

Welcome to the BC Hydro information session



Capilano Substation Upgrade

We're upgrading the Capilano Substation on Woods Drive at Pemberton Avenue. This upgrade will ensure long-term reliability and safety for the electricity supply to the area. We're here to share our project plans and gather your comments.

Why it's important

The Capilano Substation is an existing substation built in the early 1950s. Approximately 12,000 customers are served by this substation in the immediate area.

Most of the major equipment in this substation is near end-of-life and needs to be replaced for reliability and safety reasons.

This upgrade will include:

- Two outdoor transformers.
- A building for indoor electrical equipment and a control room.
- Steel structures to support the new and existing power lines.
- Other associated outdoor electrical equipment in the substation yard.

We'll construct the new substation on the west side of the existing substation site while using the east side to continue to provide power during construction.

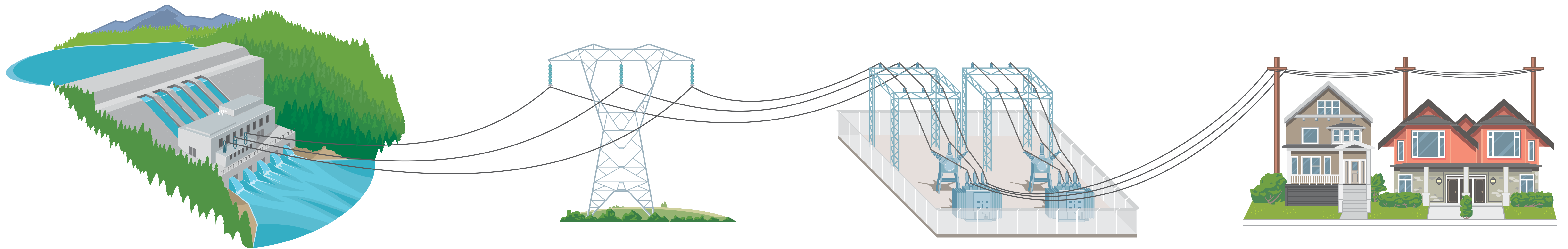


Existing substation inside the fence

What area is being supplied by this substation?

The service area currently supplied by Capilano Substation extends north to the base of Grouse Mountain, south to 1st Street, west to Capilano Road, and east to Lonsdale Avenue. The centre of the supply area is Edgemont Village.

Our electricity system



Generation

Electricity is generated by BC Hydro and independent power producers.

Transmission

Electricity is moved from where it's produced to where it's used.

