

## MEMO

**TO:** Vanessa Leddra – Policy Planner

**FROM:** Andrew Gordon – Senior Specialist

**DATE:** 8 April 2024

**SUBJECT:** 253 Mill Road, Bombay - Notice of Requirement / Resource Consent Application for a Commercial Vehicle Safety Centre (CVSC) – Operational Noise Review

### Introduction

I have reviewed the application documents and specifically the Acoustic Assessment dated 26/01/2023 and updated Acoustic Assessment dated 11/01/2024 prepared by WSP and, the Response to Section 92 RMA Request for Further Information dated 26/1/2024 by Waka Kotahi.

I visited the site (viewed from the road) around the 16/11/2023 and on the 05/04/2024. The project area of 12,330m<sup>2</sup> is proposed to be designated to allow for the construction, operation and maintenance of the CVSC. The parent site is approximately 52,400m<sup>2</sup>.

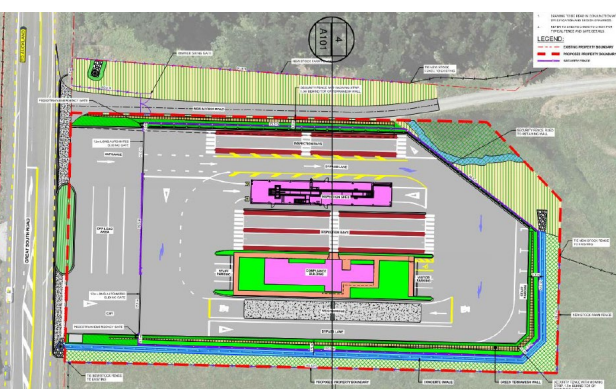
### Proposal details (include):

- six inspection bays, a weigh bridge, inspection shed and compliance station building
- provisional stacking for five trucks prior to the weigh bridge (approximately 125m of stacking)
- on average, eight trucks can be accommodated within the site at any one time (six within the inspection areas, two additional with the offload area)
- an offload area located at the western frontage of the site (outside the security fence) will provide a temporary parking area for overloaded trucks to transfer material onto another truck (if required)
- use of diesel and/or electric forklifts for goods unloading/loading
- operational site requirements anticipate up to 17 trucks would be directed to the CVSC per hour during peak periods (i.e. 0700hrs to 1600hrs), which indicates one truck can complete the weighting procedure and depart the site in approximately 4 minutes

### Location map



### Proposed Site Layout



## AUP (OP) E25 Noise and vibration

The application site and adjoining sites are zoned Rural – Rural Production, with a Business – Neighbourhood Centre zone to the south west and a Residential – Rural and Coastal Settlement Zone located approximately 350m to the east.



Permitted noise levels are specified in E25.6.3 (1) reproduced below: -

**E25.6.3. Noise levels in rural and future urban zones**

(1) The noise (rating) level from any activity in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or the Future Urban Zone measured within the notional boundary on any site in any rural zone must not exceed the limits in Table E25.6.3.1 Noise levels in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or the Future Urban Zone below:

**Table E25.6.3.1 Noise levels in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or the Future Urban Zone**

Time	Noise level
Monday to Saturday 7am-10pm	55dB L <sub>Aeq</sub>
Sunday 9am-6pm	
All other times	45dB L <sub>Aeq</sub> 75dB L <sub>Afmax</sub>

Compliance is assessed within the notional boundary as defined in AUP (OP) J1: -

**Notional boundary**

A line 20m from any side of a building containing an activity sensitive to noise, or the legal boundary where this is closer to the building.

**Activities sensitive to noise**

Any dwelling, visitor accommodation, boarding house, marae, papakāinga, integrated residential development, retirement village, supported residential care, care centres, lecture theatres in tertiary education facilities, classrooms in education facilities and healthcare facilities with an overnight stay facility.

As the NoR application is for a designation, the above E25 standards would not apply, but are referenced for assessment purposes.

### Affected receivers

Neighbouring properties sensitive to noise are correctly identified as set out in Table 2.1 as reproduced below:

Table 2.1 Distance of surrounding residential properties from the site

Property	Property Type	Distance from site
1998 Great South Road	Temple	130
1998 Great South Road	Dwelling	130
1994 Great South Road	Dwelling	175
Lot 3 DP 124783	Dwelling	190
287 Mill Road	Dwelling	240
Rural and Coastal Settlement Zone	Dwelling	350
253 Mill Road	Dwelling	100

I note:

- the dwelling at 1998 Great South Road looks to be ancillary to the temple and appears to be currently unoccupied, but may be occupied in the future

Site visit 05/04/2024



- 1994 Great South Road contains largely business activities however one of the buildings is lawfully established for residential activity
- Lot 3 DP124783 is the adjoining site located on Mill Road to the east
- the dwelling at 253 Mill Road is located within the parent site.

## Discussion

I agree the most noticeable noise source will be from truck movements within the site. The assessment covers noise from engine start-up, idling and driving at slow speed (e.g. <10 km/hr) within the subject site. The 'source' noise levels (e.g. truck idling and leaving at 72 dB LAeq at 10m) is assumed for prediction purposes and is considered representative.

