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Craig Shearer
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Dear Craig

GREEN STEEL – RESPONSE TO CORRECTIONS

The proposed Green Steel metal recycling plant at 61 Hampton Downs Road, Hampton Downs (the Proposal was lodged for consent under the Fast Track process. As a neighbour, the Springfield Correctional Facility (Springhill) has had the Assessment of Noise and Vibration Effects (ANVE) I undertook reviewed by Styles Group. These resulting comments are provided by the Consulting Advice Note (CAN) Styles Group prepared, dated 20 May 2025. As requested, I have responded to the queries raised in the CAN.

DISTRICT PLAN NOISE STANDARDS

The approach taken by the ANVE was to assess the effects on the existing dwellings. The CAN makes the point that, being within the rural zone, there is some potential for additional development of these sites. On their review of the ANVE, Council raised the same query, which I responded to by producing contour plots of the proposed noise levels (Figures 5 – 7 of the updated ANVE (ANVEv2)) with a discussion on the results in section 4.8.

The Springhill site extends the full length of the western boundary of the Proposal before continuing to the south of the Proposal. The existing prison buildings are located to the south of the Proposal with the only apparent activity to the west being the prison access road. Figure 10 of the ANVEv2 shows this. In considering potential effects on Springhill, the ANVEv2 was premised on the wording of the Springhill designation that appears to limit future development to the southwest of the existing buildings on site. It is noted that the Corrections Special Purpose zone of the WDP refers to residential accommodation being located in accordance with approved designation plan RC03 Revision 3. However, Council has no record of this plan and was not able to provide it. Corrections have also not provided this plan. My interpretation is that the designation appears to exclude future accommodation on the portion of the Springhill land immediately to the west of the Green Steel Site.

Nonetheless, the design team made the decision to provide mitigation to the currently vacant Corrections land immediately to the west of the Proposal. This has been achieved through the addition of a 6m bund along the length of the Proposal's western edge of the working area, as shown in Figure 1. This height was selected as it ties in with a cut at the southern end of the site. Further, investigations into increasing the bund height showed little return on additional height. For example, increasing the bund to 8m high resulted in no more than an additional 2dB reduction to the Springhill land. Typically, a 3dB change in level is considered the smallest that the average person can detect.

Further, the scrap area and shredder have been moved southwards, to nestle into the back of the cutting to the rear of the site.

A further change from the ANVE is that the scrap yard and shredder will be limited to the daytime only. This differs from the ANVE which had the scrap yard operating during the evening and part of the nighttime and the shredder operating during the evening. This makes the evening time activities the same as those at night time and, as such, a specific evening contour plot is no longer provided.

The following Figures 2 and 3 represent the day, and the evening/night time contours from the Proposal respectively with the inclusion of the western bund. These Figures replace the similar Figures 5 – 7 of the ANVEv2.

Figures 2 and 3 show that over the corrections land to the west, the proposed 6m barrier will significantly reduce noise levels from the proposal. Specifically,

a. Figure 2 shows noise levels will be up to 53dB L_{Aeq} during the day time. The proposed bund will reduce noise levels in the order of 5dB;

b. Figure 3 shows that, during the night time, levels will be up to 42dB L_{Aeq}. The proposed bund will reduce noise levels in the order of 3dB.

