

June 20, 2017

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VIA ELECTRONIC MAIL

Port of Vancouver
Attention: Marianne Gilbert and Evan Jones

**SUMMARY OF PROJECT CHANGES,
BURRARD INLET PIPELINE REMOVAL**

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This letter provides an overview of the notable changes in the proposed plan to remove segments of a six-inch and twelve-inch pipeline owned by Imperial Oil that are expected to interfere with navigational dredging proposed by a third-party (Pacific Coast Terminals) in the vicinity of the Reed Point Marina (850 Barnet Highway, Port Moody BC). A preliminary project description was originally submitted to the Port of Vancouver in December 2013 on behalf of Imperial Oil. There has been several changes since that original preliminary submission to reflect differences in the technical approach as well as in project execution. The purpose of this letter is to highlight the points of difference between the December 2013 submission and a revised application submitted to the Port of Vancouver in March 2017. The main points of difference (or lack thereof) are as follows:

- Imperial Oil is executing the project without a formal, scheduled interaction with the larger dredging program proposed by Pacific Coast Terminals. Data will still be shared on an informal basis, and care will be taken to avoid interference with the other project. However, the original plan to execute the removal of the pipelines as a task subcontracted to or formally coordinated with Pacific Coast Terminal is not considered feasible because of the different planning lead times required.
- The decision to proceed on an independent basis has necessitated a separate and independent application to the Port of Vancouver, as well as a separate application to Environment and Climate Change Canada (ECCC) with respect to the ocean disposal of the material that will need to be dredged to access the pipe. There will also be separate and independent consultation with other federal regulatory agencies (Transport Canada; Department of Fisheries and Oceans), and by extension, a commitment to participate fully in any consultation process initiated by those agencies. Imperial has also committed to engage the First Nations directly throughout the process.
- The volume of dredged material in the various applications has been updated to reflect that Imperial may ultimately remove the pipeline segments prior to any navigational dredging project. The original application assumed that the projects would be coordinated, and therefore, the volume described in the application was only for the material in the safety zones on either side of the navigation channel where Imperial would be required to dredge to make the necessary isolation cuts. The total volume between the two applications has not changed; this is purely an administrative edit to acknowledge that Imperial will proceed independently of Pacific Coast Terminal.
- The original submission was not able to define the specific methodology to be used to uncover the pipelines. This has now been updated.
 - At the time, we assumed that the majority of the overburden would have been removed by Pacific Coast Terminal, and that the pipe would be readily accessible along the majority of its length. We assumed that it would be necessary to dredge a small volume of material at either end of the pipe so that an initial



isolation cut could be made. We further assumed that this could be done by extending a caisson through the sediment so that only a small amount of sediment would be removed. Once the isolation cuts had been made, there was preliminary information that indicated that the pipe could be mechanically extracted with nearly no disturbance of the remaining overburden.

- An analysis has been conducted that indicates that mechanical extraction are unlikely to be successful, and this method has been rejected. We have also rejected the concept of extending a caisson into the sediment as presenting an unacceptable risk. We have completed a geotechnical assessment to determine what we believe will be the final angle of a dredged trench that can uncover the pipe and have a sufficiently shallow angle that will eliminate risks to divers.
- This information has been used to update the method: we will use a clamshell dredge to remove all the necessary overburden to expose the length of the pipe to be removed. This will provide safe access to the divers who can cut the exposed pipe into 20 meter lengths that can be safely lifted to the surface for recycling.
- The original plan assumed that management of the overburden would be done in conjunction with Pacific Coast Terminals, and broadly, would be disposed behind the underwater berm that has been proposed by Pacific Coast Terminal. The decision to proceed independently has removed that disposal option, and Imperial has made a separate application to dispose of the overburden via sidecasting in the immediate project area, or at the Point Grey disposal site. Both options are considered viable at this time, but will ultimately depend on regulatory decisions made by ECCC. The current port submission focused on the Point Grey disposal site as the preferred option, but recent feedback from ECCC suggests that temporarily sidecasting of the overburden in the immediate work vicinity while the pipes are being removed may be a superior option. This discussion is ongoing.
- The original submission noted the presence of a small area of surficial hydrocarbon contamination in the southern part of the proposed work area. This contamination is not related to Imperial Oil, and the preliminary project was silent on the final disposition of this material beyond acknowledging that disposal at sea was likely not viable. Imperial has committed to the removal of any material within the Imperial work area that has a total PAH concentration of greater than 2.5 mg/kg for upland disposal in a permitted landfill in the event that the Imperial project ultimately proceeds before the larger dredging program proposed by Pacific Coast Terminals.
- The original submission had not described the proposed approach for decommissioning the remainder of the pipeline. The pipelines have been cleaned a second time since the original submission, and there are no known issues with respect to decommissioning the pipes in place pursuant to provincial guidance from the Oil and Gas Commission. The pipes will be filled with seawater during the removal of the segment. A cap will be fit to the ends of the pipes that will remain below the sediment to prevent infiltration by marine life and the pipes will be air gapped on their upland ends (i.e., at the upland stations). Cathodic protection will be discontinued.

CLOSURE

We trust that this letter provides sufficient additional information for your current needs. Please do not hesitate to contact the Imperial project manager or the undersigned if further information is needed.

Yours truly,

GOLDER ASSOCIATES LTD.



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CC: Shelby Stach (Imperial Oil Limited)

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