainability.scholars@ubc.ca](mailto:sustainability.scholars@ubc.ca) if you have questions

## Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 19. [Click here for details and to register.](#)

Below are some links to useful resources to help you with your resume and cover letter (there are many more online). Some of these resources also provide information on preparing for your interview.

<https://students.ubc.ca/career/career-resources/resumes-cover-letters-curricula-vitae>

<https://www.grad.ubc.ca/current-students/graduate-pathways-success>

<https://www.grad.ubc.ca/cover-letter-cv-resume-templates-ubc-career-services>