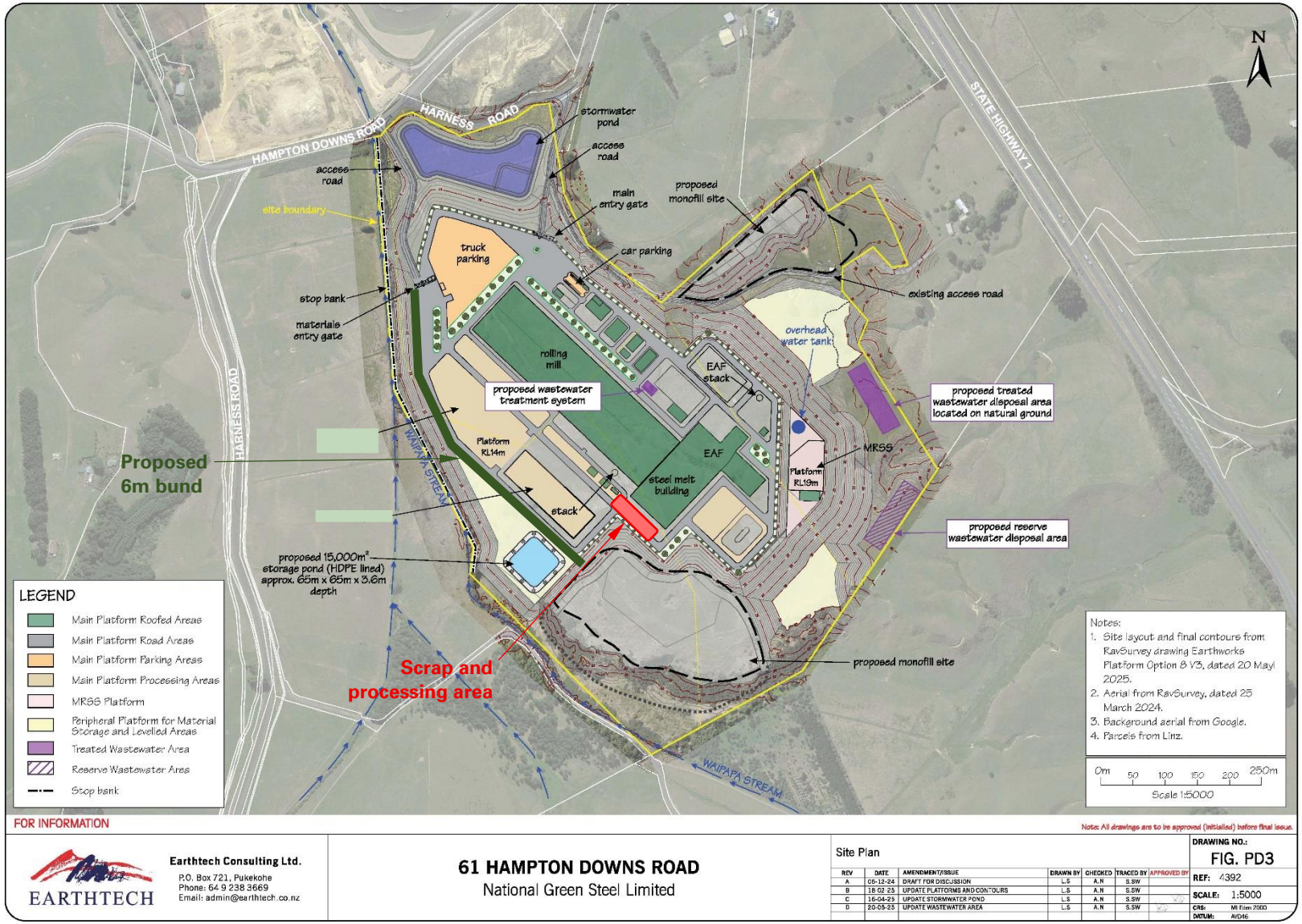


Figure 1. Site Plan Showing Proposed Bund

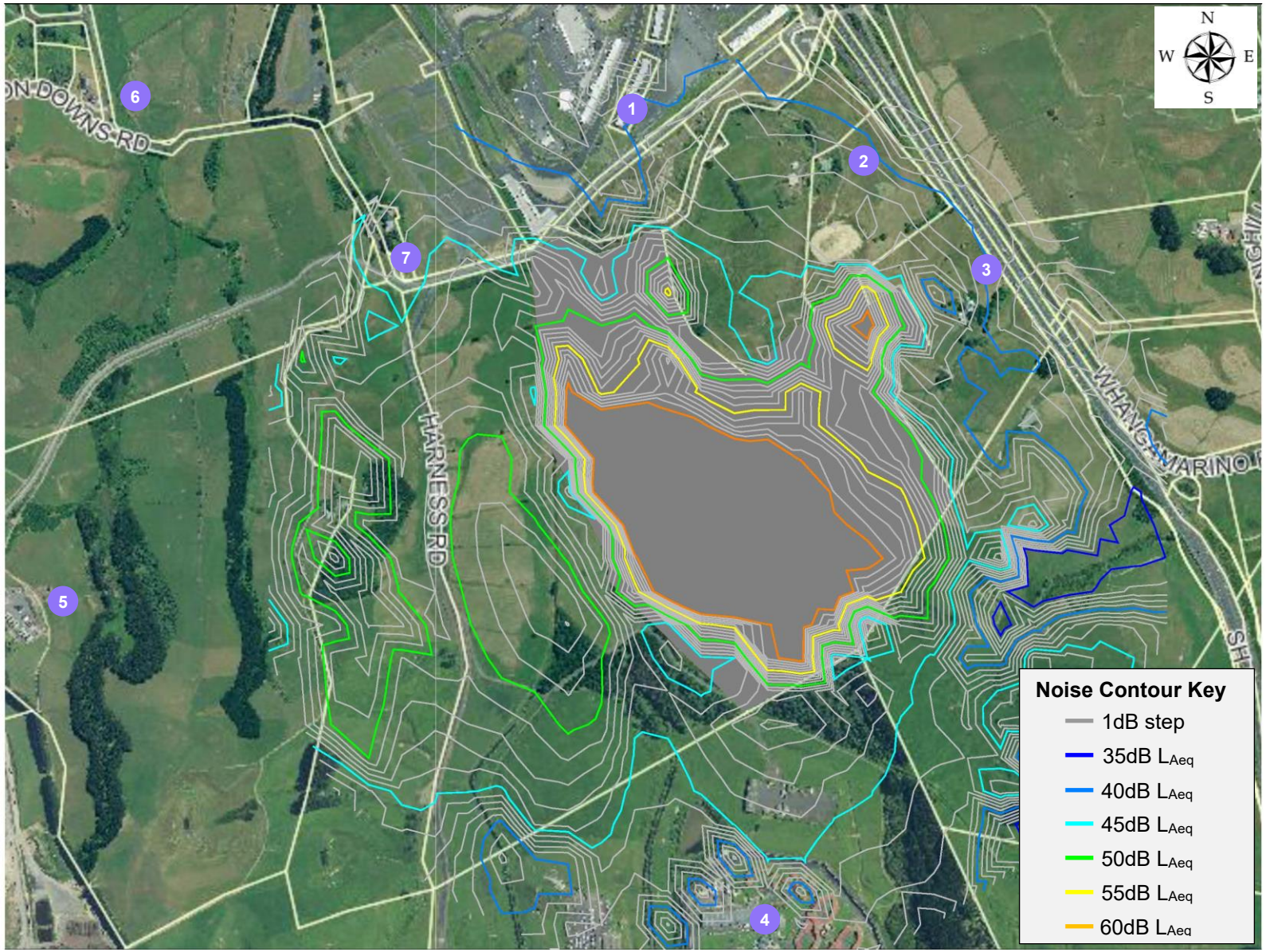


Figure 2. Day Time Noise Contours

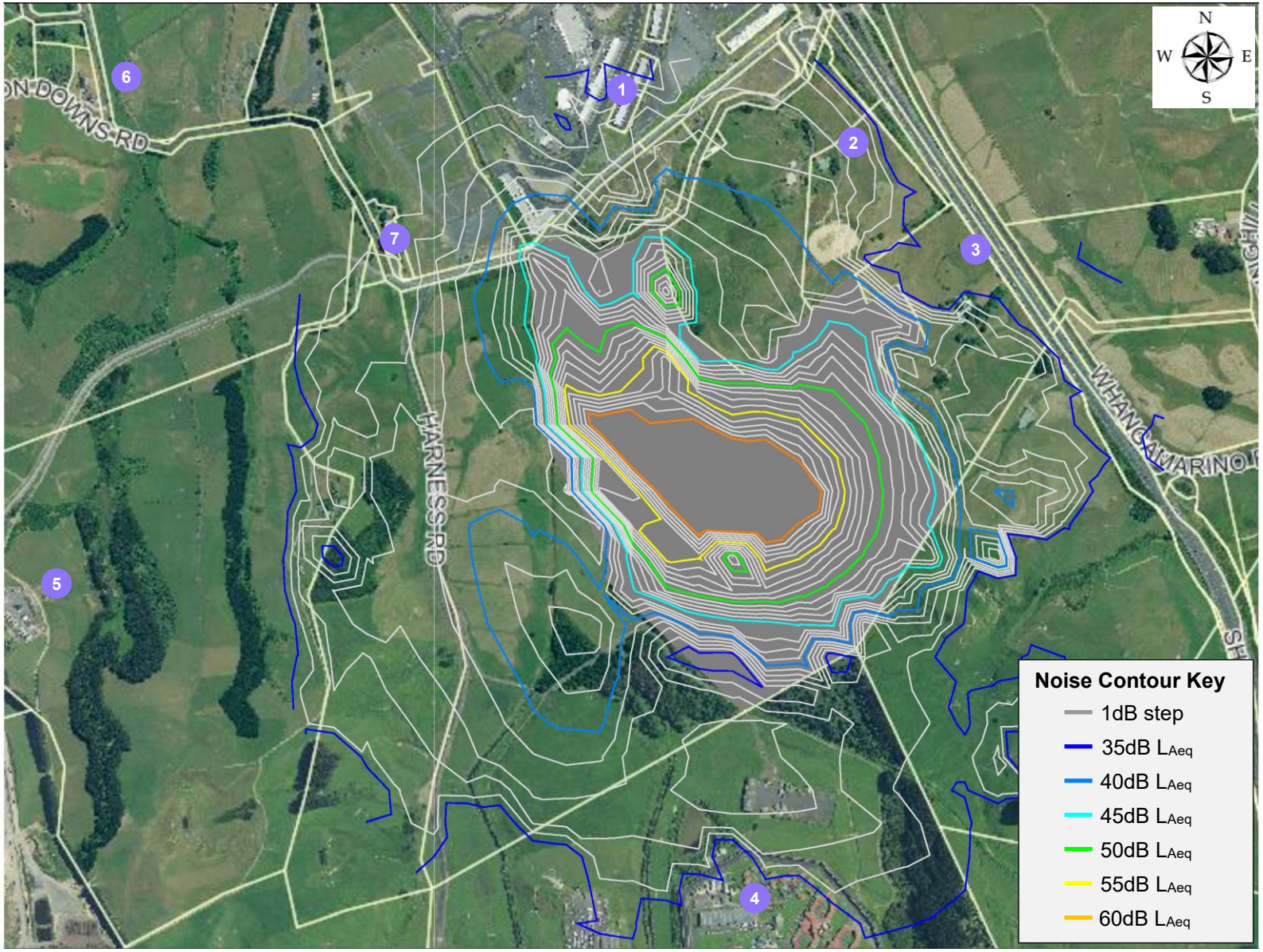


Figure 3. Night Time (and Evening) Noise Contours

Due to the changes to the noise model, the predicted rating levels at the individual receivers (Table 7 of the ANVE) have been updated in the following Table. The model updates have included the solid wall about the existing prison building (Site 4 in the ANVE) which had been omitted by the ANVE The updated Table is reported below.

Table 1. Rating Levels

Receiver, Fig 4	Address	Rating Level (Levels in brackets show difference compared to Table 7 of the ANVE)		
		Day	Evening/Night	
		dB L_{Aeq}	dB L_{Aeq}	dB L_{AFmax}
R1	Hampton Downs Motor Sport Apartments	42 (-7)	40 (0)	48 (0)
R2	23 Hampton Downs	41 (0)	38 (0)	46 (0)
R3	61B Hampton Downs	40 (0)	36 (0)	44 (0)
R4	113 Hampton Downs Road (Prison block)	38 (-8)	34 (-3)	42 (-3)
R5	135 Hampton Downs Road (Landfill offices)	41 (-1)	30 (-1)	38 (-1)
R6	5 Chris Amon Drive	36 (-1)	28 (0)	36 (0)
R7	136 Hampton Downs Road	44 (-6)	36 (-2)	44 (-2)

Full compliance
Partial compliance
Non-compliance

Table 1 shows general compliance with the noise limits of the Waikato District Plan (WDP). As expected, the addition of the prison wall has reduced noise to the existing buildings within the prison site (R4).

