

File Ref: AC17221 – 03 – R6

5 September 2022

Mr G. Macaskill
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Email: g.macaskill@tbig.co.nz

Dear Grant,

**Re: Future Accommodation Strategy, Parliamentary Precinct
Noise from proposed generators & mechanical plant**

As requested, we have considered the noise from the proposed generators and mechanical plant associated with the Future Accommodation Strategy project on the Parliamentary Precinct, in regards to compliance with the District Plan noise limits.

Please find our analysis below.

1.0 SITE AND SURROUNDING AREA

The overall site is located within the Central Area, as defined in the Wellington District Plan. The surrounding sites are also within the Central Area, apart from an Open Space A zone directly to the southeast, an Open Space B zone to the southwest (on the opposite side of Bowen Street), and an Inner Residential zone to the northwest (on the opposite side of Hill Street). The site and surrounding area are shown in figure 1.1 below.

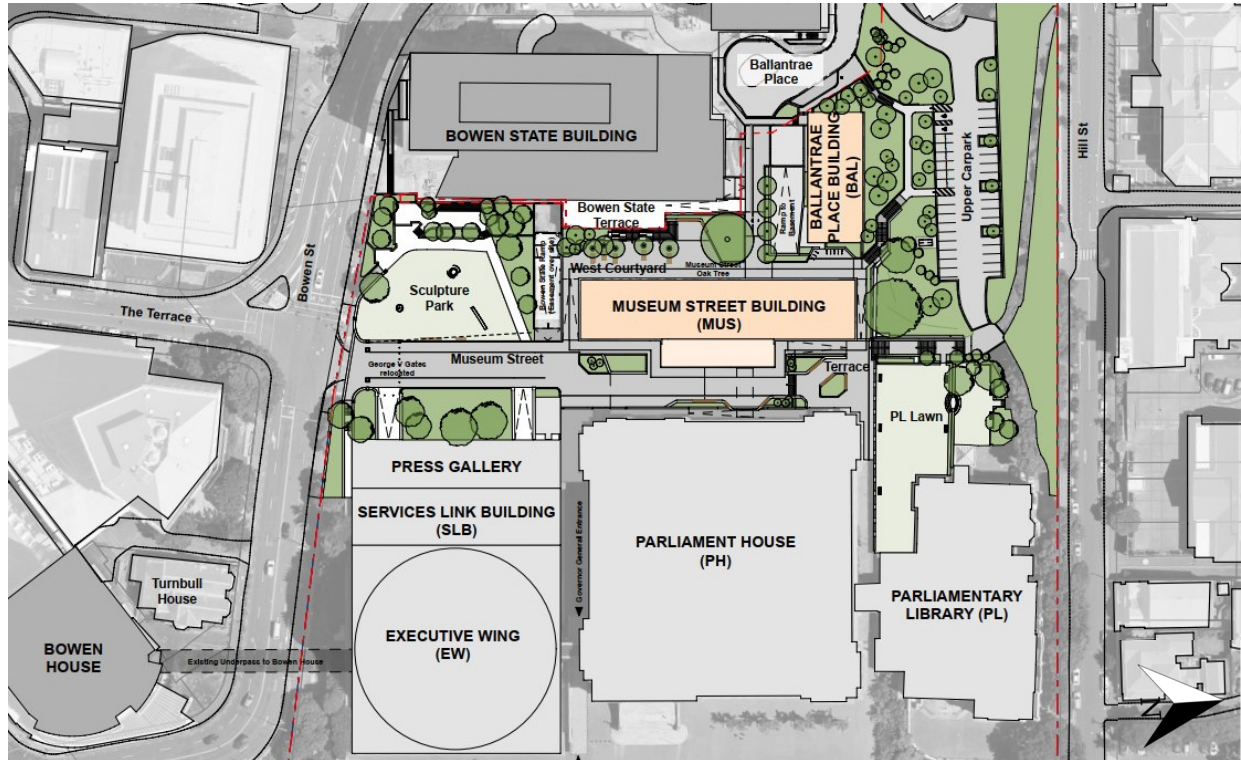


Figure 1.1 – Site and surrounding area

2.0 DISTRICT PLAN NOISE LIMITS

As outlined above, the site is within the Central Area, as defined in the Wellington District Plan. Therefore, the noise limits for fixed plant outlined in *Volume 1: Objectives, Policies & Rules, 13 Central Area Rules, 13.6 Central Area Standards, 13.6.1 Activities, Buildings and Structures Standards, 13.6.1.1 Noise (fixed plant)* apply as follows:

Noise emission levels from fixed plant shall not exceed the following at or within the boundary of any land parcel, or at the outside wall of any building on any site, other than the building or site from which the noise is emitted:

At all times: 55 dB LAeq (15 min)

10pm to 7am: 70 dB LAfmax

The noise limits set in standard 13.6.1.1 shall not apply to fixed plant that is used solely for emergency purposes. Examples of such equipment are standby generator sets that are used to supply electricity only at times of electrical supply failure, or for plant used only during life threatening situations such as smoke fans or sprinkler pumps. This fixed plant is exempt from the noise limits provided that it:

- (i) *Only operates for maintenance between 8am and 5pm weekdays*
- (ii) *With the exception of smoke extract fans, can comply with standard 13.6.2.1.1*
- (iii) *With the exception of smoke extract fans, can comply with Appendix 5 when operated for maintenance*
- (iv) *In the case of electricity generator sets can only be used on an emergency basis and is not used to generate power for the national grid.*

