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To: "Direct to Mayor and Council - DL"

CC: "City Manager's Correspondence Group - DL"

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Date: 6/3/2019 5:28:55 PM

Subject: Memo - Haro & Bute Infrastructure Upgrades - Tree Impacts

Attachments: ENG - PDB - Memo to Mayor and Council - Haro & Bute Infrastructure Upgra....pdf

Greetings Mayor and Council,

Please see attached above a memo from Jerry Dobrovolny regarding the Haro and Bute infrastructure upgrades and related tree impacts. A summary of the memo is as follows:

- Upcoming Haro and Bute infrastructure upgrades include the replacement of an aging water transmission main with a larger capacity system to help serve the growing neighborhood and improve seismic resiliency.
- Recommended alignment requires the removal of seven trees in the Gilford mini park: four due to water infrastructure upgrades and three due to poor health condition.
 - The Gilford mini park form and character will remain the same and the removed trees will be replaced.
- Multiple notification letters will be sent to the adjacent neighbourhood prior to any work taking place in the park.
- All tree removals will be coordinated with the upcoming infrastructure work.

Should you have any questions or concerns, please contact Jerry Dobrovolny at 604.873.7331 or jerry.dobrovolny@vancouver.ca.

Best,
Sadhu

Sadhu Aufochs Johnston | City Manager
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Pronouns: he, him, his



The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the Musqueam, Squamish, and Tseil-Waututh peoples.

MEMORANDUM

June 3, 2019

TO: Mayor and Council

CC: Sadhu Johnston, City Manager
Paul Mochrie, Deputy City Manager
Lynda Graves, Administration Services Manager, City Manager's Office
Rena Kendall-Craden, Civic Engagement and Communications Director
Katrina Leckovic, City Clerk
Neil Monckton, Chief of Staff, Mayor's Office
Alvin Singh, Communications Director, Mayor's Office
Anita Zaenker, Chief of Staff, Mayor's Office
Karima Mulji, Director, Engineering Projects and Development Services
Daniel Roberge, Director, Waterworks and Sewers

FROM: Jerry Dobrovlny, General Manager, Engineering Services

SUBJECT: Haro & Bute Infrastructure Upgrades – Change to Water Transmission Main Alignment and Resulting Tree Impacts

The purpose of this memo is to provide an update on the upcoming Haro and Bute Street infrastructure upgrades with respect to a change in the water transmission main alignment and the resulting tree impacts.

In June 2019 construction will begin on upgrades to critical water infrastructure while simultaneous improvements are coordinated for all users along sections of Chilco, Robson, Gilford, Haro and Bute Streets. The existing water main will be replaced with a larger-capacity system to help serve the growing neighbourhood and improve seismic resiliency.

Background: Water Main Alignment

The alignment for Phase I of the new water transmission main was originally proposed along Robson, Denman and Haro Streets. Upon constructability review, the risk of significant traffic impacts was highlighted along Denman between Robson and Haro, including those related to the #5 Robson/Downtown bus route. This alignment would likely result in long traffic queues, require extensive traffic control, and further complicate construction safety and efficiency.

To mitigate these risks, staff investigated three route alignments (refer to Appendix A) and chose Option 3, as it eliminates work at the Robson and Denman intersection and any associated risks and traffic impacts, while also offering a condensed construction schedule and cost savings.

Option 3 would result in changing the alignment to Gilford Street between Robson and Haro, and Haro Street between Gilford and Denman (Figure 1, Option 3, *Alternative Alignment 2*).