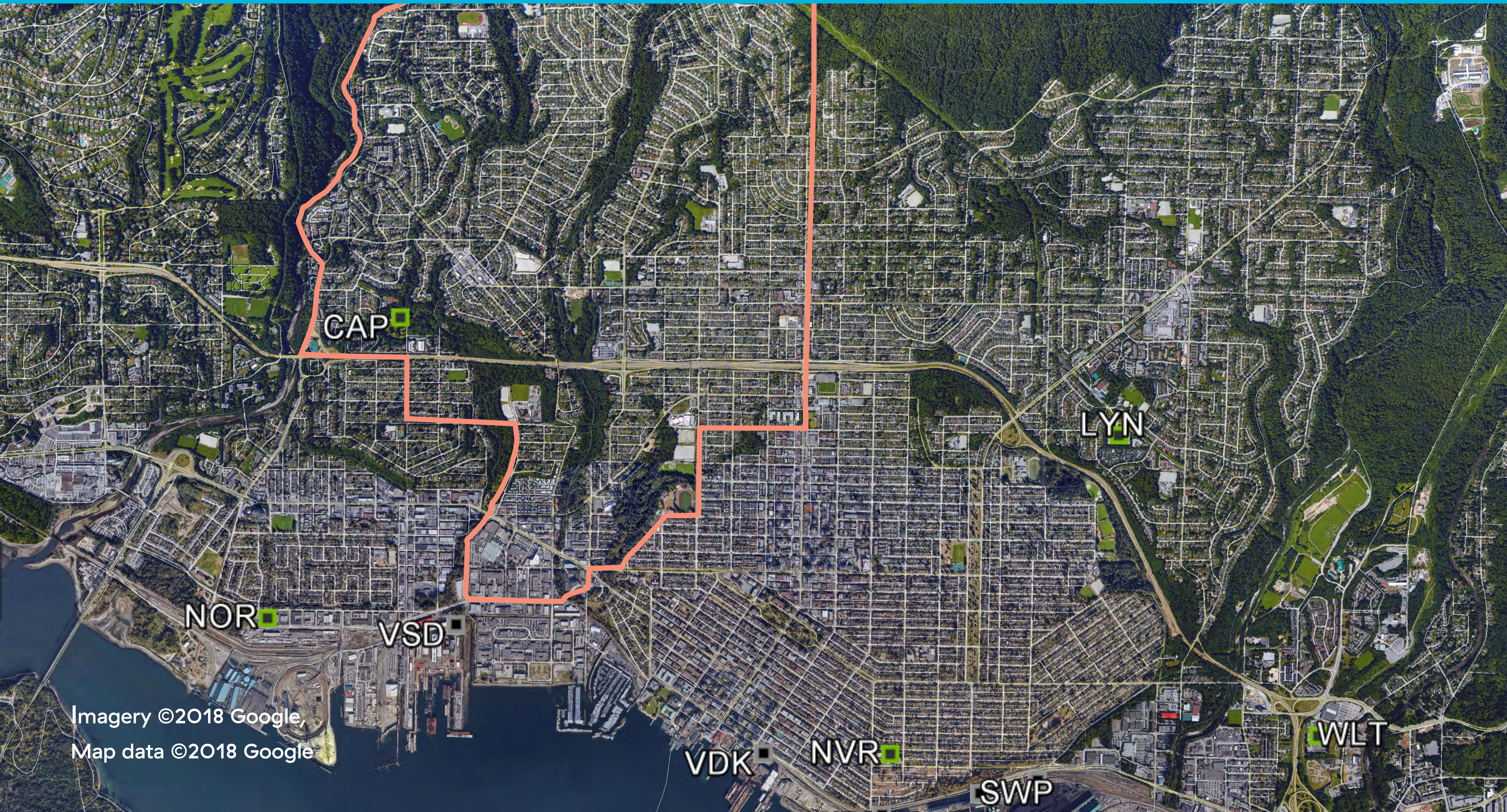
Substations

Voltage is reduced at substations to provide power suitable for use in your home or business.

Distribution

Low voltage electricity is provided to neighbourhoods and businesses.







