

RAYMUR PUMP STATION REPLACEMENT PROJECT IN STRATHCONA PARK

Park Board Committee Meeting Monday, November 15, 2021





The purpose of this presentation is to recommend:

- A. THAT the Board approves the replacement of the below ground Raymur Pump Station with a new above-ground pump station and building in Strathcona Park as described in this report; and
- B. FURTHER THAT the Board authorize the modification of the existing right of way agreements as required for the development and operations of the new Pump Station facility and other sewerage infrastructure in form and content satisfactory to the Park Board General Manager, City Engineer, and Director of Legal Services.



Raymur Pump Station





How it works:

- The sewage collection system is a gravity system.
- Pump stations are located at the low point of the sewage system.
- Pump stations lift the sewage upwards through pressurized pipe system and transport sewage to a waste water treatment plant.





- Pump stations are critical pieces of infrastructure that protect public health and the environment.
- Raymur, Jericho and Dunbar Pump Stations have reached the end of their useful service lives and need to be replaced.
- Stations are within or directly adjacent to existing parks including:

• Strathcona Park – Raymur Pump Station

- Jericho Beach Park Jericho Pump Station
- Musqueam Park Dunbar Pump Station

Project Background





1. Raymur Pump Station

- 2. Jericho Pump Station
- 3. Dunbar Pump Station

Project Background

Example of recently completed project

Glen Pump Station located at China Creek North Park has replaced an underground Pump Station.

- Improved accessibility and visibility to and added value to the park.
- Successful model of collaboration between Engineering and VPB, and the community including First Nations.
- Improved resiliency including seismic design, back-up generator, and flood protection and health and safety for the operators.

Raymur Pump Station - Background

- Located in a Utility Right of Way in Strathcona Park and surrounded by Cottonwood Community Gardens, at the intersection of Raymur Ave and Malkin Ave.
- The existing pump station is an underground pump station.
- Has a higher replacement priority due to a higher risk of failure.

Existing Conditions of Raymur Pump Station

Raymur Pump Station – Existing Condition

View from Raymur Avenue facing west

Existing Smith and Loveless Stations

Reasons for replacement the existing Pump Station:

- **Exceeded service life:** Built in 1962, the existing pump station is 60 years old, has reached the end of its useful service life and is at high risk of failure.
- **Pump Station Failure and Environmental Spills:** Replacement of the pump station will minimize the risk of sewage spills into False Creek within the community.
- **Health and Safety:** The pump station at its current state does not meet WorkSafeBC requirements for completing major repairs (Confined Space Regulations).
- **Repair difficulties and long lead time for replacement components:** The current pump station is a Smith & Loveless type station with non-standard, proprietary components, and will be difficult to repair when components fail.
- **Resilience:** Replacing the stations is an important part of ensuring Vancouver's infrastructure is wellmanaged and resilient (i.e. Improved resiliency including seismic design, back-up generator, and flood protection).

New Pump Station Requirements

SECTION 2

Preliminary Design Renderings

SITE LOCATION

STREET VIEW

The Raymur Pump Station project includes:

- Relocation of garden boxes
- Removal of trees
- Bypass pumping installation
- Deconstruction of the existing pump station
- Construction of a new above ground pump station that will meet the latest safety and building code standards

The project will involve deep excavation by the contractor to remove the existing underground pump station within the construction footprint. The excavation will extend beyond the underground PS.

A Traffic Management Plan will be prepared by the contractor and approved by the City of Vancouver before commencement of work to address and minimize the traffic impact during construction. ¹⁵

Construction Laydown Area (TBD)

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Discussion

Bypass System from Similar Project

Construction Laydown Area from a Similar Project

Excavation from a Similar Project

Statutory Right of Way (SROW)

- SROW is located in Strathcona Park.
- Existing Smith and Loveless Type Pump Station is located in the SROW and has above ground structures.
- SROW agreement to be modified if required to allow the proposed above ground structure to be constructed and maintained within the existing boundaries.

- Blend the pump station into the look of the neighborhood: Various additions including, but not limited to decorative fences, screens, wraps, and hedges may be implemented too
- **Relocate planter boxes and garden beds:** Relocate planter boxes and garden beds that are impacted by the construction footprint. The project team and VPB staff will continue to communicate with Cottonwood Community Gardens to determine possible areas of relocation.
- Sustainability and storm water management: Possible additions may include a rain barrel collection for the Cottonwood Garden to intercept runoff from the roof. Another addition may include a bio-retention garden to capture runoff from the roof and from Raymur St.
- Architectural design: The aesthetics of the new above-ground pump station will be designed to integrate and fit in with the surrounding environment.

- City of Vancouver engineering sewer funding sources have been allocated for the replacement of the three pump station projects (Raymur, Dunbar and Jericho).
- Funding has been sourced from the 2019-2022 Capital Plan, under the Upgrade and Replace Pump Stations Program.
- No capital expenditures are required from Board of Parks and Recreation.
- Engineering Services will operate and maintain the new pump station once the construction works are completed.

Public Engagement Process

Public Engagement

The project team has been actively seeking feedback from the following:

- Cottonwood Gardens
- First Nations
- Local Residents and Neighborhood Associations

| | 2020 | | | | 2021 | | | |
|-----------------------|------------------|----|-----|----|------|------------|------------|----|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Cottonwood Gardens | | | | | | Engagement | | |
| First Nations | Presented to MST | | MST | | | MST | | |
| Local Residents | | | | | | | Engagement | |

Cottonwood Gardens

VANCOUVER BOARD OF PARKS AND RECREATION

- Virtual and on-site meetings held with Cottonwood Gardens since April 2021
- Garden users expressed willingness of collaborating to minimize environmental impacts to the garden
- Garden users inquired about maps of the construction footprint/laydown area and potential relocation of planter boxes
- Project team has liaised with Park staff and Consultant to identify needs and mitigate impacts to the garden

First Nations

- Project team presented project to Musqueam, Squamish and Tsleil-Waututh (MST) on February 18, 2020
- Progress reports submitted to MST on September 9, 2020 and June 9, 2021
- The First Nations has not expressed any major concerns
- The Project Team is in continuous communication with First Nations Representative to monitor feedback from First Nations

- Notification letter distributed to local residents in mid-July 2021
- A resident on behalf of the Strathcona Resident Association inquired about potential amenities and benefits
- The project team will relay their recommendations to the Consultant and will continue to monitor comments from the residents

Preliminary Schedule

The Raymur Pump Station construction will take approximately 18-20 months

- Construction to start in Q2 2022 until end of Q4 2023
- Total completion in Q4 2023

| 2021 | 2022 | | | | 2023 | | | | | |
|--------|--------|--------------|----|----|------|----|----|----|--|--|
| Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | | |
| Design | Tender | Construction | | | | | | | | |

• The Jericho and Dunbar Pump Stations project updates will be presented at a future Park Board meeting.

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