

53815 - Adaptation Resilience Training Program Site-level Green Stormwater Infrastructure Calculator

Job Posting Information

Job Term:	2022 - 2023
Position Type:	Full Time
Position Term:	Temporary
Position Title:	Adaptation Resilience Training Program - Site-level Green Stormwater Infrastructure Calculator
Number of Vacancies:	1
Salary:	\$26.57/hour
Location:	Calgary, remote/hybrid working arrangements available
Position Start Date:	mid-September 2022
Position End Date:	April 2023
Minimum Education Required:	Some Post-Secondary
All Areas of Study:	Yes
Job Description:	<p>This position is offered as part of the Adaptation Resilience Training (ART) Program.</p> <p>The successful candidate will work with the Alberta Low Impact Development Partnership (ALIDP). ALIDP is a non-profit society with a vision for landscapes and land development to be in harmony. ALIDP is a non-profit society working with partners across Alberta remotely, with a staff person who also works remotely in Calgary. Our members are consultants, government employees, academics, and allied non-profits, covering the disciplines of engineering, landscape architecture, planning, ecology, and other allied competencies. We work to reduce barriers in policy and planning, to provide education and networking opportunities for industry, and to build confidence in practices through initiatives in research, demonstration and feasibility. https://alidp.org</p> <p>We have the use of the City of Calgary Water Centre for conducting in-person meetings. The successful candidate will be able to work remotely, in-person, or blended according to their preference, with office space provided by Kerr Wood Leidal (KWL) as the designated mentor, if requested. As a non-profit society, work is overseen through advisory/oversight committees. In this case, a panel of experts in both</p>

Calgary and Edmonton have agreed to participate in the project with bi-monthly to monthly progress check-ins.

Job Description:

Climate change is set to increase flooding in urban communities in Alberta, resulting in a three- to four-fold increase in flood damages by 2080 (CatIQ). Site-level opportunities to deploy green stormwater infrastructure (GSI) to mitigate this flooding are not one-size-fits-all. While tools exist at the subdivision-development scale to analyze the performance of GSI, one-off retrofit and redevelopment projects below the triplex/quadplex scale are neither analyzed or regulated, and end up exacerbating the problem when they could be mitigating it. Points programs are useful but not necessarily locally adapted or flexible enough. A tool that analyzes and provides custom solutions at the individual site level would provide design freedom in tandem with quantifiable benefits while also advancing asset management objectives.

This project will develop such a tool: A web-based green stormwater infrastructure (GSI) calculator. The calculator is envisaged to be used as part of existing ALIDP programming to educate lay people as well as the building industry in solutions, and to be rolled out to municipalities across Alberta for use in the development approvals process and/or in support of municipal public education and incentive programs.

Working under the direct supervision of a senior consulting engineer and with oversight provided by a panel of municipal and industry experts, the successful candidate will:

- Be read into the project with a review of stormwater fundamentals, GSI tools, configurations, available datasets and modelling approaches.
- By mid-November, input and output parameters will be selected and backend coding will be complete.
- By December, development of a web-based graphical user interface will be in draft form and presented to the advisory committee.
- By the end of February, testing and documentation will be complete.
- Enhancements will be explored with the remaining time.

The completed tool will debut at the April ALIDP Designing for Tomorrow monthly online conference.

Skills and Qualifications:

To be eligible for the ART positions, applicants must be either:

	<ul style="list-style-type: none"> • a current student, in either an Undergraduate or Graduate program, at an accredited post-secondary institution in Alberta OR • a recent graduate of an accredited post-secondary institution in Alberta (recent defined as since May 1, 2020) <p>Additional skills and qualifications:</p> <ul style="list-style-type: none"> • SQL Server • Java or Python • HTML or equivalents • Microsoft Office <p>Areas of study: Civil or Environmental Engineering, Environmental Science, Environmental Design, Landscape Architecture, Geography, Science.</p>
Other Information:	<p>The successful candidate will be exposed to diverse practitioner perspectives, in both municipal and industry contexts, about the role of green stormwater infrastructure (GSI) to achieve climate adaptation outcomes. They will gain an in-depth understanding of individual GSI practices with respect to design and implementation applicability in Alberta. As part of developing the calculator, they will become conversant with datasets that are used to evaluate the performance of GSI, and ways that climate change can be accounted for in the modelling of the performance of the practices. The successful candidate will gain real-world experience using and expanding their skills in stormwater modelling, database design, coding, and website development, as well as in writing, meeting and presentation skills needed to document and communicate about the project. As the project is at a small scale, they will get to participate in the entire project development cycle.</p>

Application Information

Application Deadline:	August 31, 2022 11:59 PM
Application Requirements:	Cover Letter, Resume
Application Method:	Apply through campusBRIDGE https://campusbridge.ualberta.ca/home.htm

Organization

Organization:	University of Alberta
Division:	Sustainability Council