Capilano substation service area 2018

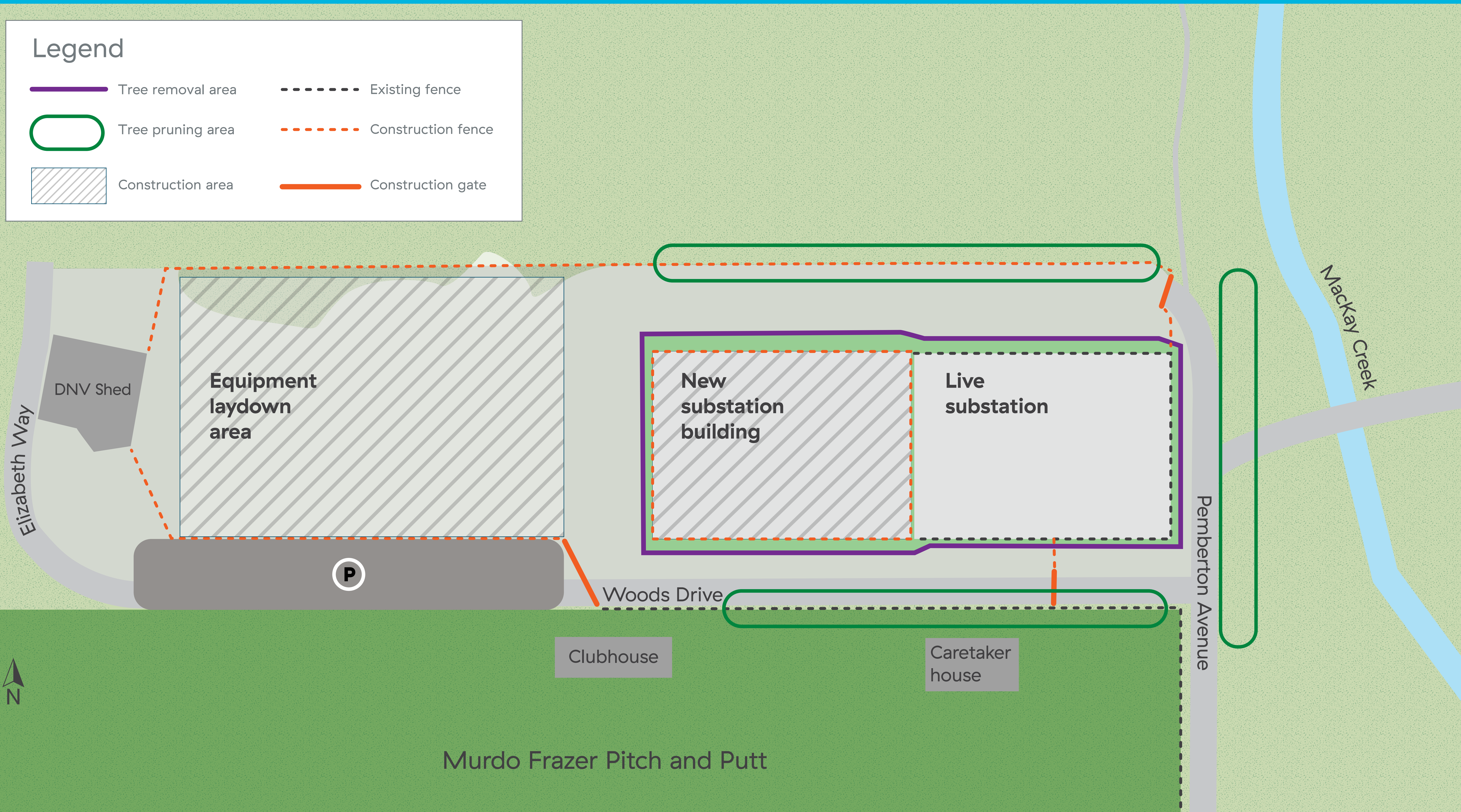


Imagery ©2018 Google,
Map data ©2018 Google

Construction plan

Legend

- | | |
|---|--|
|  Tree removal area |  Existing fence |
|  Tree pruning area |  Construction fence |
|  Construction area |  Construction gate |



How are we constructing it?

We'll be managing the construction of this substation to minimize impact to park users.

Construction Impact	How we're dealing with it
Park Traffic and Parking	Murdo Frazer Park access will be maintained along Pemberton Avenue. Access to existing parking on Woods Drive will be redirected through Elizabeth Way near the tennis courts.
Pitch and Putt Operation and Access	Access to the clubhouse will be maintained from the west via Elizabeth Way. Additional parking has been made available.
Noise	Construction will take place during regular construction hours and will be consistent with District of North Vancouver's noise bylaw.
Dust	To manage the dust, we'll do regular sweeping, use gravel where appropriate and wet the areas as needed during construction.
Park User Communications	We'll add signs to ensure users are aware of trail changes, the access route to the Pitch and Putt and the expanded parking location. We'll also provide project updates in the Park, on the project website and by email. We'll advertise in local papers that Murdo Frazer Park remains accessible during construction and the Pitch and Putt continues to be operational.

- We did an environmental review of wildlife, fish habitat, water quality, vegetation, air quality, noise, wildfire risk, and archaeological resources.
- The substation is close to MacKay Creek so we have conducted studies of the soil and groundwater quality.
- As part of our Construction Environmental Management Plan, we are developing specific mitigation measures to reduce the potential for adverse environmental effects during construction.
- Mitigation measures are taken from BC Hydro standards and practices, provincial best management practices, guidelines, terms and conditions of Project permits, and other applicable documents.
- We will be monitoring environmental compliance throughout construction.

Environmental Mitigation Measures



Covered Stockpile



Fuel Secondary Containment



Silt Fencing



Project timeline

Planning and Community Engagement

April 2016

BC Hydro introduced project to District of North Vancouver

May 2016

Project introduction letter sent to surrounding community

Spring 2017

Engagement with stakeholders to refine construction and architecture plans

December 2017

BC Hydro presented preliminary substation concept to District of North Vancouver

November 2018

Public information session.

Summer/Fall 2019

Ongoing community updates

Construction

Fall 2019

Site preparation and vegetation management

Summer 2020

Main construction start

2024

Expected construction completion

Architectural design

We hired an architect to design the substation to ensure that the building exterior and fence have features that will fit with the surrounding area.

We worked closely with the District's architect and planning staff to refine the design.