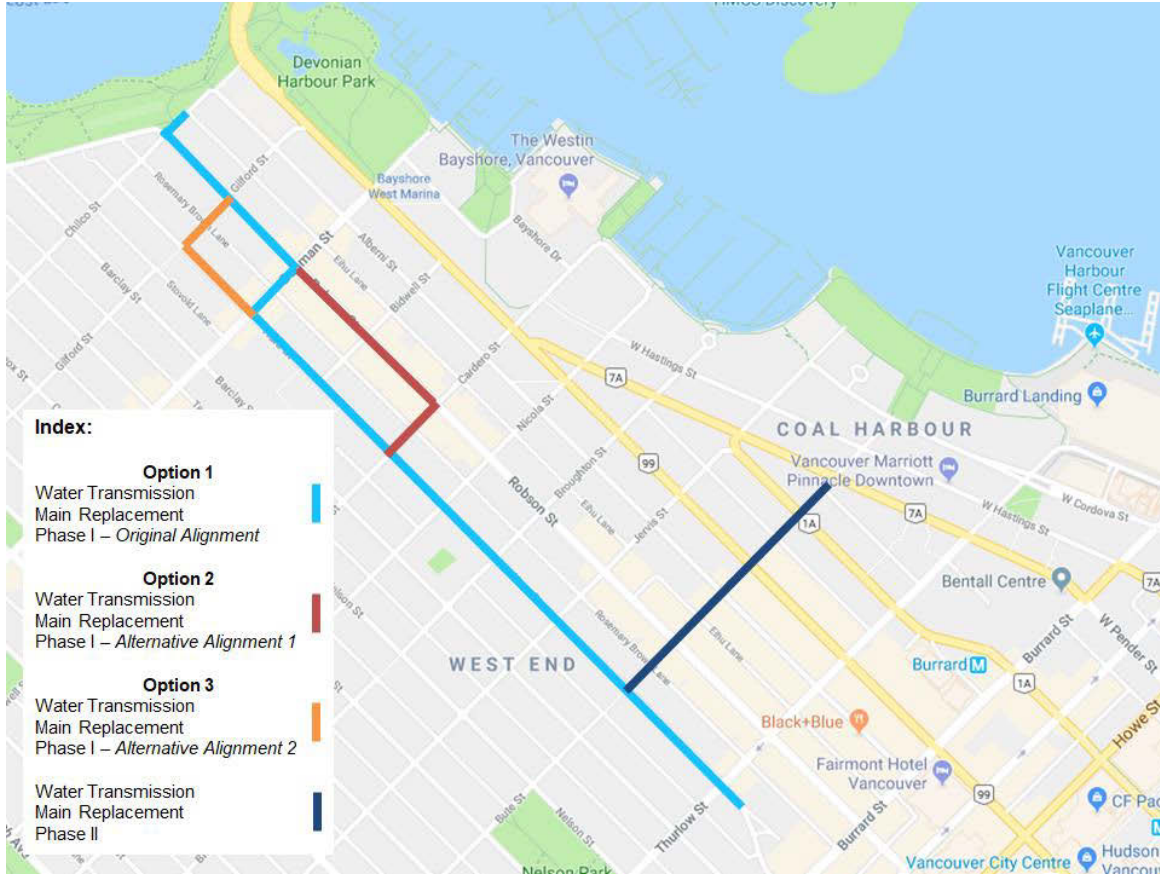


Figure 1 – Water Main Alternative Alignments

To accommodate this construction, Option 3 requires the removal of approximately four trees, several park benches and a garden. In addition, the Park Board identified up to three additional trees that need to be removed due to poor health conditions. All tree removals will be coordinated with the upcoming infrastructure work. Notification letters will be sent out to the adjacent neighbourhood prior to removal, and trees will be replanted at a minimum ratio of 2:1. The form and character of the Gilford mini park will be retained and material improvements will be made. The addition of a water fountain and other features will be included to enhance the mini park user experience. This new water infrastructure will improve network connectivity, capacity and reliability. Furthermore, due to the use of restraint devices, this infrastructure will be less susceptible to seismic activity. The project team is now in the process of apprising all partners and stakeholders of the change and anticipated construction impacts.

If you have any questions or would like more information on this project, please do not hesitate to contact me.

Sincerely,

Jerry W. Dobrovlny, P.Eng., MBA
 General Manager, Engineering Services

604.873.7331 | jerry.dobrovlny@vancouver.ca

Appendix A – Proposed Alignment Options

	Description	Schedule Implication	Cost Implication	Risk Implication	Additional Notes
Option 1	Status Quo (Figure 1 – Original Alignment)	No implications to current schedule	None	Significant traffic implications due to restricting the traffic on Denman and #5 trolley's turn movements at Denman & Robson intersection.	Traffic on Denman will be restricted to SLAT during working hours and full closure may be required depending on soil conditions during excavation at Denman & Robson intersection.
Option 2	Continue with the alignment on Robson down to Cardero before turning to Haro (Figure 1 – Alternative Alignment 1)	1.5 months design delay (completed prior to scheduled construction commencement)	+\$10k (class D cost of redesign)	The option involves constructing a minimum 300 m of transmission main along Robson as opposed to 100 m along Denman. A three lane closure at minimum would be required to accommodate construction on Robson. This option will not eliminate the work at Robson & Denman intersection and the risk of Denman/Robson closure remains.	Robson Street is clear of utilities. However, it is not possible to construct transmission main down on Bidwell without compromising and limiting access to sewer mains. The transmission main alignment needs to extend to Cardero, requiring significant amount of re-design work ad impacting a busy commercial area. As such, this option is not recommended.
Option 3	Change the alignment to Gilford between Robson and Haro and then continue down on Haro (Figure 1 – Alternative Alignment 2)	1 month design delay (design completed prior to scheduled construction commencement) and 2+ weeks accelerated construction schedule	-\$100k to -\$150k (class D cost savings for two weeks reduced construction less the costs of redesign and reinstatement of planting and mini-park)	A mini-park is located on Gilford between Rosemary Brown Lane and Haro. The park contains 10 or more trees, several park benches and a garden, most of which would need to be removed to accommodate construction. Additional communication may be required with residents regarding the removal of the trees and restoration of the mini-park.	Installation of transmission main down Gilford is less complex and can be completed in less time than on Denman. This option will reduce the construction schedule by minimum 2 weeks, reduce traffic impacts, and eliminate the risks associated with the deep excavation at Robson & Denman intersection.