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**By:** Daniel Martens

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## Proposed Apartments – 13 Cresta Ave and 96 Beach Haven Road Acoustic Fencing Assessment

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The following information has been prepared to assess the predicted noise levels from vehicle movements at 13 Cresta Ave and 96 Beach Haven Road with and without acoustic fencing.

The original assessment made the following predictions based on the following assumptions.

For the noise from resident's vehicle traffic, we have assumed that all 62 parking spaces will be vacated or occupied over the peak hour of traffic, e.g., all leaving in the morning and all arriving in the evening over a 1 hour period. During the night-time period where up to 7 vehicle movements may be anticipated over any given hour, the noise levels will exceed the noise limit of 40dB LAeq at the closest neighbouring receivers.

In order to mitigate the noise levels produced during the night-time hours the following management procedures are proposed to be included in the Body Corporate rules:

- A maximum speed limit of 10km/h along the Right-of-Way (ROW)
- No speed pumps near the ROW
- Smooth transitions along the ROW (i.e. no manhole covers or service covers in the wheel tracks)
- Acceptance that the NZ vehicle fleet will move to EV.
- Rules regarding courteous behaviour between 10pm and 7am, including no engine revving, quiet voices, no door slamming, car stereos off or quiet until on the legal road, etc.

A combination of 1.2 and 1.8m fencing are proposed. The fencing is required to be rated at 10kg/sqm (25mm overlapping timber battens or equivalent). Retaining walls are effective acoustically and act as acoustic fences. Worth noting that exceedances of 2 dBs are subjectively not noticeable.

Receiver	Noise Level $L_{Aeq}$ dB					
	Compliance Noise limit		With Acoustic Fencing		Without Acoustic Fencing	
	Daytime	Night-time	Daytime	Night-time	Daytime	Night-time
11 Cresta Ave	50	40	47	37	52	42
15 Cresta Ave	50	40	52	40	56	47
17 Cresta Ave	50	40	<40	<35	46	36
29 Cresta Ave	50	40	<40	<30	<40	<30
120 Beach Haven Rd	50	40	49	<35	54	45
102 Beach Haven Rd*	50	40	<35	<35	<35	40
98 & 100 Beach Haven Rd	50	40	47	<35	49	<40
94A Beach Haven Rd	50	40	<40	<30	<40	<35
94 Beach Haven Rd	50	40	<40	<30	<40	<30
92 Beach Haven Rd	50	40	<40	<30	<40	<30

Table 1 – Predicted Traffic Noise Levels

The predicted noise levels at 11 and 15 Cresta Ave are based on 1.2m high acoustic fencing, with the 1.8m high acoustic fencing being located along the boundaries shared with 94, 98, 100, 102 and 120 Beach Haven Rd.

The 1.2m high acoustic fencing shared with 15 Cresta Ave may be increased to 1.4m to eliminate any exceedances at 15 Cresta Ave.

We note that acoustic fencing can be constructed from transparent construction materials (partially or entirely), e.g. 6.38mm laminate glass or 12mm acrylic to minimise and shading effects.

Without acoustic fencing to mitigate traffic noise, exceedances will occur at 11 Cresta Ave, and 120 Beach Haven Rd. The exceedances have been highlighted in the table above.

Alternatively, the with the proposed pool type fencing retained, the exceedances may be mitigated through upgrades to the glazing to the affected dwellings' windows facing 13 Cresta Ave. This may be achieved through addition of secondary double glazing, e.g. Magnetite or equivalent.

Yours faithfully  
Earcon Acoustics Limited



Daniel Martens  
Acoustician  
PG DipSci. ME(EngSci),