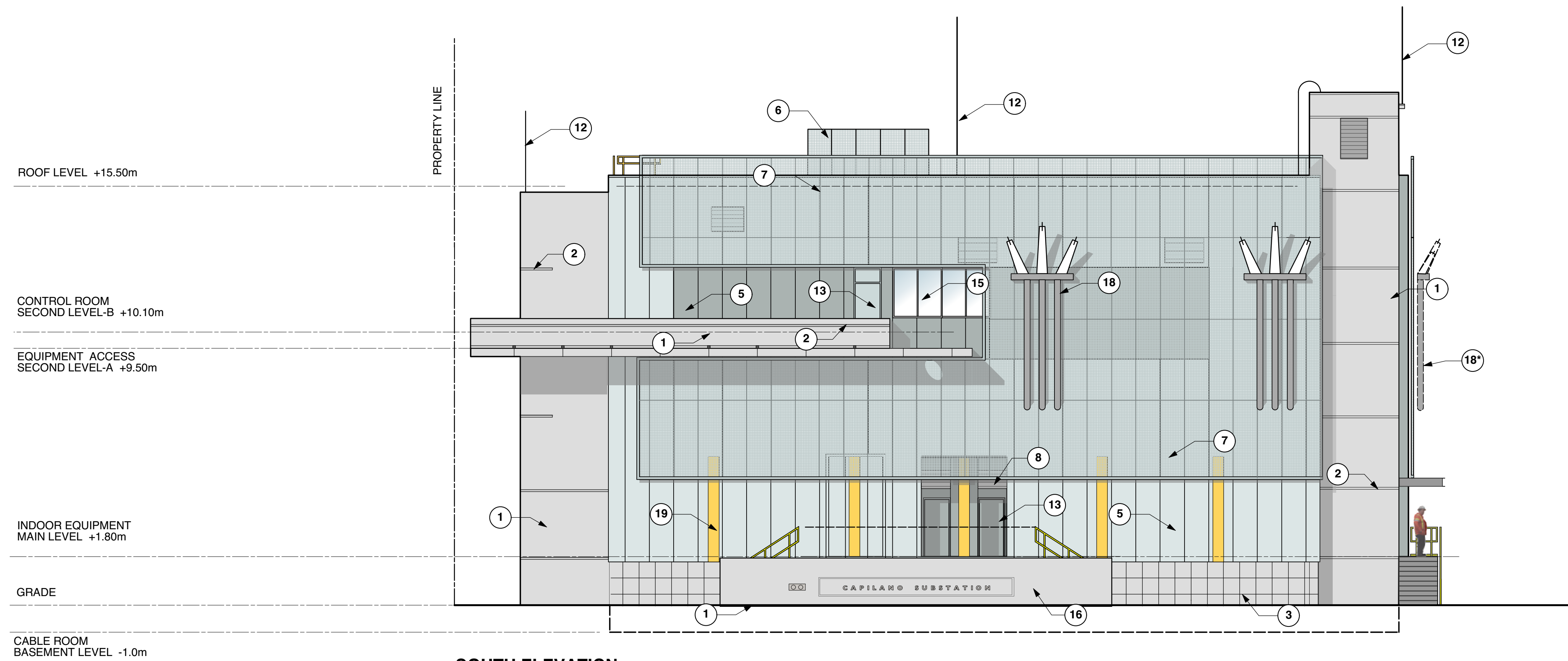
The design incorporates some features found on other public buildings in the District such as:

- A weathered zinc façade;
- Decorative tile work on the eastern face;
- Metal panels on the south face as a screen;
- Additional design elements to make the scale feel more pedestrian.

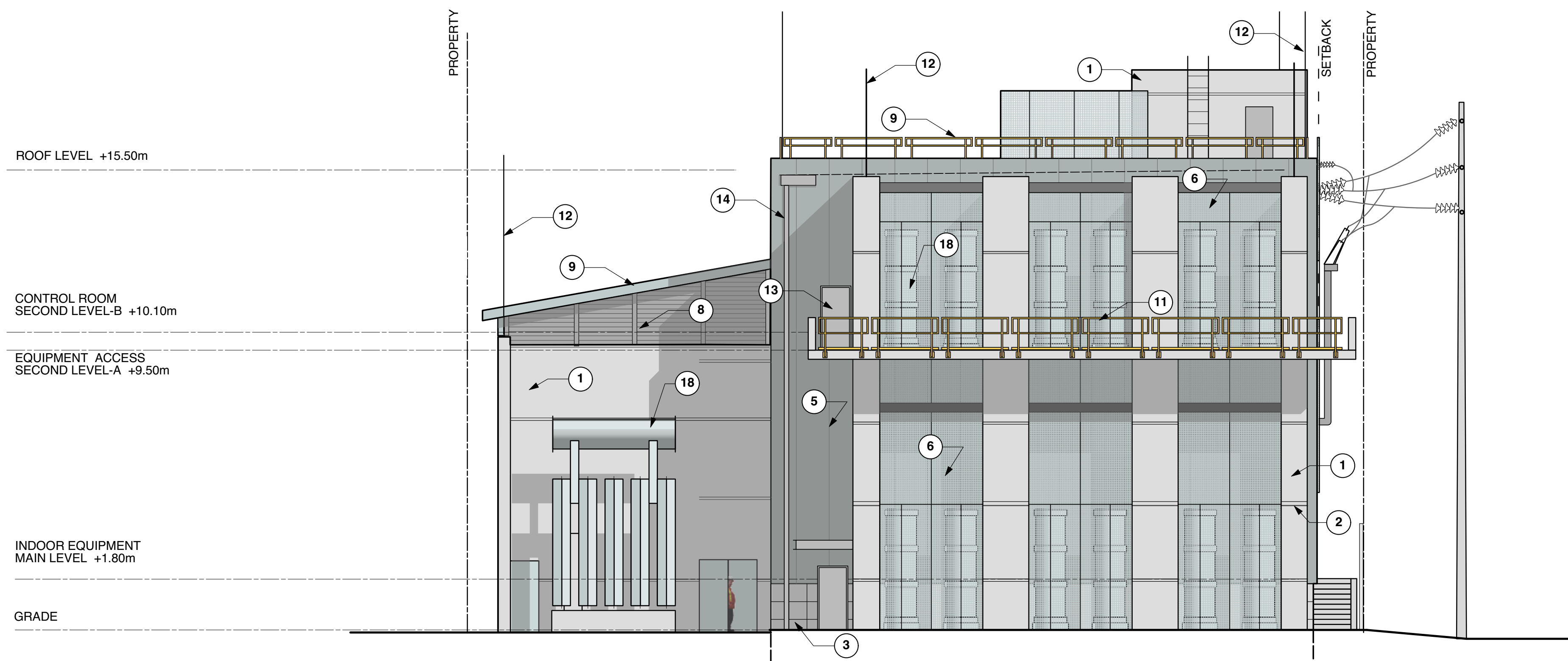
For the landscaping, we're adding sustainable and native plants and landscape materials around the outside of the fence.



