Comox Valley REGIONAL DISTRICT

Board Policy

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| **Policy Title:** Lazo Hill Groundwater Protection Policy | **Policy Number:** P87 |
| **Policy Category:** Engineering | |
| **Approval Date:** February 22, 2022 | **Policy Owner:** Engineering Services |
| **Approved by:** Sewage Commission | **File Reference:** 0340-50 |

## PREAMBLE

1. Through the Comox Valley Regional District's liquid waste management planning process, a rigorous consultation process guided by engineering consultants, and a technical and public advisory committee, a preferred conveyance solution for the Comox Valley Sewage System was selected. Through the progression of detailed design of the conveyance solution, the design and construction methodology was revised in Summer 2023.

## PURPOSE

2. The selected conveyance solution includes installation of a sewer pipeline through Lazo Hill using traditional cut and cover methods along existing road rights of way. Lazo Hill (Electoral Area B) residents rely on groundwater wells for their drinking water and a number of concerns in regard to water quality and quantity have been raised by residents in the area. To help address concerns of residents surrounding impacts deriving from a leak, the intent of this policy is to address specific mitigation measures throughout design, construction and subsequent operation of the pipeline through Lazo Hill.

## SCOPE

3. This policy applies to the Comox Valley Sewerage Service, functions 335-338, for construction and operation of the pipeline along existing road rights of way through Lazo Hill as part of the Sewer System Conveyance Project.

**DEFINITIONS**

"Cut and Cover "means a pipeline construction methodology at shallow depth. It involves excavation of a trench from the surface, laying of a pipe and subsequent backfilling of the trench.

"Groundwater Well" means a well that is used for supplying water for domestic purposes, such as human consumption, food preparation, sanitation or other household purposes.

"Lazo Hill (Electoral Area B)" means all properties within Electoral Area B within the East-West bounds of Torrence Road to Brent Road/Curtis Road and North-South Bounds of Brent Road/ Noel Avenue to the Strait of Georgia.

"Sewer Pipeline" means a sewer pipe that conveys wastewater.

**POLICY**

4. The CVRD commits to the following measures for the design and construction of the conveyance pipeline in order to minimize the risk of a leak by:
    a. Establishing design criteria for the pipeline that will include:
        i. Meeting and or exceeding National Building Code of Canada Standards for infrastructure in seismic events (pipeline to be designed to withstand 2475 year return seismic event).
        ii. Pipeline materials to meet all relevant and applicable standards including but not limited to American National Standards Institute/American Water Works Association (ANSI/AWWA), Canadian General Standards Board (CGSB), Canadian Standards Association (CAN/CSA) and ASTM International.
        iii. Design of the conveyance system with the objective to operate at the lowest pressures necessary.
        iv. Design, installation, monitoring and maintenance of the necessary corrosion protection equipment dependent on the pipeline material.
        v. Implementation of service and inspection equipment into the design to accommodate monitoring and maintenance of the pipeline integrity.
    b. Implementing and following a number of quality control measures during construction of the pipeline, including:
        i. Completion of hydrostatic and leakage testing in accordance with the applicable ANSI/AWWA standards for pipe material.

ii. Quality control during construction, including construction inspections completed by a qualified professional.

5. The CVRD commits to implementing leak detection to identify a leak as early as possible if one were to occur by:
    a. Installing real-time leak detection monitoring equipment within the common forcemain trench, utilizing operating software and alarm notification protocol.
    b. Maintaining a program to monitor groundwater quality after installation of the pipeline:
        i. including monitoring of, temperature, water depth and proxies for potential contamination from wastewater within the groundwater.
        ii. Generate an annual report summarizing the data collected to be provided publicly on the Comox Valley Regional District website

6. The CVRD commits to repairing a leak, if one occurs, as quickly as possible following detection by:
    a. Developing a comprehensive emergency response plan, updated regularly, which includes designs for repairs of varying sections of the pipeline.
    b. Having a spill response kit, stored at the Comox Valley Water Pollution Control Center, which includes all the necessary repair materials for a repair of the pipeline (pipe, fittings etc.)
    c. Developing a clear emergency process to expedite contract award with contractors, engineers etc. for the necessary services required to facilitate the repair of a leak, with the process to be reviewed and updated regularly.

7. If the water from a Groundwater Well is shown to have become contaminated and is not suitable for domestic use as a result of a leak from the conveyance pipeline, the CVRD will offer all reasonable assistance to affected residents, which may include:
    a. Providing a temporary water supply to affected properties for the period of time that wells cannot be utilized.
    b. Assistance with installation of a new groundwater well, in the unlikely event that a property owner's well is irreversibly damaged as a direct result of construction or operation of the sewer pipeline.
    c. Subject to approval and adoption of the necessary bylaws, incorporation of the affected properties into the Comox Valley Water

System, in the unlikely event that the aquifer is irreversibly impacted as a direct result of the Sewer System Conveyance Project.

**ROLES AND RESPONSIBILITIES**

8. Design criteria and construction inspection will be completed by an engineering consultant and will be the responsibility of the Senior Manager of Capital Projects Delivery and Senior Manager of Water/Wastewater Services to ensure all parties are compliant with this policy.
9. Coordination and completion of monitoring of the pipeline will be the responsibility of the Manager of Wastewater Services.

**REVISION HISTORY**

| Approval Date | Approved By | Description of Change |
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| February 22, 2022 | Sewage Commission | Adoption of policy |
| December 5, 2023 | Sewage Commission | To reflect the installation of a real-time leak detection system |
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