Table 1 reports levels against the General Rural Zone noise rules where the day time is between 7am and 7pm, all days. As discussed in the ANVE, R7 (a house owned by Hampton Down Motor Sport Park) is within Precinct 15, which provides slightly different definitions of the day and night time periods compared to the General Rural Zone. Specifically, noise to R7 would:

a. Comply with the 50dB L_{Aeq} limit from 7am – 7pm, Monday to Friday;

b. Comply with the 50dB L_{Aeq} limit from 7am – 6pm on Saturdays. However, day time activities on site may extend through to 7pm when the resulting noise would exceed the 40dB L_{Aeq} night time limit by 4dB for one hour;

c. On Sundays, the Precinct rule adopts the 40dB L_{Aeq} night time limit for the entire daytime period. On this basis, the proposed would exceed the limit by 4dB between 7am and 7pm.

d. Outside of the above times (7pm to 7am) noise from the proposal would comply with the night time limits of the WDP.

Applying the night time limit during the day time is unusual as it provides a level of protection that is unlikely to be warranted. While no ambient measurements were undertaken close to R7, it is expected that the current levels of ambient sound will exceed 40dB L_{Aeq} on Saturdays between 6pm and 7pm and all day on Sundays. This statement is made on the basis of the proximity of SH1, Hampton Downs Road, the nearby Hampton Downs Landfill (the trucks of which use Hampton Downs Road day and night) and the Motor Sport Park, all of which are significant generators of noise. It is expected, therefore, that limiting the proposal to 40dB L_{Aeq} during these times will provide no practical benefit to the occupants of R7.

50dB L_{Aeq} is generally considered to be appropriate for residential amenity during the day time and, on the basis that the proposal will comfortably comply with this (predicted level is 44dB L_{Aeq}), it is considered that the resulting effects could be described as appropriate and reasonable. Noise from the proposal may be apparent to R7 during these times, but likely at levels below that of road traffic and, when they are operating, the activities of the Race Park.

SPECIAL AUDIBLE CHARACTERISTICS

The CAN states that the proposal consists of generally specialised activities and machinery that are likely to be unique or otherwise uncommon. For this reason, Styles Group does not have any reference data (measurements) to corroborate the veracity of the noise data used for noise prediction as described by the ANVE. Regardless, the CAN is of the view that the resulting noise from the proposal will have a Special Audible Characteristic (SAC).

The relevance is that section 6.3.1 of NZS 6802[1] requires that sounds that "The intrusiveness of a sound is not just a function of its sound pressure level. It is also affected by its character. Sound that has special audible characteristics, such as tonality or impulsiveness, is likely to cause adverse community response at lower sound levels, that sound without such characteristics". NZS 6802 states that sound with a SAC can have a 5dB penalty added to the rating level.

I address the issue of a SAC in section 4.3.5 of the ANVE. My view is that, having visited the applicant's existing site and observed the operation several times, the noise from the proposal will not have a SAC. I remain of this view and, therefore, consider that no change is necessary to the predicted levels.

OPERATIONAL NOISE LEVEL PREDICTION

The CAN identifies that noise to Springhill must be predicted at the notional boundary, which is a line 20m from the facade of the occupied buildings. The CAN then notes that the ANVE shows the noise assessment location an estimated 150 – 160m south of the physically existing notional boundary position.

In response, section 4.3.2 of the ANVE clearly states that the assessment point to all receivers considered in the analysis was the notional boundary of that receiver. I can confirm this to be the case, including for Springhill.

Figure 4 of the ANVE shows receivers considered in the assessment through receiver numbers placed in purple circles. The point of these identifiers was to highlight the receiver being considered rather than identify the exact point of assessment, which had already been accurately described. Due to the large area covered by the Figure, the identifiers were placed so that the individual receivers could be easily identified meaning they are sometimes removed

[1] NZS 6802:2008 "Acoustic - Environmental noise.

from both the dwelling and/or the notional boundary of that dwelling. This is true of all receivers considered, not just Springhill.