Architectural design



SOUTH ELEVATION



WEST ELEVATION

MATERIAL SCHEDULE

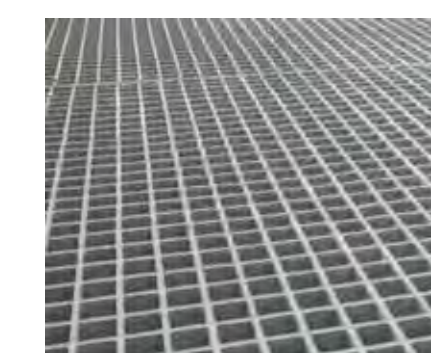
- ① CONCRETE
- ② CONCRETE REVEAL
- ③ INSULATED CONCRETE PANEL
- ④ REMOVABLE STEEL FRAME FIRE WALL

- ⑤ INSULATED METAL PANEL -PAINTED
- ⑥ FRP GRATING ENCLOSURE
- ⑦ INSULATED METAL PANEL WITH FRP SCREEN
- ⑧ VENTILATION LOUVER
- ⑨ METAL ROOF

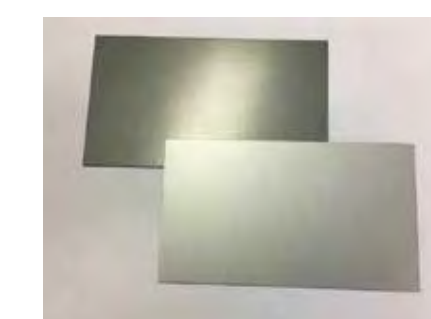
- ⑩ METAL GUARDRAIL -GALVANIZED
- ⑪ METAL GUARDRAIL -PAINTED
- ⑫ LIGHTNING ROD

- ⑬ METAL DOOR AND FRAME-PAINTED
- ⑭ RAIN WATER LEADER
- ⑮ TINTED GLAZING IN METAL FRAME

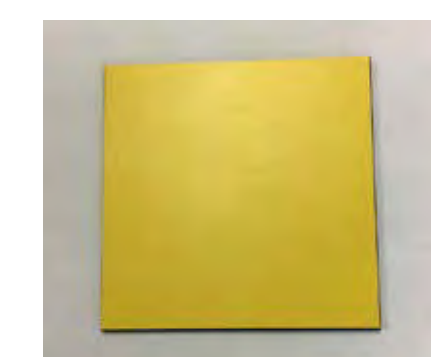
- ⑯ PROJECT SIGNAGE
- ⑰ TILE ON CONCRETE
- ⑱ SUBSTATION EQUIPMENT
- ⑲ FUTURE SUBSTATION EQUIPMENT
- ⑳ COLOURED TRESPA PANEL



