

30 January 2019

WM Project Number: 16150-H  
Our Ref: NP 290119 EH.docx

Nathaniel Pirola  
Hutchinsons Builders  
23 Dunning Ave  
ROSEBERY NSW 2018

Dear Nathaniel

**Re: DY RSL Extended Construction Hours - Noise and Vibration**

An application for extended construction hours at the Dee Why RSL site is to be submitted to Northern Beaches Council. The amended application is requesting the loading out of materials from 7am - 5pm on Monday to Friday with no change to Saturday working hours. Accordingly Wilkinson Murray has been engaged to conduct an assessment of noise and vibration impacts associated with the proposed extended hours of operation.

**Hours of Operation and proposed Construction Activities**

Current and proposed hours of operation are as follows, where changes are highlighted in yellow italics;

The approved hours are as follows:

**General Construction Works**

- a) 7.00am to 5.00 (incl.) Monday to Friday
- b) 8.00 am to 1.00 pm (incl.) on Saturday
- c) No work on Sundays and Public Holiday

**Demolition & Excavation Works**

- a) 8.00 am to 5.00 pm (incl.) Monday to Friday

The proposed hours are as follows:

**General Construction Works**

- a) 7.00am to 5.00 pm (incl.) Monday to Friday (Including loading out material only)
- b) *8.00 am to 1.00 pm* (incl.) on Saturday
- c) No work on Sundays and Public Holiday

**Demolition & Excavation Works**

- a. 8.00 am to 5.00 pm (incl.) Monday to Friday (for demolition and excavation works)

### Construction Noise Objectives

Construction Noise Management Levels, that were established in the Development Application, are presented as follows:

**Table 1 Site-Specific Construction Noise Management Levels**

Area	Construction Noise Management Level, L <sub>Aeq</sub> – dBA			Highly noise affected Noise Level, L <sub>Aeq</sub> dBA
	Day	Evening	Night	
A – Eastern Residences – Clarence Avenue	62	53	44	75
B – Western Residences – Oceangrove Residences	64	57	51	75

**Table 2 Childcare External Facade Construction Noise Management Levels**

Area	Windows Open	Windows Closed
Classroom	55	65
Sleeping Area	50	60

It is noted that construction noise management levels (NMLs) are not limits; rather these are objectives to be adopted on each particular project to provide a reference point to trigger determination that management of potential construction noise issues associated with the construction stage should be considered where reasonable and feasible.

In the case of other areas, the guidelines recommend the following:

- Upper level office areas (external) Maximum L<sub>Aeq,15min</sub> of 70dBA
- External active play area Maximum L<sub>Aeq,15min</sub> of 65dBA
- External passive play area Maximum L<sub>Aeq,15min</sub> of 60dBA

### Construction Activities and Noise Predictions

Noise predictions have been conducted, using Candna A noise modelling software for the proposed activities as follows:

#### *Material Load Out*

This activity consist of a dump truck being loaded by an excavator. In addition one truck arrival and one truck departure in a 15 minute period has been modelled.

A Sound Power Level of 108 dBA has been allowed for both items of plant operating in this scenario.

*General Construction Works - Construction of Building Structure*

This activity includes construction of the carpark and building structure using concrete pumps and trucks along with a tower crane for materials handling.

Noise levels used in modelling consist of

Plant	Sound Power Level
Dump Truck	108
Tower Crane	110
Concrete Truck	109
Concrete Pump	112
Forklifts	97
Compressors	100
Angle Grinder	109
Bobcat	103
Hand Tools	90

**Predicted Noise Levels at surrounding receivers**

Noise levels at surrounding receiver with respect to established noise management levels are presented in Table 4 for loading activities.

**Table 4 Predicted Construction Noise due to proposed Loading out of Material**

Receiver	Predicted Level	Noise Management Level	Exceedance
Ocean grove Residences	61-63	64	Complies
Clarence Avenue Residences	60-62	62	Complies
Ground Level Childcare Facade	40-42	60-65	Complies
Front Outdoor Play Area & Terrace Area	35 - 37	60-65	Complies
Rear Outdoor Play Area	34 - 36	65	Complies

A review of the results indicates compliance with established noise management levels at all surrounding receivers for loading out of material for the proposed additional hours of work.

In the case of the proposed additional hours of 7am – 8 am there will be no noticeable difference in noise levels at residences as ambient noise levels in these are similar to the approved construction period.

It is expected that the commencement of material loadout from 7:00am in lieu of 8:00am on weekdays allows for the overall construction period to be reduced in total duration.

**Construction Vibration.**

It is noted that construction activities that generate potential vibration impacts occur during the demolition and excavation stage of the projects. As such activities associated with loading out activities and General Construction will not adversely impact on surrounding receivers.

**Conclusion**

A review of the proposed extended hours has been conducted for proposed loading out activities and general construction activities with respect to noise and vibration.

- In the case of Loading out activities no exceedance of noise management levels is predicted noting that the proposed hours of operation are within standard EPA construction hours. Therefore there is no reason from a noise and vibration perspective that the proposed activities should be refused.
- The increased weekday operational hours is likely to result in a shortened overall construction program.
- Vibration from the proposed activities will be acceptable at surrounding residences

I trust this information is sufficient. Please contact us if you have any further queries.

Regards

**WILKINSON MURRAY**



**Brian Clarke**  
Senior Associate