

Petawawa Net Zero: MECP comments on Acoustic Assessment Report

- 1) Cadna File: Please provide the Cadna file.

RESPONSE:

Cambium utilizes Predictor Type 7810 version 2021 software for our noise models. The calculations completed by this software are based on established prediction methods accepted by the MECP; including ISO 9613-2 Acoustics – Attenuation of Sound during Propagation Outdoors, which is the same as CADNA. Revised shapefiles have been provided with the revised report.

Cambium has utilized Predictor Type 7810 for more than 10 years and models have been accepted by multiple Ministry Review Engineers using this software. If the Ministry is indicating that Cadna is now mandatory, please provide formal confirmation.

- 2) Typo in Section 4.0: POR4_A should be modelled at 4.5 metres height as opposed to 1.5 metres height as listed in Section 4.0.

RESPONSE:

Note that Table 2, Table 3, and Table 4 of the report all indicated that POR4_A was modelled at 4.5 metres.

The typo is noted, and revised in updated report this had no effect on the conclusion of the report.

- 3) Class 2 Area for POR6- Section 4.1: POR6 area was classified as Class 2 Area (Urban). Please provide background noise measurements and/or predictions to support the Class 2 Area classification for POR6. Otherwise, POR6 area classification should be reverted to Class 3 Areas (Rural) since the noise environment appears to be dominated by natural sounds during the day and night.

RESPONSE:

Cambium could not access POR6 during the site visit due to a locked gate. POR6 has been revised as Class 3. Predicted noise impact in the previous version of the report, and the current version are both compliant with Class 3 limits. No impact on report conclusions.

- 4) Ground Factor in Section 5.3: Ground factor should be conservatively assumed to be 0 (as opposed to 0.3 used in the model).

RESPONSE:

The existing assessment is already sufficiently conservative, the entire site boundary has been

modelled as 0.3 ground factor, however more than half of the site could be considered soft ground and consists of grassy areas. In addition, the site is surrounded by forested lands which have not been included in the model for additional conservative purposes.

Note that the use of a ground value between 0 and 1 is supported by ISO 9613-2 Section 7.3.1 *“Mixed ground: if the surface consists of both hard and porous ground, then G takes on values ranging from 0 to 1, the value being the fraction of the region that is porous.”*

The use of a ground factor of 0.3 suggests that 30% of the area inside the site boundary is porous. It can be seen from aerial photos that significantly more than 30% of the site is porous. Therefore, there is no need for additional conservatism.

- 5) Zone: The project is in Zone 18. However, the UTM coordinates in the Acoustic Assessment Report incorrectly were listed in Zone 17. The UTM coordinates should be corrected to Zone 18. This comment is applicable to all Tables and Figures.

RESPONSE:

It is correct that there was a conversion error with regard to coordinates. However it should be noted that relative distances in all cases were correct.

Noted, model and tables revised. No Impact on conclusions of the report.

- 6) Vacant Lots: Vacant lots in the north, south, east, and west directions were not shown in Figure 1-5. Please provide confirmation that there are no vacant lots closer and more exposed to the facility than the selected PORs. Otherwise, these vacant lots should be added and assessed as PORs.

RESPONSE:

Vacant lots were not shown because there were no vacant lots assessed.

The lot directly south of the facility is a single lot and an existing dwelling has been constructed and identified as POR6. As a conservative approach, two additional receptors have been included on the property to represent potential future residential developments on this lot, which have been described as POR7 and POR8.

No vacant lots have been observed.

- 7) Contour Heights: Above ground heights for contours are not provided in Figures 4 and 5. Please include two (2) contour maps, one at 4.5 metres above ground level (receptors POR1_A to POR6_A) and another one at 1.5 metres above ground level (POR1_B to POR6_B). Please provide contour maps for day and nighttime periods in line format (not area format). The contour maps

should be in line format and the applicable sound level limits should be shown by contours on these maps.

RESPONSE:

Section 3.0 of Cambium's report clearly stated that the contours in Figure 4 are at 4.5 metres.

There is no technical difference in the information provided by area format or line format contours, area format is the standard format provided by Cambium and has been accepted by review engineers on numerous approvals over the past 15 years. Please advise if the Ministry is now mandating line format contours on all Acoustic Assessment Reports and we will update our templates accordingly.

The request has been satisfied by Cambium.

- 8) UTM Coordinates: The coordinates used do not represent the actual locations of the selected PORs and noise sources. These coordinates should be corrected to reflect the actual (not approximate) locations of the selected PORs and noise sources.

RESPONSE:

The coordinates have always reflected the actual location of the selected PORs. The only error was in UTM zone. The relative distances between source and receiver were accurate in the modelling throughout.

Noted and Revised

- 9) Sound Data: Include the sound specifications from manufactures for the noise sources labeled as "Sound Data" in Table 1.

RESPONSE:

Sound data received from Granite Fuel provided in Appendix A.

- 10) POR5_B: assessment of this two storey house (Outdoor Living Area) should be added to Table 3 and Table 4.

RESPONSE:

Revised

- 11) The August 10, 2022, Acoustic Assessment Report needs to be revised and re-submitted to the ministry to address the above noted comments.