FRP GRATING
COLOUR: LIGHT GREY



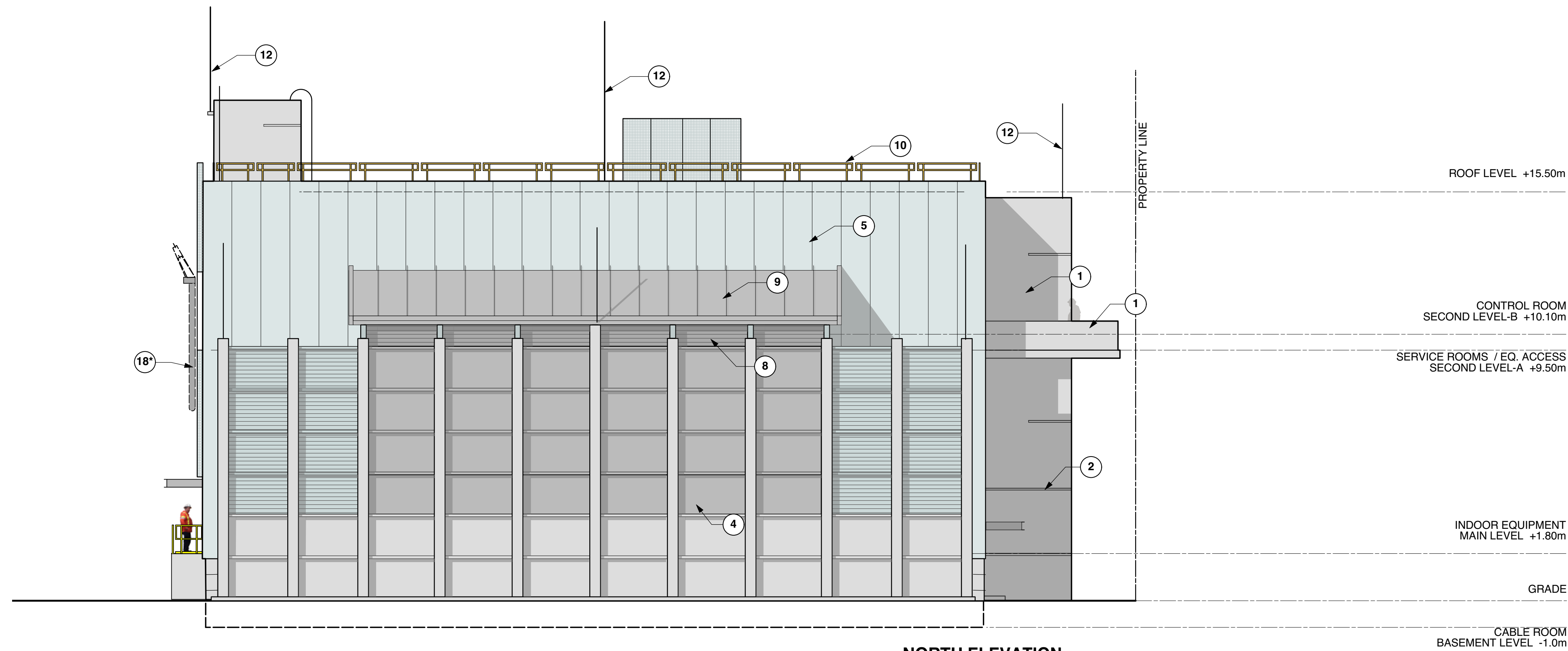
INSULATED METAL PANEL
METALIC PAINT COLOURS:
DARK: WEATHERED ZINC
LIGHT: SILVER SMITH



