

## ADMINISTRATIVE REPORT

<b>TO:</b> Planning Committee
<b>FROM:</b> Administration
<b>DATE:</b> November 18, 2024
<b>RE:</b> Public Hearing Report – Whistle Bend Electrical Substation

### ISSUE

Public Hearing Report on a bylaw to amend the zoning of a 0.75 ha parcel of vacant Commissioner's land, located west of Phase 7 of Whistle Bend, from FP – Future Planning to PU – Public Utilities, to allow for the development of a new Electrical Substation to address increasing power demands.

### REFERENCES

- [Zoning Bylaw 2012-20](#)
- [EMF Fact Sheet](#)
- [Noise Impact Assessment](#)
- [Whistle Bend Phase 7 Lottery Package](#)
- Location Map (Attachment 1)
- Proposed Zoning Amendment Bylaw 2024-47 (Attachment 2)

### HISTORY

An application was received to rezone vacant Commissioner's land to allow for the development of an Electrical Substation, as they are not a permitted use in the FP zone.

Bylaw 2024-47 received First Reading on September 23, 2024. Public hearing notifications were sent out in accordance with the Zoning Bylaw 2012-20, including:

- Newspaper advertisements were posted in the Yukon News on October 25 and November 1, 2024;
- Email notifications were sent to Kwanlin Dün First Nation, Ta'an Kwäch'än Council, Government of Yukon Land Management Branch, and the Whistle Bend Neighbourhood Association;
- Mail notifications were sent to property owners within 100 metres of the subject site; and
- Two notice signs were placed close to the subject site on the intersections of Leota Street/Flora Avenue and Leota Street/Keno Way.

A public hearing for this item was held on November 12, 2024. Two written public input submission were received and one member of the public spoke to the amendment at the public hearing.

### ALTERNATIVES

1. Proceed with the second and third readings under the bylaw process; or
2. Do not proceed with the second and third readings.

## **ANALYSIS**

The following matters were raised in the public hearing submissions:

- Potential health and/or safety risk;
- Homebuyer and Marketability Concerns;
- Location Alternatives

### **Potential health and/or safety risk**

A member of the public expressed concerns that the proposed electrical substation will result in potential health and/or safety risks that are associated with living nearby an electrical substation.

Living close to an electrical substation is generally considered safe, however, there are some health and safety considerations related to potential exposure to electromagnetic fields (EMFs), noise, and risks due to high-voltage equipment.

#### *Electromagnetic fields*

Electric fields can be blocked by objects like trees and buildings, while magnetic fields pass through most materials. Both decrease rapidly over distance. For example, at 30 meters from a high-voltage line, magnetic field strength is about a quarter of its original level. At 91 metres, EMF levels are typically indistinguishable from those found in ordinary home environments. Although the closest residential lot is approximately 30 meters from the leased area, it is more than 90 meters from the actual infrastructure within the substation, based on the preliminary design. As a result, exposure levels are expected to remain well within safe limits.

#### *Noise*

Substations can produce a faint humming sound, typically a 60 Hz hum from transformers, which generally fades beyond 50 meters. To minimize any noise impact, a treed buffer is planned to remain around the substation. A Noise Impact Assessment was conducted following British Columbia Energy Regulator (BCER) guidelines, analysing noise levels within 1500 meters of similar Whitehorse substations. Results indicated that predicted noise levels at nearby residences remain within BCER's acceptable limits, making additional noise controls unnecessary.

#### *Voltage*

The voltages at this substation, 35 kV and 25 kV, are classified as medium voltage and are standard voltages for city power distribution. These voltages are commonly used on power poles throughout the city, in residential areas and backyards, along streets downtown, and on every street with buildings that receive electrical power. Security measures, including fencing, will be in place at the substation to prevent unauthorized and unsafe access to the equipment.

### **Homebuyer and Marketability Concerns**

Submitters indicated that recent homebuyers might have reconsidered purchasing on these streets had they known about the substation plan. Concerns were also raised

about the potential impact of the proposed substation on the future marketability of these lots.

The lottery package for Phase 7, which released the lots in this area, indicated that ATCO was in the early stages of developing a substation to the west of Phase 7 and showed its location on the maps made available in the tender package and for online viewing. Additionally, the lot price list included a note referring the closest lots to the section about the anticipated substation as well.

### **Location Alternatives**

A submitter inquired whether the substation could be located farther from nearby residences and what alternative locations were considered before selecting the current site.

Typically, substation sites are selected based on their proximity to the area they will service and their closeness to existing power line infrastructure. A 35kV overhead line runs directly behind Leota Street. To avoid the construction of additional overhead lines and minimize the space needed for rights-of-way the current site was chosen for the substation.

### **ADMINISTRATIVE RECOMMENDATION**

THAT Council direct that Bylaw 2024-47, a bylaw to amend the zoning of vacant Commissioner's land from FP – Future Planning to PU – Public Utilities, be brought forward at second and third reading under the bylaw process.