

# SUSTAINABILITY SCHOLARS PROGRAM

## Summer 2020

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 February 2, 2020.**

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## **Research project title: Assessing Challenges and Opportunities Associated with obtaining mandatory Home Warranty for Developments that Incorporate Rainwater Harvesting or Resilient Roofs**

### **Research supports the following City of Vancouver policies:**

#### Rain City Strategy (2019)

- Implementation Program B&S-01: Advance Rainwater Management Policies and Regulations – Supporting Implementation Through New and Existing Policies and Regulations
- Implementation Program B&S-02: Improve Review and Compliance of Rainwater Management Plans to Ensure Rain City Targets are Being achieved on Buildings and Sites.
- Implementation Program B&S-04: Mid/High-Rise Structures – Assessing New and Existing Building Opportunities
- Implementation Program B&S-05: Rainwater Harvesting Program
- Implementation Program B&S-06: Resilient Roofs Program

#### Resilient Vancouver Strategy (2019)

- 3.1.B: Formalize a cross-departmental Resilient Buildings governance model

#### Climate Change Adaptation Strategy Update: Core Actions (2018)

- Climate Robust Infrastructure: Water conservation and “fit for purpose” approach to water use

#### Vancouver Citywide Integrate Rainwater Management Plan (2016)

- Reduce rainwater runoff, clean rainwater, reduce urban heat island, and increase green space

#### Greenest City Action Plan (2015)

- Goal 8: Clean Water- reducing combined sewer overflows and treating stormwater runoff

### **Outlines scope of project and why it is of value to the City of Vancouver and describe how and when the scholar’s work will be actionable**

The City of Vancouver is currently embarking upon an ambitious approach that reimagines how we manage rainwater in the city now and over the coming three decades to 2050 through the City’s recently adopted Rain City Strategy. The strategy calls for a paradigm shift in how we value and manage our water resources. At its core, the Rain City Strategy advocates for a transition towards a water sensitive city that strives for holistic and intergenerational water thinking and integrates land use planning, development, urban design and water

management services to help communities and ecosystems thrive. These directions are embodied in Vancouver's 'One Water' approach to integrated water management.

As part of a 'One Water' approach to managing water in the city, the city is implementing rainwater management design standards and targets that span both public and private lands across the city. These standards and targets encourage managing rainfall where it lands – by using it to water trees and landscaping, infiltrating rainwater it into the ground, and/or re-using the rainwater for non-potable purposes like toilet flushing and irrigation. This suite of tools for managing rainwater is called Green Rainwater Infrastructure (GRI).

The basis of this study is to conduct research regarding the application of the Homeowner Protection Act and challenges associated with obtaining Home Warranty Insurance for new homes constructed with 2 specific forms of GRI:

- 1) Rainwater Harvest and Re-Use (RWH) and
- 2) Resilient Roofs, such as extensive/intensive green roofs, blue-green roofs that incorporate storage or other combination thereof.

As set out in the [Homeowner Protection Act](#), all new homes constructed under building permits must be covered by home warranty insurance unless they are specifically excluded by the Act or its regulations. Only insurance companies approved by the Financial Institutions Commission and that meet the requirements of the Homeowner Protection Act can provide home warranty insurance. Coverage generally consists of:

- (a) defects in materials and labour for a period of at least 2 years after the date on which the warranty begins;
- (b) defects in the building envelope, including defects resulting in water penetration, for a period of at least 5 years after the date on which the warranty begins; and
- (c) structural defects for a period of at least 10 years after the date on which the warranty begins.

Through multiple policy initiatives, the City is actively promoting the adoption of GRI across all industries and is committed to a smooth delivery of these policies and to reduce hardships placed upon the development industry to achieve compliance. As such, this study will begin a critical piece of work to fully understand the impacts of including two specific forms of GRI in new developments and will be foundational in informing future research and work programs in this regard.

The scholar will be completing the following tasks as part of their project scope:

- Review case study examples of new homes built in BC after 1999 that include either of the 2 GRI and successfully obtained Home Warranty Coverage. Focus on medium and high-density forms of development.
- Interview appropriate staff from BC Housing which is responsible for administering the Homeowner Protection Act to both understand their current position on the 2 GRI and to also raise awareness.
- Interview and/or poll approved insurance providers to determine their specific position and concerns related to the 2 GRI.
- Review existing home warranty insurance regulations in Cities that have robust green infrastructure policies, such as Toronto, Seattle, Portland, Philadelphia, and include telephone interviews with policy implementation staff.



- Interview local development companies or representatives to understand specific challenges and examples where RWH or Resilient Roofs have negatively impacted the home warranty process.

#### **Why this work is of value:**

As the population in the region grows and the climate change causes rainfall patterns to shift and alpine snowpack to decrease, water resources will continue to come under stress. As a result cities will need to explore innovative ways to access and utilize new sources of water, and explore fit-for-use applications of water in all its forms. Evidence is growing to suggest that waste water, grey water and black water represent opportunities to address future stresses and contribute to water security for regions around the world.

Rainwater harvest and reuse and resilient roofs represent an opportunity to collect, convey, store and use rainwater on site or within close proximity to where it fell. Through capture and storage of rainwater, the quality of water can remain high as there has been little to no contact with contaminants or pollutants found on streets, parking lots and other impermeable surfaces.

The potential benefits of wide spread adoption of rainwater harvest and reuse are far reaching. Benefits include; energy savings, potable water conservation, reducing combined sewer overflows, enhance quality of receiving waters, potential savings on utility bills, educating public on sustainable water use and others.

#### **Deliverables**

The Scholar will deliver a final report containing a summary of their completed work. The report must be completed in Microsoft Word and should be no more than 20 pages, with any additional content included as appendices. The report will be complemented by a final presentation to key stakeholders. The report should include:

- A summary of warranty environment in other cities that promote Rainwater Harvesting and Resilient Roofs and have strong rainwater management policies.
- A summary of interview responses from the identified sites.
- Summary of real (or perceived) barriers to obtaining home warranty insurance in BC for buildings that include RWH or Resilient Roofs.
- Recommendations for next steps that the City can pursue to address the barriers.
- A presentation to relevant staff following the completion of the report.

#### **Time commitment**

- This project will take **250** hours to complete.
- This project must be completed between May 4 and August 14, 2020
- The scholar is to complete hours between 8am and 5pm, Monday to Friday, approximately 15 hours per week.

#### **Skill set/background required/preferred**

- Excellent research and writing skills
- Demonstrated interest in green infrastructure or stormwater management
- Strong technical writing skills
- Familiarity with research methodologies and survey techniques
- Strong presentation and public speaking skills



- Strong analytical skills
- Ability to work independently
- Demonstrated time management skills
- Deadline oriented
- Project management and organizational skills
- Familiarity with benchmarking methods and tools
- Proficiency in Microsoft Word and Excel is required
- Comfortable with conducting in person or telephone surveys
- Particularly suitable for a student in the Planning, Environmental Studies, Landscape Architecture, or Engineering, but recruitment should be open to other departments.

### **Additional project needs**

The scholar may accompany Branch staff to construction sites. Any necessary personal protection equipment will be provided by the Branch, with the exception of steel-toed boots.

Applications close **midnight Sunday February 2, 2020.**

Apply here: <http://sustain.ubc.ca/scholarsapply>

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

## **Useful Resources**

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>

The Centre for Student Involvement & Careers will host a resume & cover letter webinar tailored for graduate students on Tuesday, January 21, 2020 from 12:00-1:30. Registration will open approximately two weeks before the webinar, and can be accessed at Careers Online.

