

24<sup>th</sup> Oct 2019

**PROPOSED MIX USE BUILDING AT 561 HOROTIU ROAD:  
PROPOSED PLAN CHANGE – ACOUSTIC QUERIES**

The following information has been prepared in response to the email correspondence for further information dated, 2<sup>nd</sup> of Oct 2019 from Victoria Major, Senior Planner for Waikato District Council.

**Item 1:** *The specific detail on predicted noise levels from each of the identified sources has not been provided, just a cumulative level. Please provide a more thorough assessment with a break down each source and how the cumulative level was derived.*

**Response:**

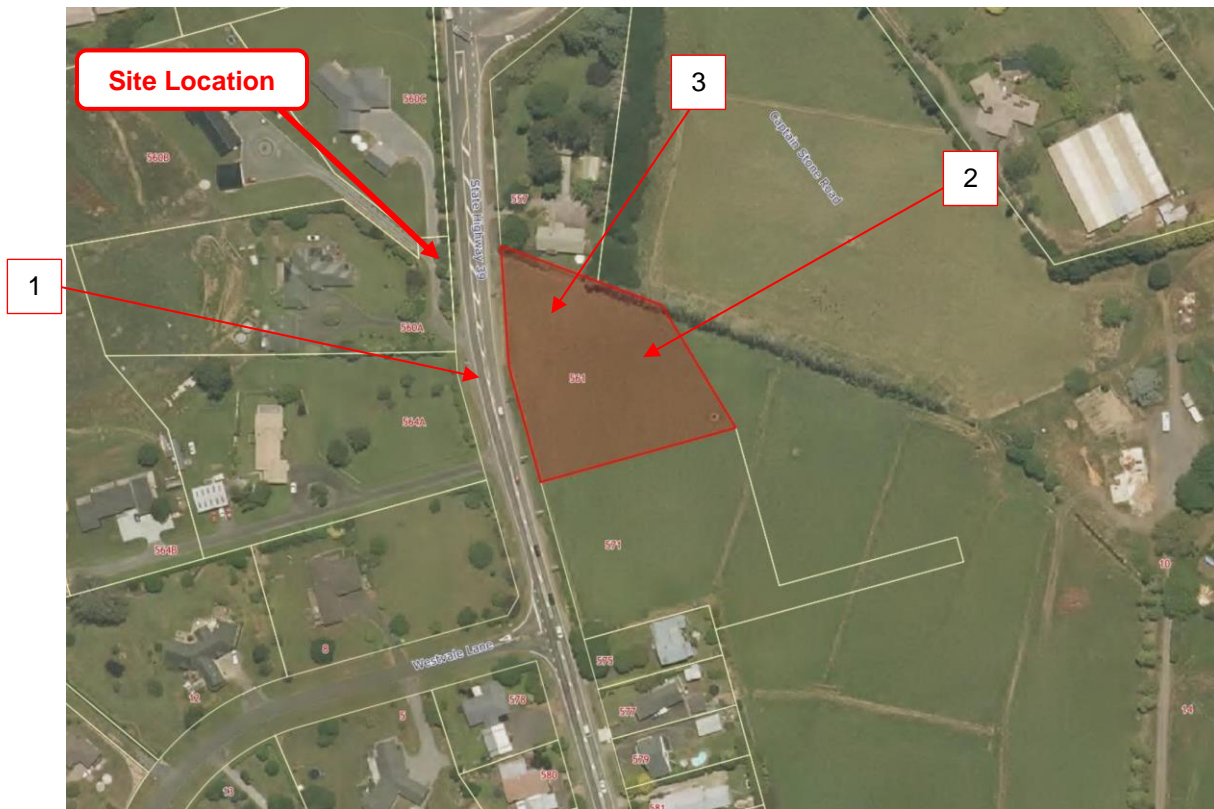
The assessment is based on worst-case cumulative noise levels as presented in the acoustic report. Please see below a list of the individual and cumulative noise levels:

