

# Newell Substation Upgrade

Open House

February 27, 2024

# Agenda

- Power Lingo
- Newell Substation Overview
- Project Alternatives Considered
- Project Overview
- Feeder Building Site Options and Renderings
- Schedule

# Power Lingo

## Substation

- Transfers power from the high-voltage “transmission system” to the local “distribution system” which powers your homes and businesses.

## Transformer

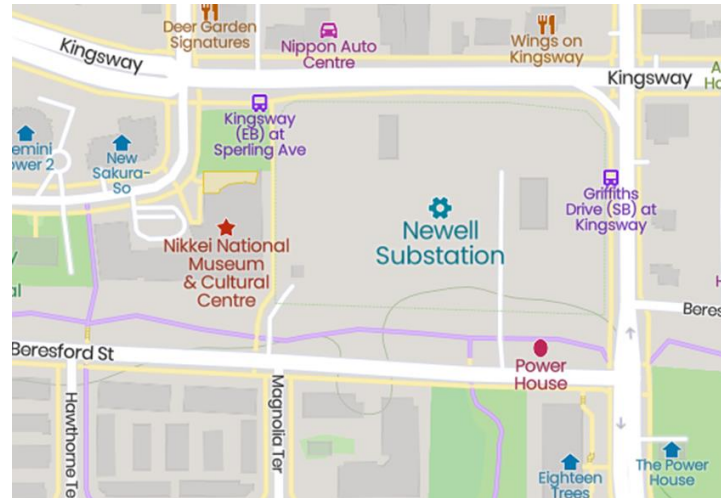
- Lowers voltages so that power can be distributed safely to your homes and businesses through lower-voltage “distribution” power lines.

## Feeders

- Connect the substation to the lower-voltage “distribution” power lines that provide electricity to the community.

# Newell Substation Overview

- Supplies over 59,000 homes and business as well as other substations
- Located at the southwest corner of Kingsway and Griffiths Drive in Burnaby
- Built in stages from 1946 to 1955; operating reliably for almost 70 years
- Key part of electrification initiative moving forward
- Project objectives:
  - improve worker safety
  - replace aging equipment
  - address increasing demand for electricity



# Alternatives Considered

## Do Nothing

- Not acceptable as project objectives are not addressed

## Upgrade Outdoor Feeder Equipment

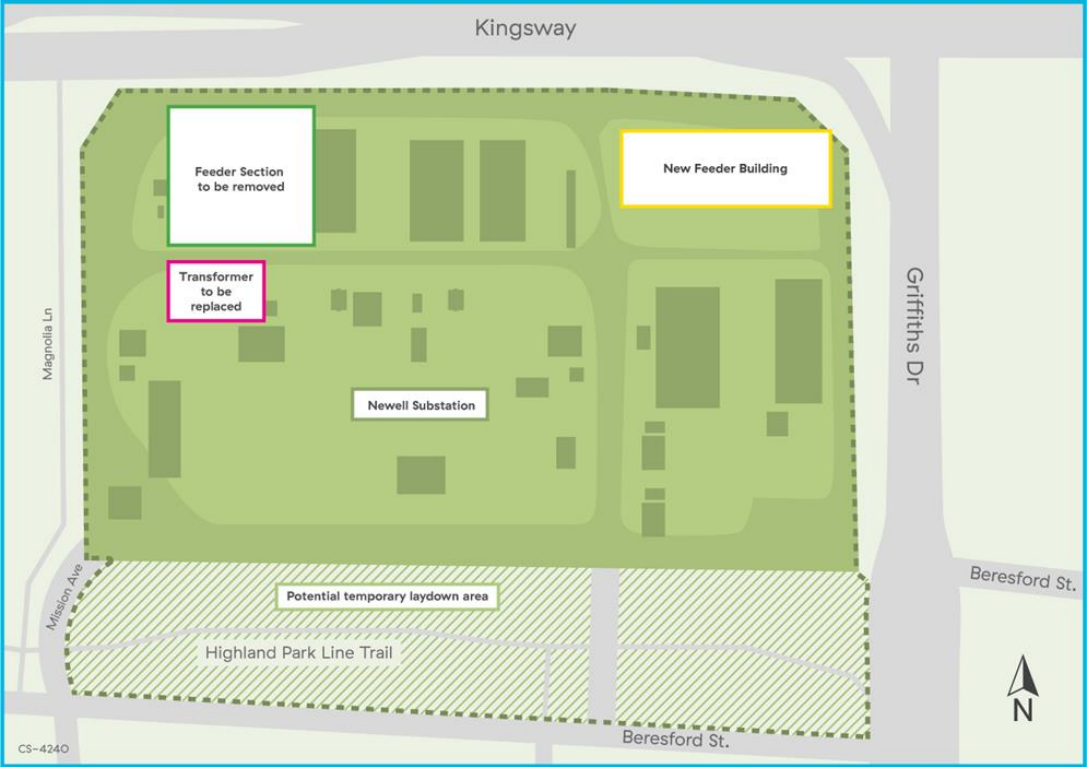
- Partially addresses reliability risks
- Seismic and safety requirements not met
- Cannot install the number of feeders needed

## Replace outdoor feeder equipment with a new feeder building

- Addresses reliability and safety risks as well as increasing demand for electricity