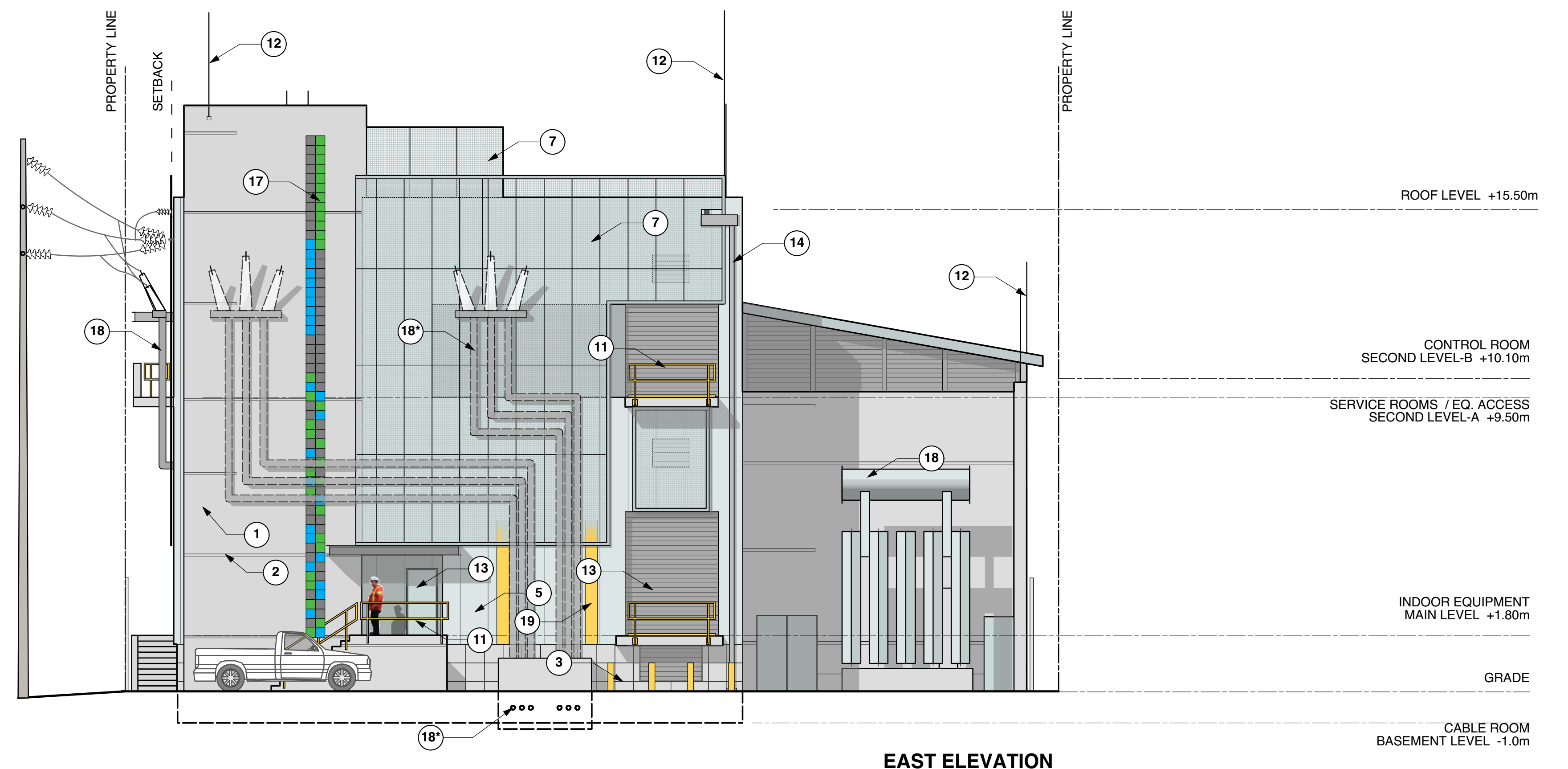
TRESPA PANEL
COLOUR: YELLOW

SCALE: 1:100 0 1 5 10 METRES

North and East Elevation



NORTH ELEVATION



EAST ELEVATION

MATERIAL SCHEDULE

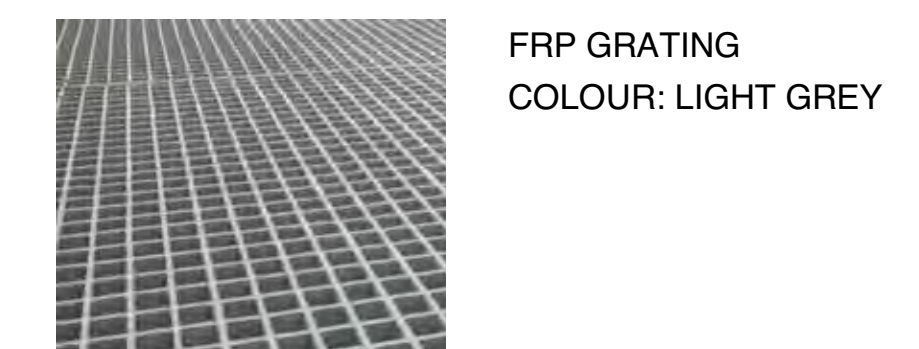
- ① CONCRETE
- ② CONCRETE REVEAL
- ③ INSULATED CONCRETE PANEL
- ④ REMOVABLE METAL PANEL WALL

- ⑤ INSULATED METAL PANEL -PAINTED
- ⑥ FRP GRATING ENCLOSURE
- ⑦ INSULATED METAL PANEL WITH FRP SCREEN
- ⑧ VENTILATION LOUVER
- ⑨ METAL ROOF

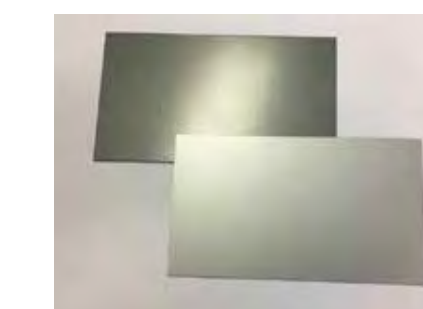
- ⑩ METAL GUARDRAIL -GALVANIZED
- ⑪ METAL GUARDRAIL -PAINTED
- ⑫ LIGHTNING ROD

- ⑬ METAL DOOR AND FRAME-PAINTED
- ⑭ RAIN WATER LEADER
- ⑮ TINTED GLAZING IN METAL FRAME

- ⑯ PROJECT SIGNAGE
- ⑰ TILE ON CONCRETE
- ⑱ SUBSTATION EQUIPMENT
- ⑲ FUTURE SUBSTATION EQUIPMENT
- ⑳ COLOURED TRESPA PANEL



