UBC Sustainability Scholars Program 2019

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 organizational sustainability goals.

For more information about the Sustainability Scholars Program and to apply to work on this project, please visit the Student Opportunities page.

Please review the application guide (PDF) before applying.

Applications close **midnight Sunday March 24, 2019**.

Research project title: Dealing with dirt: Feasibility study on other uses for excavated soil to keep it out of the landfill

Research supports the following City of Vancouver Policies:

- ☒ Greenest City Action Plan. Specific goal area (s): Zero Waste
- ☐ Healthy City Strategy.
- ☐ Renewable City Action Plan.
- ☒ Green Operations
- ☒ Other: Zero Waste 2040
  Eliminate the disposal of solid waste to landfill and incinerator by 2040
  Supporting efforts to refocus operations of Vancouver Landfill to recovery & diversion over disposal (Transformative Action#1 highlighted in Zero Waste 2040 Strategic Plan)

Outline 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

In 2018, Vancouver Council adopted the Zero Waste 2040 Strategic Plan which highlights the City's ambitions to achieve higher levels of waste diversion and reach zero waste disposed by 2040. Achieving a goal of zero waste is important for many reasons, one of which is to address limited available disposal capacity including at the Vancouver Landfill, which is estimated to reach capacity limits by 2030, seven years early due partly to the significant amount of soil disposed at the site. To address this issue, a priority area of work for Zero Waste & Resource Recovery is to identify and pursue beneficial use opportunities for waste soil, as an alternative to landfilling.

In 2017, 418,339 metric tonnes of soil generated mainly from excavation activities by sewer, water and street construction by the City of Vancouver (60%) and the City of Delta (40%) were disposed at the Vancouver Landfill. Landfill operations currently use 59% of the soil as landfill cover and stockpile the rest. With a goal of zero waste and diminishing landfill capacity, it is necessary to undertake a comprehensive feasibility study of soil repurposing options, which can then be considered for implementation. The study's scope of work is highlighted below:

Scope of work:

- Undertake a review of existing tonnage flow of soil to the Vancouver Landfill;
- Undertake a literature review of factors and criteria considered during a feasibility analysis of soil repurposing operation;
- Conduct interviews with Zero Waste and Resource Recovery Division staff to identify the weight of each factor highlighted in the literature review;
- Compile and review composition and characteristics of soils stockpiled at the Landfill;
- Describe and develop approaches for repurposing the existing stockpile of soils at the Landfill, including but not necessarily limited to:
    - Soil blending (for resale, agriculture or horticulture)
    - Soil blending for use in Landfill closure
    - Relocation within the Metro region (e.g. Delta, Richmond, Vancouver Parks)
    - Relocation outside of the Metro region (within BC)
    - Relocation to other provinces or countries.
- Compile and develop a comparative and comprehensive analysis based on the evaluation criteria identified in the interviews and literature reviews.

Why this work will be actionable:

- The Zero Waste and Resource Recovery Division will be planning and implementing transformational projects in order to evolve the Vancouver Landfill from a disposal site into a resource recovery and diversion centre. This feasibility study would highlight more viable options for COV staff to pursue in order to reach goals set out in Zero Waste 2040 strategic plan in the upcoming years.

Deliverables:

The Scholar will deliver a final feasibility study report containing a summary of completed work and feasibility analysis with recommendations, complemented by a final presentation to key stakeholders. The report will include:

- Summary of existing tonnage flow of soils
- Summary of composition and characteristics of existing stockpile of soils
- Comparative feasibility analysis results and recommendations

Time commitment:

- This project will take 250 hours.
- This project must be completed between April 29 and August 12th, 2019.
- The Scholar is to complete the work between 9am-5pm, Monday to Friday, approximately 20hours/week.

Work location:
Marine Gateway Campus

Skill set/background required/preferred:

- ☒ Excellent research and writing skills.
- ☒ Demonstrated interest in Solid Waste Management / Agriculture/ Horticulture.
- ☒ Strong technical writing skills
- ☒ Strong analytical skills
- ☒ Ability to work independently
- ☒ Demonstrated time management skills
- ☒ Deadline oriented
- ☒ Project management and organizational skills
- ☒ Expertise with Microsoft Word and Microsoft Excel
- ☒ Familiarity with benchmarking methods and tools
- ☒ Familiarity with qualitative research methodologies and implementation
- ☒ Familiarity with quantitative research methodologies and implementation
- ☒ Familiarity preparing feasibility studies

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Apply here:
https://sustain.ubc.ca/student-opportunities

To learn more about the program here:
https://sustain.ubc.ca/ubc-sustainability-scholars-program

Contact Karen Taylor at sustainability.scholars@ubc.ca if you have questions.