Location	Predicted noise level - Day ( $L_{A10}$ dB)			
	Vehicles	Plants	Takeaway	Cumulative
557 Horotiu Rd	34	42	42	45
571 Horotiu Rd	55	34	30	55
714 Te Kowhai Rd	<25	40	24	40
560C Horotiu Rd	36	32	34	38
560A Horotiu Rd	41	34	40	44
564A Horotiu Rd	42	34	39	44
8 Westvale Lane	43	31	31	43

**Item 2:** Identification of where the ambient measurements were conducted;

**Response:** The measurement locations are as indicated below:

**Figure 1: Aerial View of Site**

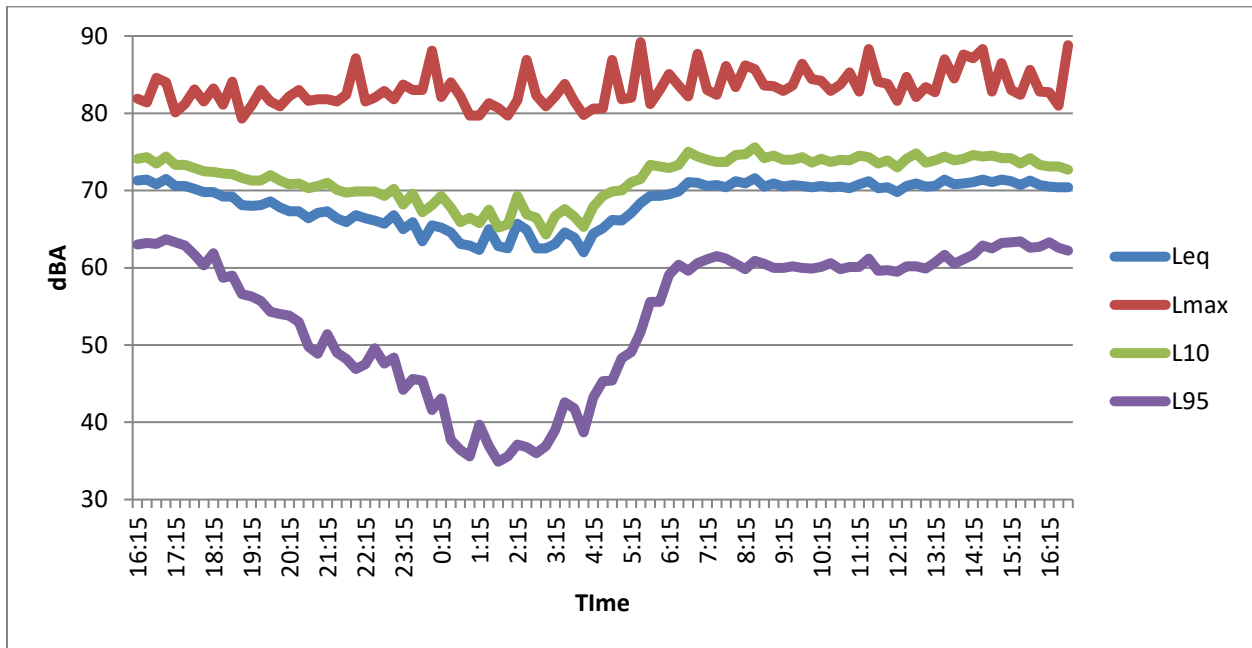


**Item 3:** The ambient noise measurements were undertaken in the middle of the daytime period (and comments on the likelihood of the evening period noise levels). Marshall Day Acoustics (MDA) recommend that the measurements are repeated in the evening period, in suitable met conditions, and reported accordingly with the location of the measurement detailed).

