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20150617.1/0302A/R0/TT

03/02/2016

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ATTN: TIM IRESON

Business Hub, Fifteenth Ave, West Hoxton - Response to EPA Queries

1 INTRODUCTION

We have been asked to respond to comments provided by the EPA in their letter of 27 November 2015 with respect to our acoustic assessment of the above site (*Operational Noise Impact Assessment* – dated 1.7.2015, Rev 2).

In short, the comments relate to:

- Construction Noise Impacts.
- Operational Noise Impacts.

In addition, an amended *Operational Noise Impact Assessment (Rev 3)* has been prepared in response to some additional analysis requested by the EPA, as detailed below.

2 CONSTRUCTION NOISE IMPACTS

The letter from the EPA notes that construction from the proposed development is likely to generate significant noise and vibration impacts on surrounding residents.

The EPA has therefore recommended intra-day respite periods to be adopted for “construction activities identified in the Interim Construction Noise Guidelines as being particularly annoying to noise sensitive receivers”.

In this regard, we note:

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- Section 4.5 of the Interim Construction Noise Guidelines (ICNG) identify a number of construction activities which are often considered annoying. At the subject site, the most relevant of the activities identified would be reversing beacons, vibratory rolling and bitumen profiling (presumably because of tonal or impulsive characteristics in the sound).
- For these activities, the ICNG recommends that a 5dB(A) penalty is imposed when assessing noise impacts (for example, if a particular construction activity is predicted to generate a noise level of 60dB(A), then it should be considered as generating a noise level of 65dB(A) for assessment purposes, being the 60dB(A) noise level plus a 5dB(A) penalty).
- At no point do the guidelines recommend the automatic imposition of an intra-day respite period. To do this, would be to ignore that actual noise level generated. Instead, section 4.1 of the ICNG identifies respite periods as being a relevant consideration in the event that noise levels exceed the “highly noise effected” level of 75dB(A) at a nearby receiver.
- On analysis (as discussed in section 6.7.1 of our report) noise levels are not expected to exceed 70dB(A) (with these levels only occurring when working nearby the boundaries of the site – a worst case scenario). As such, automatic adoption of a respite period *simply as a result of particular equipment selections* is contrary to the ICNG in that it:
 - It is imposing the restriction regardless of noise level generated and
 - The noise level generated is less than what the ICNG states warrants the introduction of respite periods (75dB(A), being the highly noise effected level).

We recommend:

- A condition of consent should be created requiring that prior to commencement of works (when a builder is engaged and equipment selections have been determined) that a construction noise and vibration management plan be created.
- In the event that there are exceedances of the Highly Effected Noise Level criteria predicted, that intra-day respite periods, or other suitable noise mitigation, be determined.

To pre-emptively impose respite periods without conducting the above will most likely have the adverse result of prolonging the construction period unnecessarily.

3 OPERATIONAL NOISE

Section 3.4 of the EPA letter raises issues with respect to:

- The impact of adverse weather on background noise monitoring. Specifically:
 - The inconsistency with metrological data obtained by the EPA compared with that used in our report.
 - Extended periods of wind gusts exceeding the EPA criteria of 5m/s identified by the EPA and its impact on background noise levels.
- Lack of acoustic assessment at two dwellings adjacent to the site to the east (which were noted in our acoustic report as being proposed to be demolished).

- No assessment of 24 hour operation of the site.
- No assessment of the noise impact from forklifts in loading docks.

These are addressed below.

3.1 EFFECT OF ADVERSE WEATHER ON BACKGROUND NOISE DATA

Periods of rain and high wind can temporarily inflate background noise levels, and are routinely excluded from logging data when determining the Rating Background Noise Level used in setting noise emission goals.

The EPA has queried the following:

- The fact that metrological data used by them is different to that used by ALC in determining background noise levels in our report.
- The EPA has referred to a number of “wind gusts” which should have resulted in that periods of noise logging being omitted when determining background noise levels.
- The EPA has concluded that due to the fact that there are periods of the logging which are weather effected, that the logging should be re-done.

We note:

- Meteorological data (rain and wind speed) used by ALC in our report was taken from the Bankstown Airport weather station, as opposed to the Badgerys’s Creek weather station used by the EPA.
- The subject site lies approximately equidistant from the two weather stations. Use of the Bankstown Airport weather station was therefore reasonable.
- As a precaution, background noise levels were determined using both the Badgery’s Creek and the Bankstown Airport weather data. The same rating background noise level was determined regardless of the weather data used. Both sets of meteorological data are included in the amended *Operational Noise Impact Assessment*.
- With respect to the EPA reference to wind gusts exceeding 18 kilometers per hour on each day from 18 to 23 May, this is in fact irrelevant. Section 3.4 of the Industrial Noise Policy refers to *average* wind speeds for entire 15 minute periods as being the criteria for determining whether that period of data is to be excluded. A short duration wind gust is not relevant, only the average wind speed is. It is the *average* wind speed which was used by ALC in determining Rating Background Noise Levels, which is consistent with EPA practice.
- When viewed over an entire one week period, the duration of weather effected data is very small (only one relatively prolonged period with adverse weather occurring during the daytime on 22 May 2015). Other periods were one hour duration or less.