FRP GRATING
COLOUR: LIGHT GREY



INSULATED METAL PANEL
METALIC PAINT COLOURS:
DARK: WEATHERED ZINC
LIGHT: SILVER SMITH



TRESPA PANEL
COLOUR: YELLOW

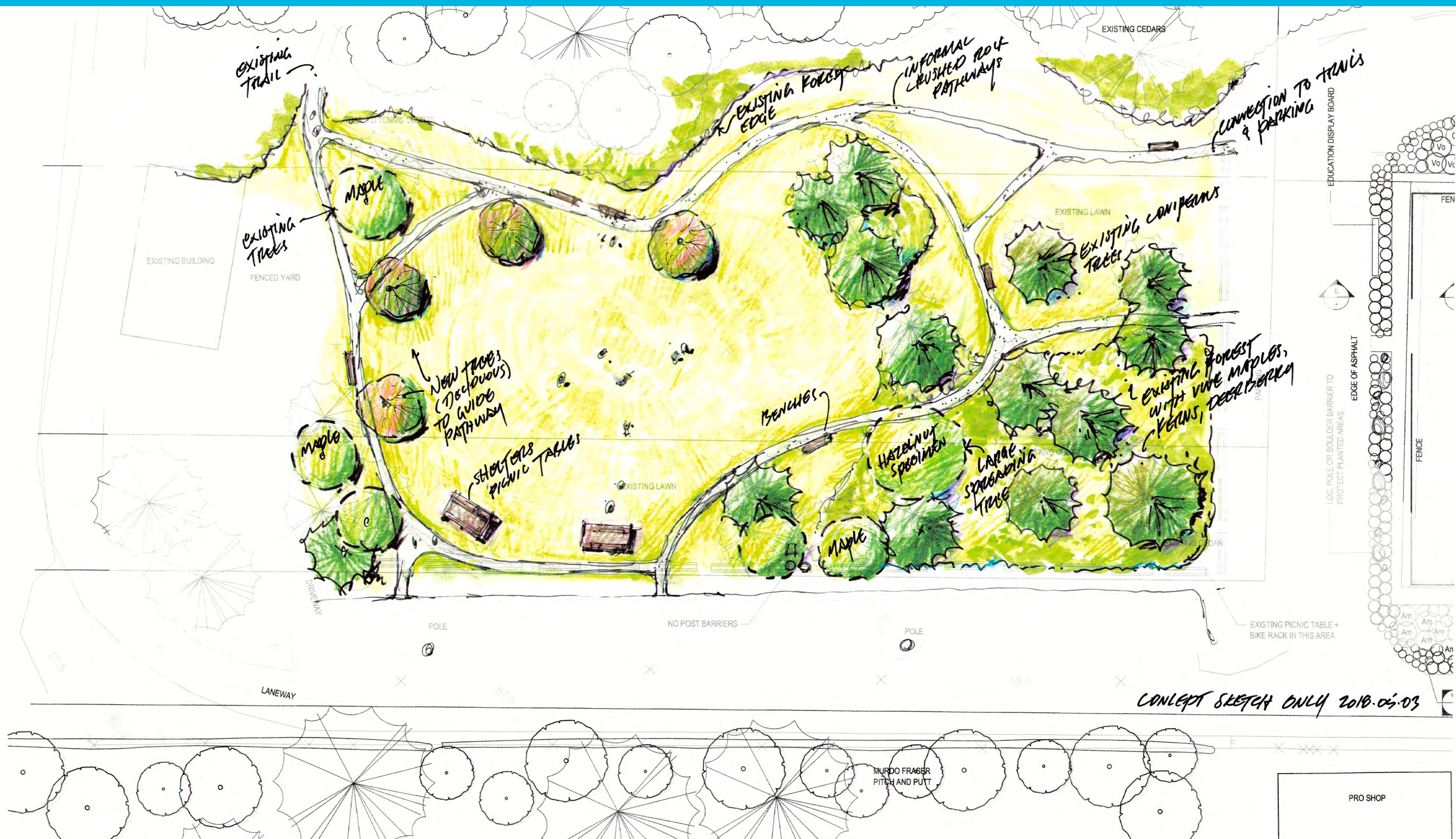
SCALE: 1:100 0 1 5 10 METRES

Long-term benefits

Beyond ensuring continued reliable electricity in the area, we'll also be doing our part to enhance Murdo Frazer park:

Community Benefits	What we're doing
Murdo Frazer Park Enhancements	Following construction the Murdo Frazer Park picnic area across from Pitch and Putt will be enhanced with new trails, shelters and benches.
Road and Parking Improvements	Woods Drive will be repaved and existing parking spaces will be repainted. Parking will also be created and painted on the north side of the substation. New parking spaces, created on Pemberton Avenue and 26th Street for construction use, will be retained permanently for park users.
Fire Protection	An additional fire hydrant will be added for fire protection in the area.
Service Connections	Water and sanitary connections will be constructed under Woods Drive and provided to the Pitch and Putt clubhouse for future facilities.
Contribution to DNV Parks	We're providing a contribution to the District of North Vancouver Parks for environmental restoration and upgrades in Murdo Frazer Park.

Restored picnic area



Conceptual sketch. Some trees may need to be removed during construction. BC Hydro will replant with appropriate tree species following construction.