

**REPORT TO ENVIRONMENTAL SERVICES COMMITTEE  
MEETING OF WEDNESDAY, OCTOBER 25, 2017**

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**SUBJECT**     **Millstream Meadows Remediation Update**

**ISSUE**

To provide an update on the status of the Millstream Meadows remediation project.

**BACKGROUND**

The Millstream Meadows site is a 32-acre property in the District of Highlands that was used for the unregulated disposal of septage, other trucked liquid and solid waste between the early 1940s to 1985; see Appendix A for site location plan and other figures. The Capital Regional District (CRD) acquired the property in 1984 and closed the site in 1985. Since then, the CRD and the Province of British Columbia (the Province) have worked cooperatively to remediate the property. Ongoing activities include divestment planning and remediation. The overall project approach, schedule and budget is managed in cooperation with, and approved by, the Province.

As anticipated in the Remediation Cost Sharing Agreement, the CRD initiated site rezoning in 2015 to Commercial Industrial Land Use. The rezoning is in accordance with the District of Highlands' Official Community Plan and is supported by both the municipality and the Province. Additionally, the CRD is seeking the release of land use restrictions on the Crown Grant and opportunities for short-term leases to offset remediation expenditures.

**REMEDATION UPDATE**

Site remediation objectives are to protect human health and the environment, meet regulatory requirements and prepare the site for sale by obtaining a risk-based Certificate of Compliance. Although 76,000 tonnes of contaminated soil were removed in 2007-2008, surficial soil and bedrock contamination remains at the site. In January 2016, the CRD engaged SNC-Lavalin Inc. (SNC) via a competitive process to advance the project toward a risk-based Certificate of Compliance.

The CRD continues to provide bottled drinking water to nearby residents and to monitor water quality in nearby water wells as a precautionary measure. The analytical results confirm that the well quality meets applicable standards. Domestic well analytical reports for 2016 and early 2017 are included in Appendix B for reference.

**Detailed Site Investigation**

A multi-phase Detailed Site Investigation (DSI), required by the BC Ministry of Environment (MOE), is underway that will fully describe and delineate the degree and extent of contamination across all substrates (soil, water, etc.). CRD staff and consultants are strategically progressing several investigations in parallel to minimize the schedule. In this manner, significant progress has been made toward completing a DSI and delineating contamination. While the DSI work will continue through 2018, the following preliminary conclusions are appropriate based on current data:

- Although confirmation is required, delineation of soil and shallow groundwater contamination is nearly complete; stockpiled contaminated soil remaining on site from the 2007-2008 work can be managed on site, eliminating the need for costly offsite disposal.
- Bedrock geology at the site is more complex than previously understood. Physical and geophysical data identified extreme angle fractures (either nearly vertical or nearly horizontal) throughout the top 60 m of bedrock.
- Contamination was identified in bedrock at the deepest point investigated in 1 monitoring location north of the former lagoons (at approximately 60 m below ground surface).
- A preliminary risk evaluation for surface soils has concluded that unacceptable risks are primarily located in known contaminated areas around the former lagoons. These risks are expected to be mitigated with straightforward common mitigation methods (e.g., capping) that are consistent with and support anticipated future land use.

### Next Steps

The 2016 project plan anticipated that DSI and risk assessment activities would continue through 2019 and included Class C estimated costs for the anticipated work. The DSI is necessary to delineate groundwater contamination, evaluate the stability of the contaminated groundwater plume, and assess potential pathways to receptors. These are key requirements to facilitate the risk assessment approach, obtain a Certificate of Compliance, and to ensure that the CRD's potential liabilities are fully addressed.

In winter 2017-2018, staff are planning an investigation that focuses on:

- Determining contaminant transport pathways in bedrock, specifically identifying hydraulically-connected fracture zones, if any, which represent potential contaminant distribution pathways.
- Vertical delineation of contamination, as required by MOE. The drilling will advance beyond the deepest known water quality exceedance to a depth of ~120 m below surface to document the maximum depth of contamination.
- Planning the position of future horizontal delineation wells, based on information gathered. The proposed investigation methods are consistent with the Science Advisory Board for Contaminated Sites in BC.

### ALTERNATIVES

#### *Alternative 1*

That the Environmental Services Committee recommend to the CRD Board:

That ongoing procurement activities for planned Detailed Site Investigation and risk assessment consulting services be approved for Millstream Meadows remediation, in accordance with the Standing Offer Agreement EPro2015-083 and the CRD's procurement policy.

*Alternative 2*

That the Environmental Services Committee request additional information.

**ENVIRONMENTAL IMPLICATIONS**

Although there is residual contamination above environmental standards at the site, the property is closed to the public and there are no confirmed exposure pathways. Additionally, site-related contamination has not been observed in the CRD's offsite monitoring program. The proposed project activities will delineate the onsite contamination, evaluate any associated risk and include a plan to ensure there are no unacceptable future risks associated with the site.

**SOCIAL IMPLICATIONS**

Ongoing monitoring, site remediation and certification will result in public reassurance that the property does not pose a risk to neighbouring developments or the public, allow the site potential to be fully realized and generate economic development within the District of Highlands.

**FINANCIAL IMPLICATIONS**

As the site remediation progresses, overall uncertainty is reduced and costs are more clearly understood. Moving to a risk-based approach aligns with regulatory expectations and has resulted in significant financial savings. In 2008, the CRD and the Province estimated an overall budget of \$10.5 million to remediate the site. These costs would be shared 61% CRD, 39% provincial contribution. The majority of project costs went to the 2007-2008 remediation and totalled approximately \$9M. With remaining project costs in the range of ~\$3.9M (as of early 2016), actual project estimates are \$13.6M. Funds are in place to cover these estimates, including provincial contributions, capital on hand, requisition and transfers from the Hartland landfill tipping fees (set at \$3/tonne). Project scope, funds and expenditures are currently balanced such that no additional borrowing is anticipated.

The overall project approach and budget of \$13.9M is accepted by the Province. Similarly, each scope of work is approved by the Province prior to authorization.

**CONCLUSION**

The Millstream Meadows Remediation project objectives are to protect human health and the environment, meet regulatory requirements and prepare the site for divestment. Remediation and rezoning will ensure that the site potential and property value can be maximized. Significant progress has been made in understanding site contaminant distribution, and work continues to meet MOE requirements.

**RECOMMENDATION**

That the Environmental Services Committee recommend to the Capital Regional District Board:

That ongoing procurement activities for planned Detailed Site Investigation and risk assessment consulting services be approved for Millstream Meadows remediation, in accordance with the Standing Offer Agreement EPro2015-083 and the CRD's procurement policy.

Submitted by:	Glenn Harris, Senior Manager, Environmental Protection
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Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

KKT:cam/ss

Attachments: Appendix A – Site Drawings  
Appendix B – Domestic Well Monitoring Reports