

DESIGN ADVICE MEMO

ACOUSTIC



Memo No **A01**
Job Name **Rolleston Industrial Holdings Plan Change**
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Noise Implications of Rural Land Rezoning on Adjacent Rural Lots, and Allowable Business Activities

1. Introduction

Powell Fenwick has been commissioned by Novo Group Ltd to provide assessment of the noise implications of a zoning change in the Selwyn District. The zoning change is the subject of a private plan change application.

The site, on Maddisons Rd between Hoskyns and Weedons Ross Roads as shown in Figure 1 below, is presently zoned Rural Inner Plains. Rolleston Industrial Developments Ltd propose the zoning is changed to Business 2A, being an extension of the Business 2A zoning to the south and south-west. Land to the north and east is Rural Inner Plains zoned.

The potential uses may be general business and/or industrial and logistical activities as permitted in the Selwyn District Plan. We note the proximity to the Lyttelton Port Company (LPC) Inland Port which is used as a distribution hub for containers.



Figure 1. Site in red outline. (Source: Canterbury Maps)

2. Criteria

Any future development of the site would be subject to District Plan rules, which includes relevant rural zone noise standards in rule 9.16, and Business 2A zone noise standards in rule 22.4.1.5, both as follows:

9.16 Activities and Noise

Any activity shall be conducted so as to comply with the noise limits and within the time frames stated in the following tables in order to be a permitted activity:

...

Table C9.3 - Noise limits assessed at the notional boundary of any dwelling, rest home, hospital, or classroom in any educational facility except where that dwelling, rest home, hospital or classroom is located within a Living zone.

Hours	Noise Limit
7.30am - 8.00pm	60 dBA L10 85 dBA Lmax
8.01pm - 7.29am	45 dBA L10 70 dBA Lmax

...

The following rule is relevant to B2A activities near to rural zoning.

22.4.1.5

Applying at any point within the boundary of any site in the rural zone, excluding road, waterway and railway reserves:

7.30 am - 8.00 pm	60dBA L10
8.00 pm - 7.30am	40dBA L10
7.30 am - 8.00pm	80dBA Lmax
8.00 pm - 7.30 am	65dBA Lmax

We note that rule 22.4.1.5 is the more stringent of the two rules, having several lower limits and applying anywhere within a rural site rather than at a notional boundary. The commentary below is therefore primarily based on rule 22.4.1.5.

3. Commentary

We have been asked to consider whether it is viable for business activities to take place in proximity to the rural boundary while meeting the District Plan noise limits.

Firstly we would note that the proposed change in zoning with reduction in setback does not allow higher noise levels at any dwelling, rest home, hospital, or classroom in any educational facility near to the development - the noise limits in the two rules above apply irrespective of whether this rezoning takes place.

In fact, business activities on the rezoned land would have to be indicatively 5 dB lower in noise level than what would be permitted for rural activities (not otherwise exempted from the noise rules) in order to meet compliance thresholds at adjacent lots.

In terms of business activities that would be permitted to take place, a range of business activities could be expected to be carried out, including general warehouse style activities, with consideration of noise mitigation.

Emphasis should be placed on locating, enclosing and/or screening of the noise producing activities, particularly if any the activities may be carried out during the night time assessment period. Night time activities would be more limited, particularly with regards to activities undertaken outside. Notwithstanding this, a greater area of the *existing* Business 2A zone would be able to be utilised for more noise intensive activities due to increased set back to the Rural zone.

For noise limit comparison, industrial activities subject to the Christchurch District Plan (CDP) rule 6.1.5.2.1 would typically be required to be below 50 dB L_{Aeq} at a notional boundary of a rural dwelling during the day-time, which is likely more stringent than the 60 dB L_{A10} day time limit in the Selwyn District Plan that would apply anywhere on the rural site. The night time noise limit in the Christchurch District Plan at a notional boundary of a rural dwelling during the night time would be 40 dB L_{Aeq} which is comparable than the 45 dB L_{A10} limit in the Selwyn District Plan rule. (Day and night time hours are not perfectly aligned across the plans, the assessment position differs, and CDP does not require special audible characteristics to be applied, however these are of secondary relevance.) A brief review of the zoning interfaces in Christchurch shows frequent immediate, or road separated only, interfaces between industrial and residential zoning. There are occasional close interfaces between industrial and rural zones with only the Rural Quarry zone having increased noise limits under the District Plan. This further local source from Christchurch provides a comparison to support that the noise limits applicable are not unreasonable for a future business activity.

Any noisy activity should have a noise assessment carried out at initial planning stages to reasonably mitigate noise effects and compare noise outcomes to compliance limits.

4. Summary

Powell Fenwick was commissioned to comment on the viability, with regards to noise effects, of business activities taking place at a Maddisons Rd site in Selwyn District that is presently zoned Rural Inner Plains, but is proposed to be changed to Business 2A zone.

The Selwyn District Plan limits of 60 dB L_{A10} applicable during the day time assessment period, and 40 dB L_{A10} applicable during the night time period are sufficiently permissive for a range of business activities, subject to the nature of the activities and the operating hours, and appropriate acoustic input at planning and design stages to mitigate noise effects.