Given proposed operating hours may extend into the 'night time' period, predicted noise levels arising from peak truck movements during the day and peak truck movements at night (at significantly lower movement numbers) are required for assessment purposes.

As mentioned above, the assessment considers separate daytime and night-time effects with three scenarios adopted for assessment purposes. These are reproduced below:

### Scenario A (daytime):

*Three trucks use the facility within a 30-minute period, each with engines running for 5 minutes While a best-case scenario is that each truck can complete the weight check in 3.5 minutes, we have conservatively assumed that all trucks would take longer due to processing delays.*

### Scenario B (daytime):

7 Trucks on site concurrently with their engines running continuously over the entire 30-minute assessment period. This is the worst-case scenario with 5 vehicles queued before the weighbridge with engines running (fully occupying the stacking capacity), one truck driving through the weighbridge, and one truck leaving the site, with a continuous flow of vehicles over the assessment period. Any trucks in the offloading area are assumed to have engines off in accordance with the proposed signage instructing drivers to switch off vehicles when not moving.

Scenario C (night-time):

1-2 trucks on site concurrently with their engine running for 5 minutes.

I note scenario B appears to adopt a conservative, worst case, daytime scenario. In my view the above three scenario approach provides a good indication of expected noise levels relative to the number of trucks onsite at any one time.

A secondary noise source is the proposed inspection shed, which will include three exhaust fans, a booster pump and a roller brake machine. The control room will be fitted with mechanical ventilation. However, I agree noise from activities associated with the inspection shed will be insignificant compared to truck noise.

The section 92 response confirms:-

*The noise generated by the roller brake machine is anticipated to be comparable to that of an accelerating truck. The Inspection Shed will be enclosed on two sides, with the exception of the entry and exit doors. Assuming 0.55mm thick sheet metal for the shed construction, noise emissions will be attenuated by the shed's walls and roof. The presence of trucks in the queue (Scenario B) will further contribute to mitigation of noise (e.g. from the entry or exit openings) at receivers.*

*Based on the above considerations, it is concluded that the noise contribution from mechanical equipment, such as a roller brake machine, will not significantly impact the predicted noise levels outlined in the updated acoustic report (Appendix 10) provided as part of this s92 response.'*

I agree with the above comments.

I confirm specific noise management/mitigation measures are not required, but note the section 92 response confirms the site design considered noise emissions and adoption of the best practicable option to ensure truck noise does not exceed a reasonable level in accordance with section 16 of the 16 RMA. I note the applicant will provide signage to alert truck drivers to turn off engines to avoid any prolonged idling.

Predicted LAeq noise levels are set out in Table 5.1. Based on my experience, predicted noise levels look representative of the proposal.

In summary, predicted noise levels at all affected receivers will generally comply with the above permitted noise levels, except for 1998 Great South Road which will be exposed up to a 3 dBA exceedance under Scenario C when two trucks are onsite and a fork hoist is operating for unloading/loading purposes.

Scenario C is not expected to occur on a regular basis given proposed hours are reported as *The site will typically operate during day time hours or into the evening. Some flexibility is required for site operations to respond to road safety events or initiatives when necessary, and this may require the site to be operational on occasion during night-time hours (after 10pm).*

I note that, subjectively, a 3 dBA change is just perceptible. Truck noise up to 48 dB LAeq at night when assessed at the notional boundary of the dwelling at 1998 Great South Road is not expected to give rise to adverse effects, for example, the calculated internal noise level will be less than 35 dB LAeq and therefore potential sleep disturbance effects will be avoided.

Truck noise is also not out of character for this general location given the surrounding rural production activities, the two 24-hour truck stops (Z and Waitomo) and, the proximity to the Bombay interchange with motorway off and on ramps in both north and south directions.

The updated assessment also confirms (refer Table 5.2) the highest LAFmax levels will not exceed 60 dB (e.g. from air brake release), which is significantly below the permitted level of 75 dB LAFmax applicable at night.

### **Conclusion/Recommendation**

- 1) The application is supported by an Acoustic Assessment which predicted noise levels from day to day activities for comparison with relevant E25 standards.
- 2) Overall, the assessment is satisfactory. I confirm predicted noise levels look representative of the proposal.
- 3) The site will be designed and activities on the site will be conducted to enable general compliance with permitted noise levels set out in E25.6.3 (1) except for a potential exceedance of up to 3 dBA at 1998 Great South Road under Scenario C.
- 4) The predicted noise exceedance under Scenario C is not expected to occur on a regular basis given proposed operating hours. Subjectively, a 3 dBA change is just perceptible. Further, noise up to 48 dB LAeq at night when assessed at the notional boundary of the dwelling at 1998 Great South Road is not expected to give rise to adverse effects, for example, the calculated internal noise level will be less than 35 dB LAeq and therefore potential sleep disturbance effects will be avoided.
- 5) In my view noise from the proposal is compatible with surrounding activities, adjacent zones and the Bombay motorway interchange.
- 6) Specific noise management and/or mitigation measures are not required and were not included in predicting noise levels.
- 7) In my view conditions specific to noise are not required to avoid, remedy or mitigate adverse effects.

Andrew Gordon  
**Senior Specialist**