

Memo

To:	Parvati Rotherham	Job No:	84466.0050
From:	Tonkin + Taylor	Date:	24 November 2020
Subject:	September noise monitoring discussion follow-up		

This memo addresses points raised during the discussion on 24 November 2020 regarding noise monitoring at the Wainuiomata Cleanfill in September 2020.

1. Confirmation on the bulldozer source level used in the RC noise assessment and the equivalent source level identified during the compliance monitoring.

In the Resource Consent application the bulldozer source level was assumed to be . When monitored from approximately 60 m away the bulldozer measured 65 dB(A), this equates to an estimate sound power of 110 dB, equivalent to 82 dB at 10 m. To operate for 15 minutes continuously the bulldozer must register under 55 dB(A) at a receiver. This will require a setback distance of 145 m assuming no screening.

2. Model type for the dozer – noting that looking at some photos it does appear to be reasonably modern.

CAT D5 Bulldozer



3. Assessment of likely noise levels as works move closer to the south – including noise at 200, 202 and 204 Coast Rd – with and without dozer.

We have assessed noise based works taking place in the southern most area of the cleanfill. Using measurement data, sound levels have been calculated for each activity – see attached plan showing closest distances. The sound levels have been calculated assuming no shielding from local topography.

At the southern most edge of the cleanfill use of the front-end loader will exceed 50 dB LAeq at 200 Coast Road but will comply at the notional boundary of all other properties.

Truck movements are expected to comply at all locations - truck movements will not extend to the edge of the cleanfill.

Sustained use of the bulldozer (15 minutes continuous) requires a setback distance of 145m to comply and therefore is expected to exceed 50 dB LAeq at all locations other than 202 Coast Road. Should the bulldozer operate for a maximum of 8 minutes at any one time the setback distance is reduced to 110 m, complying with the limits at 201, 204 and 202 Coast Road.

- 4. Assessment of separation distance required to operate dozer at current tipping face and future tipping areas assuming a summer (front end loader) location and a winter location – this scenario to be confirmed by the site operator.**
- 5. Any further mitigation measures that could be employed for use of the dozer.**

The bulldozer will be required to operate on the slanted front face of the cleanfill due to traction on the gradient. This is within the setback distances for 200, 201, 201A, and 204 Coast Road. Mitigation measures are limited to control at source, use of noise barriers, operating conditions, and consultation.

To decrease noise at the source a smaller bulldozer could be used. A bulldozer of sufficient size to perform the task but with a sound power output of less than 104 dB(A) would comply with the conditions at all properties other than 200 Coast Road. The exceedance at 200 Coast Road would be 7 dB. Avoiding any exceedance would require a suitable tracked loader with a sound power output of less than 97 dB(A).

Listening to the audio records does demonstrate that the bulldozer's tracks are a source of audible noise. We will investigate using water lubricant during the next site visit to determine whether there is a material reduction in the bulldozer noise.

Controlling the noise through the use of noise barriers may be a viable option. If line of site from bulldozer operations to receivers can be blocked by a sound barrier the noise level is assumed to be reduced by 8 dB. This would allow for compliance at all properties other than 200 Coast Road.

Revised operating conditions rest with the site operator. Consultation / agreement with affected persons has not been considered.

25-Nov-20

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