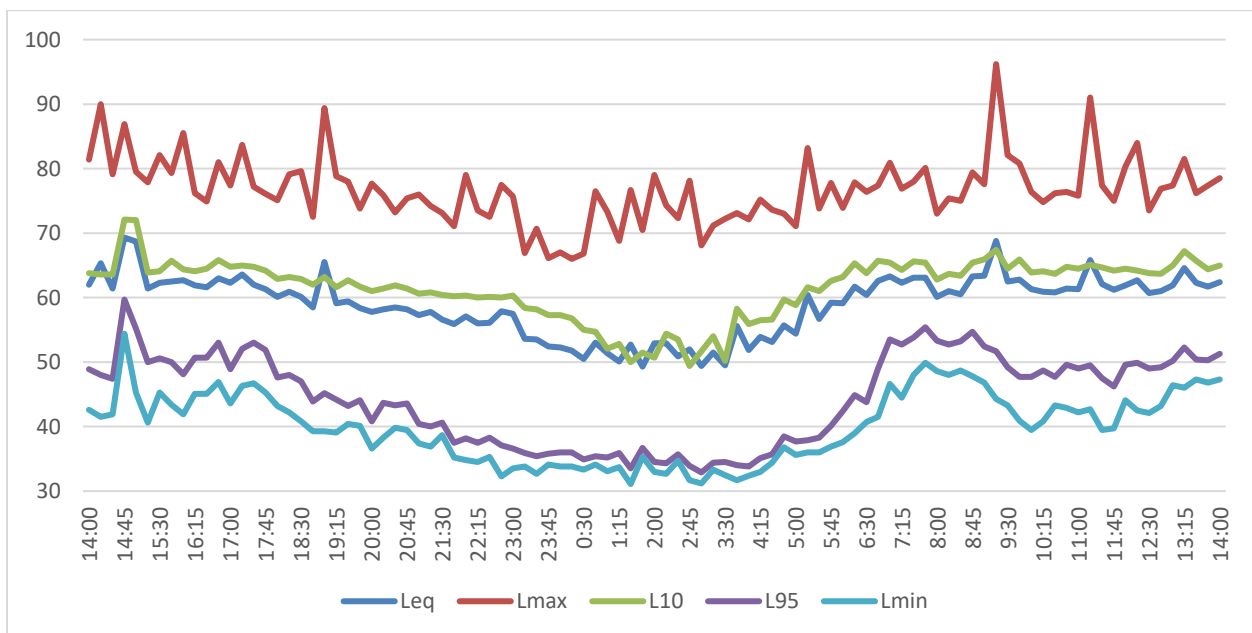
**Response:** We do not believe evening noise level measurements will result in any meaningful results relative to the measurements conducted during the day. Based on various noise level measurement over 24 hours or more the variation in ambient noise levels from traffic fluctuate relatively predictably. The

following is presented for reference to show the variation of 2 types of roads, being a main highway and an arterial road in Auckland.

**Figure 2: Motorway 24 Hour Noise Levels**



**Figure 3: Arterial Road**



As presented above, the noise levels fluctuate relatively predictably, decreasing steadily over the evening and maintaining a relatively consistent noise level throughout the daytime period. The variation between the daytime and night-time noise levels can be as large as 15dB although this is less for motorways. For rural areas, a similar variation has been observed, however, we would note that during the night-times other sources of noise, e.g. crickets in summer and wind related noise.

**Item 4:** *Commentary on the overall noise level (rather than just saying it complies) would be helpful.*

**Response:** With the exception of the proposed takeaway, the primary noise which will be produced from the development is traffic noise. This source of noise will be below the existing ambient noise in the area, which is also predominately traffic noise. In this regard the proposed development will not result in any change in the present noise.

The noise associated with the takeaway unit, will produce a variation in the type of noise, relative to the existing ambient traffic noise. However, this source of noise will be managed/mitigated to ensure the noise levels remain compliant so as to not disturb the neighbour to the north. At all other receiving locations this source of noise is insignificant. Additionally, this source of noise will remain below the existing ambient noise levels at all the neighbouring receiver.

Mechanical plant can and will be selected, located and/or mitigated appropriately to ensure the noise levels will be within the noise limits. Being within the noise limits this source of noise will be lower than the existing ambient noise in the area.

We trust this clarifies the points raised regarding the proposed mixed-use building at 561 Horotiu Rd. Please let us know if you have any further questions.

**Earcon Acoustics Limited**

A handwritten signature in black ink, appearing to read "Daniel Martens".

Daniel Martens  
Acoustician  
PG DipSci. ME(EngSci),