Noise logging data was processed in accordance with EPA guidelines with respect to the impact of adverse weather. The weather data used for assessment was taken from a nearby weather station. Given the overall short duration of weather impacted data, the Rating Background Noise Level used for assessment is accurate.

The Rating Background Noise level ultimately used for assessment was extremely low (32dB(A)_{L₉₀} at night time). Additional noise logging at the site is therefore not warranted.

3.2 RESIDENTIAL DEVELOPMENT TO THE EAST OF THE SITE (PROPOSED TO BE DEMOLISHED)

The aerial photograph in section 2 of our noise emission assessment identifies two existing residential properties adjacent to the eastern boundary of the site which are stated to be demolished.

ALC are instructed that these properties are owned by Western Sydney Parklands Trust, are not zoned for residential use and will not be occupied during construction or operation of the site. Noise emission assessment at these locations is not warranted.

3.3 TWENTY FOUR HOUR OPERATION OF THE SITE

As noted in section 7 of our report, we would anticipate that any tenancy will be required to submit a development application for use. This would include detailing the proposed times of use, and, in the event that the proposed operation would be late night, a noise emission assessment would be required to justify this.

In addition, we note:

- Noise from a given tenancy (equipment noise, music or similar) would be specific to that tenants proposed use (restaurant, supermarket or similar). That tenant would be expected to address delivery times, equipment selections and modes of operation (such as use of music or outdoor dining) to meet EPA noise emission requirements.
- Section 6.1 and 6.2 of our report identifies that at a minimum, use of loading docks and vehicles circulating on site can meet EPA daytime and evening time acoustic criteria, even when assuming conservatively high numbers of vehicles. Night time criteria can also be achieved, however a lower number of vehicle movements would be expected, and any prospective tenant would be required to provide detail as to the number of vehicle movements their use would generate in the 10pm-7am period.
- In section 7 of our report, a prohibition on use of loading docks in the period between 10pm and 7am was recommended unless justified by a development application for that specific commercial unit.
- Obviously vehicle noise associated with the development as a whole would not be controllable by any individual tenant and should be considered. In this regard, an assessment of sleep disturbance from late night vehicle noise was provided in section 6.4 of our report. Section 4 identifies that noise from passenger vehicles entering or leaving the site late at night will comply with EPA sleep disturbance guidelines.
- Late night semi-trailer deliveries to the site are not proposed (with loading docks recommended not to be used during this period). However, in the event that a petrol station is approved on the site, and if the petrol station is approved for 24 hour operation, we have conducted an assessment of the potential sleep disturbance created by a semi-trailer exiting the site (via the main driveway).
- On our analysis, a semi-trailer leaving the site via the main driveway in the 10pm-7am period would create a momentary noise level inside the bedroom of the nearest resident (corner of Fifteenth Ave and Twenty Second Ave) of 50dB(A)_{L_{Max}}, assuming that the bedroom window is

left open. This is consistent with EPA sleep disturbance guidelines (which state that internal noise levels of 50-55dB(A)_{L_{Max}} are unlikely to awaken people from sleep. This assessment is included in the amended *Operation Noise Impact Assessment*.

3.4 USE OF FORKLIFTS IN LOADING DOCKS

Noise from the loading docks was assessed in section 6.2 of our report.

Loading docks are located centrally or along the northern boundary of the site (away from residences). The primary noise impact associated with the loading docks is a result of the truck driving to and from the dock (as opposed to noise from manual handling of material in loading dock itself).

However an assessment of noise from the use of a forklift (sound power 94dB(A)_{L_{eq}}) has been assessed and found to be compliant with EPA noise emission guidelines. This has been included in the amended report (section 6.2) to confirm compliance with noise emission requirements.

4 CONCLUSION

We have reviewed the comments from the EPA with respect to the *Operational Noise Impact Assessment (Revision 2)* prepared by us with respect to the above development.

Issues with respect to construction noise, background noise logging and operational noise generation were raised by the EPA, and have been addressed above.

Where necessary, the additional information requested by the EPA has been included in an amended *Operational Noise Impact Assessment (Revision 3)*.

Yours faithfully,



Acoustic Logic Consultancy Pty Ltd
Thomas Taylor