



May 11, 2017

Reference No. 088877

Ms. Andrea Craddock
President
Campbell River, Courtenay & District Labour Council
830 14th Avenue, Campbell River, BC V9W 4H4

Dear Ms. Craddock:

**Re: Response to Letter dated January 20, 2017
Upland Landfill – Waste Discharge Application
7295 Gold River Highway, Campbell River, British Columbia**

GHD Limited (GHD) has prepared this letter on behalf of Upland Excavating Ltd. (Upland) to respond to a letter dated January 20, 2017 to the Ministry of Environment (MOE) from Campbell River, Courtenay & District Labour Council (Labour Council). The letter is provided in Attachment A.

Upland and GHD have reviewed the Labour Council letter and would like to thank you for your interest in the project. In this letter, we attempt to provide you with some additional information that is responsive to your comments.

GHD and Upland have completed an extensive field work program to characterize the site's hydrogeological, hydrological, and geologic conditions. This program included advancing 16 boreholes, installing 13 monitoring wells, logging nine test pits, completing three environmental monitoring events, a survey of the topographical surface, a surface water biological assessment, and six ground water level monitoring events. The data collected from this field work was compiled and analyzed to characterize the site conditions. In addition a detailed Design, Operation and Closure Plan was prepared to present the conceptual design of the landfill including the base liner and cover systems, the leachate and surface water management plans, environmental monitoring plan, contaminating lifespan assessment, and other plans, as required by the MOE's Landfill Criteria for Municipal Solid Waste Landfill, Second Edition (June 2016). It is our opinion that Upland's application for a landfill is protective of the environment.

All comments received from the Campbell River Environmental Committee, the City of Campbell River, and other stakeholders have been reviewed by GHD and in some cases, additional information was collected to supplement the investigations and support the design. For example, a biologist was retained to complete a field level aquatic receiving environment assessment.

Key aspects of the application include the following:

- Groundwater below the proposed landfill flows to the southeast. The groundwater does not flow to Rico Lake, McIvor Lake, nor the Cold Creek watershed, which supplies the Quinsam River Hatchery. Additional site investigations were completed to confirm our hydrogeologic understanding of the Site.
- The groundwater chemistry from the aquifer below the proposed landfill has been analyzed. The water quality is good and meets the applicable groundwater quality standards and criteria.



- The landfill will be lined with an approved composite liner system (HDPE geomembrane and Geosynthetic Clay Liner), which will contain all leachate within the landfill. All water that comes in contact with waste and daily cover soil will be contained within the landfill, collected, and treated as leachate.
- Clean surface water that runs off the closed portion of the landfill will be directed to the base of the existing aggregate pit for infiltration, similar to the pre-development flows. Water that is potentially impacted by waste will not be directed to this system.
- The leachate treatment system will be designed to accommodate the leachate volume that is forecasted. The leachate forecast is based on an assessment of the historical precipitation rates and additional precipitation to account for potential increases due to climate change. Safety factors and freeboard have been incorporated into the design of the leachate treatment system to ensure any potential increases in leachate generation may be safely managed. Contingency measures have been developed and will be implemented if necessary, to ensure environmental compliance is maintained.
- The leachate will be treated on-site prior to infiltration on-site. The treated leachate will be tested prior to discharge to the on-site infiltration pond to ensure the quality of treated leachate meets the performance criteria. Groundwater that flows off of the property will meet the applicable and approved groundwater quality, therefore, there will be no impacts to the downgradient receiving environment.

We hope this letter is of assistance. The MOE has advised it will be reviewing your letter and our response as part of its review of the application and supporting reports. Should you have any additional questions please do not hesitate to contact us.

Sincerely,

GHD

A handwritten signature in blue ink, appearing to read 'Gregory D. Ferraro'.

Gregory D. Ferraro, P. Eng.

A handwritten signature in blue ink, appearing to read 'Shauna Sturgeon'.

Shauna Sturgeon, P. Eng.

SS/sz/01

Encl.

cc: Allan Leuschen – Ministry of Environment
Terry Stuart – Upland Excavating Ltd.
Mark Stuart – Upland Excavating Ltd.
Brian Fagan – Upland Excavating Ltd.

Attachment A
Campbell River, Courtenay & District Labour
Council Letter

We trust that your Ministry will continue to evaluate this request through continued study and consultation with all concerned parties.

Respectfully,

Andrea Craddock
President, Campbell River, Courtenay & District Labour Council

cc

Claire Trevena, North Vancouver Island MLA, Claire.Trevena.MLA@leg.bc.ca
Peter Whipper, City of Campbell River, for distribution to Mayor & Council
Peter.Whipper@campbellriver.ca
Terri Martin, City of Campbell River Environmental Specialist,
Terri.Martin@campbellriver.ca
Leona Adams, President CREC lowiea@telus.net