## In all alternatives, Transformer 1 had to be replaced

# Project Scope



# Feeder Building Site Options

- The northeast and southeast corners of the substation were considered for the new feeder building
- The northeast corner was selected after considering:

• Safety	• Constructability
• Ability to connect to existing equipment	• Environment
• Cost	• Community impacts

- The northeast location:
  - keeps the building within the existing fence line
  - doesn't have permanent impacts to the greenspace south of the fence line
  - is further from residences
  - is more cost effective

# Project Overview

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Site Preparation • Construction activities (laydown/parking) south of the existing fence

Transformer replacement • New foundation  
• Remove existing transformer  
• Install new transformer  
• Upgrades in existing control room

New building and equipment • Construct a 2-storey, indoor feeder building  
• Install indoor equipment  
• Install new underground infrastructure connecting new building to existing system (includes work under Griffiths Drive)  
• Connect to City water, sanitary, and storm systems

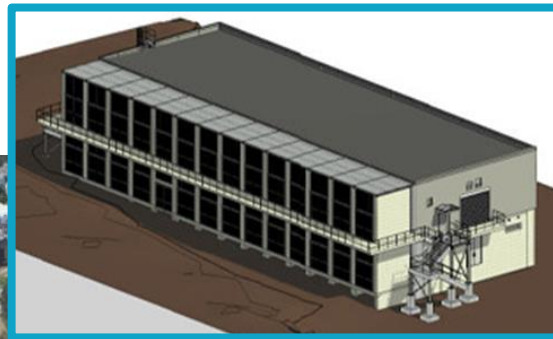
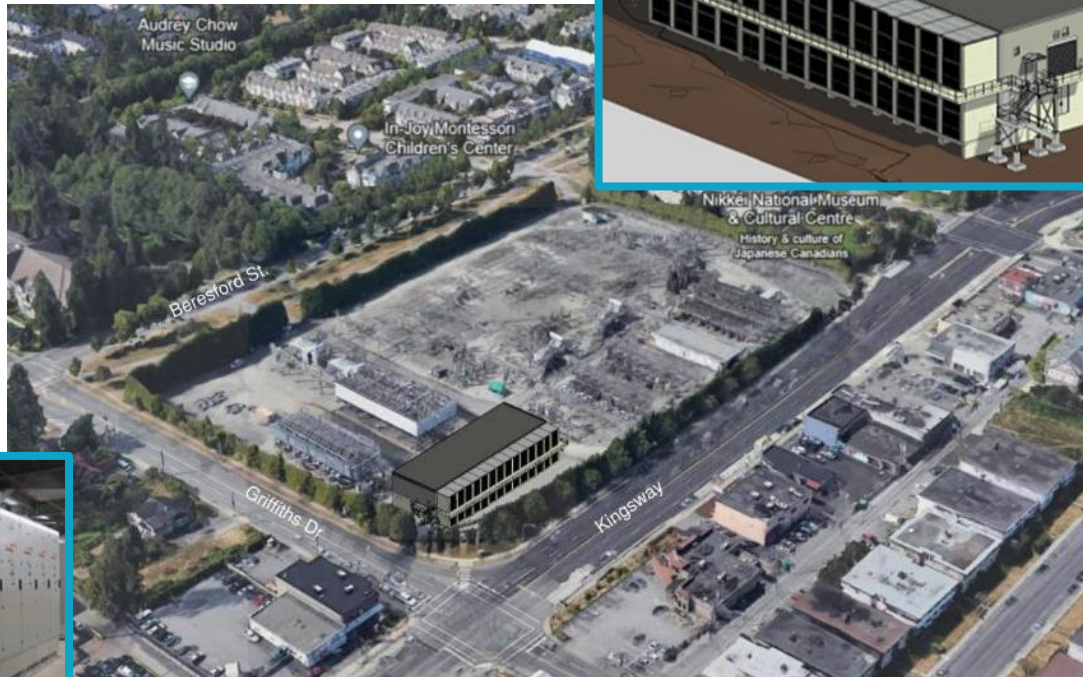


# Project Overview

Demolition	<ul style="list-style-type: none"><li>• Remove feeder section and associated equipment</li><li>• Demolish existing concrete footings</li><li>• Remove old transformer and associated equipment</li></ul>
Landscaping	<ul style="list-style-type: none"><li>• Plant trees</li><li>• Other landscaping as needed</li></ul>

- Most work will be within the substation fence.
- Some land outside the fence on the south side of the substation may be used for temporary construction activities (e.g., laydown, parking).

# New Building - Design



# New Building - Design



# Schedule

Key Dates	Activity
2024 to 2025	<ul style="list-style-type: none"><li>• Confirm required regulatory approvals</li><li>• Complete studies and design work</li></ul>
2025	<ul style="list-style-type: none"><li>• Start construction</li></ul>
2029	<ul style="list-style-type: none"><li>• Target in-service date for new building</li></ul>

This schedule will be refined, and additional detail provided, as planning advances.

# Thank you!

- We'll continue to keep you informed as the project advances
- Please contact us toll free at 1 866 647 3334 or at [projects@bchydro.com](mailto:projects@bchydro.com) if you have any additional questions or comments