The proposed generators on the site are for emergency use only, with maintenance limited between 8 am and 5 pm weekdays. Therefore, the other relevant noise limits within the District Plan when the generators are operated for maintenance are those outlined in 13.6.2.1.1 and Appendix 5, as follows:

13.6.2.1.1 [Except for noise from port related activities which is covered in 13.6.2.1.4a] noise emission levels when measured at or within the boundary of any fee simple site or at the outside wall of any building on any site, other than the site from which the noise is emitted, shall not exceed the following:

At all times: 60dBA $L_{Aeq(15\ min)}$

At all times 85dBA L_{AFmax}

Appendix 5

5.1 Residential (Inner)

Noise emission levels when measured on any residential site in the Inner Residential Area must not exceed:

Monday to Saturday 7am to 7pm - 55dB $L_{Aeq(15min)}$

Monday to Saturday 7pm to 10pm - 50dB $L_{Aeq(15min)}$

At all other times - 40dB $L_{Aeq(15min)}$

All days 10pm to 7am - 70dB L_{AFmax}

Where it is impractical to measure outside a dwelling, then measurements shall be made inside (with windows closed). Where indoor measurements are made the noise limits stated above shall be reduced by 15 dB.

3.0 GENERATOR LOCATIONS

Two generators are proposed to be located within a dedicated room on the ground floor of the Museum Street Building. This generator room is located approximately 65 metres from the nearest site to the north in the Central Area, and approximately 110 metres from the Inner Residential zone.

Based on these distances, the noise level breaking out of the building (including any flues) could have a maximum cumulative sound power level in the order of 104 dB L_{WA} and compliance with the District Plan noise limit of 60 dB L_{Aeq} at the nearest site within the Central Area, and 55 dB L_{Aeq} at the nearest site within the Inner Residential zone outlined above would be achieved.

The project design team has confirmed that the generators will be designed to comply with the District Plan noise limits. This could be required as a Condition of Resource Consent. Based on our experience, it is realistic to design the generators to comply with the relevant noise limits.

There may be a requirement for additional generators to service the needs of the Precinct. With careful location and design, and in view of the separation distances able to be achieved from any adjoining or adjacent properties, the District Plan noise limits will be able to be complied with.

An acoustic consultant will work with the applicant through this process and as the generator selection and building design become more developed during the Building Consent phase and if required, will produce a report demonstrating exactly how compliance with these rules will be achieved.

4.0 MECHANICAL PLANT

We understand that the main areas of external mechanical plant the roof top mounted plant on the Ballantrae Place Building and the Museum Street Building, as shown in figure 4.1 below.

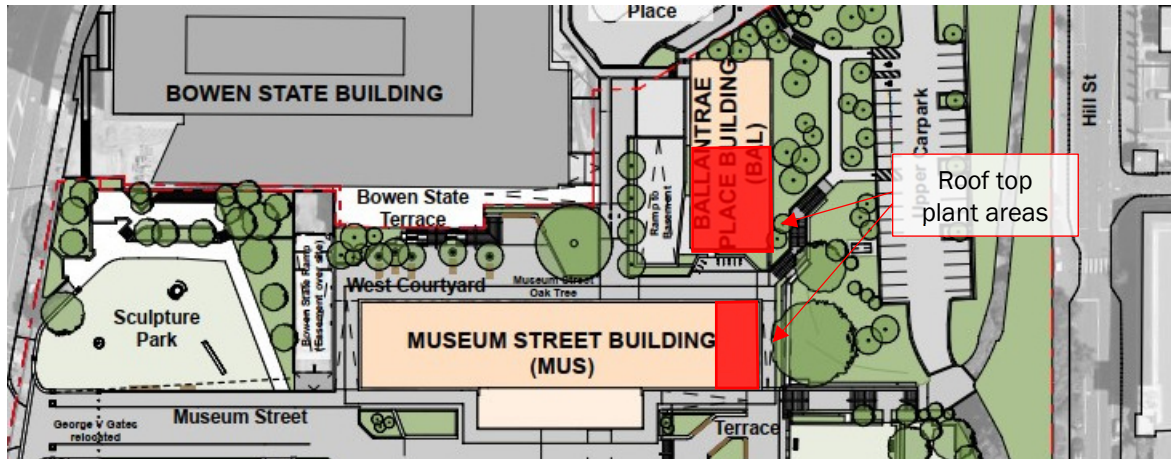


Figure 4.1 – Location of main external mechanical plant

At the current stage of the design, the specific mechanical plant items have not been selected. However, based on discussions with the building services engineer, we understand that the proposed mechanical plant will be as follows:

- Ballantrae Place building roof top plant area
 - Four heat pump outdoor units
 - Two air cooled chillers
 - One outdoor unit for the HVRF system
 - Two outdoor units for the comms room
- Museum Street building roof top plant area
 - Two heat pump outdoor units
 - Two air cooled chillers

Based on the location of the plant on the site, it is reasonable to expect that with appropriate design and plant selection that full compliance with the 55 dB L_{Aeq} noise limit would be able to be achieved at the nearest neighbouring properties.

The project design team has confirmed that the mechanical plant will be designed to comply with the District Plan noise limits. This could be required as a Condition of Resource Consent.

Kind Regards

Clare Dykes
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 Senior Acoustic Engineer
 Acoustic Engineering Services Ltd