In short, I consider that the ANVE adopts the correct assessment method and no change is necessary.

AMBIENT SOUND MEASUREMENTS

The ANVE includes measurements of the existing ambient sound as part of the assessment of the noise effects. The CAN notes their view that, based on measurements they have undertaken for a different site, noise from cicadas and crickets would have controlled or significantly influenced the overall noise levels.

This is not the case.

While the CAN is limited to Springhill (for which Figure 6 of the ANVE reports the ambient sound) I have broadened my response to include the second measurement of ambient sound I undertook (Figure 5 of the ANVE).

When crickets and cicadas are present, they can be identified by spectral analysis of a noise measurement as both result in increased levels of high frequency noise. The logging equipment used for the Proposal did not have the ability to undertake such spectral analysis, which is typical of equipment used to remotely log sound. Instead, handheld measurements were undertaken of the ambient sound for 15 minutes when the loggers were first installed and again when they were picked up. For each logging location, both the before and after measurements confirmed the site observations that the influence of insect noise was minimal. To demonstrate this, the following Figure shows a spectral analysis of the ambient sound measurement adjacent to Springhill (MP2). The effects of cicadas can be observed by the increase in levels above 6,300Hz. When corrected manually, which is also shown in the Figure, the cicadas were found to contribute 3dB to the overall level. This is a relatively small contribution and, for that reason, was not specifically included in the assessment. If it were, the conclusions of section 4.6 of the ANVE would remain unchanged.

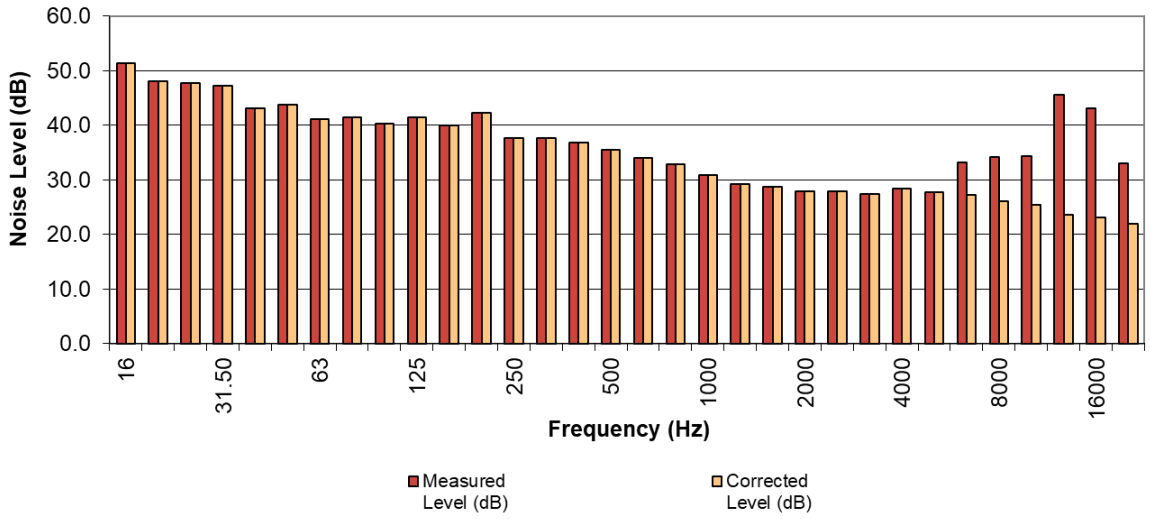
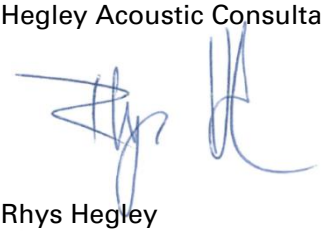


Figure 4. Spectral Analysis of MP2 Measurement (Springhill)

Based on the above, I consider that the ambient sound measurements presented in the ANVE are appropriate to use and that the conclusion drawn from them remains valid.

Should you have any questions regarding the above please do not hesitate to contact me.

Yours sincerely
Hegley Acoustic Consultants



Rhys Hegley