12 November 2012

PROPOSED KIAORA LANDS REDEVELOPMENT AT 1 KIAORA ROAD, DOUBLE BAY NSW 2028

SECTION 96(2) MODIFICATION OF DEVELOPMENT CONSENT No. 531/2011/1

HEALTH REFERRAL COMMENTS IN RELATION TO MODIFY CONDITIONS C.1, F.20, F.22, F.42, E.7, E.17 & I.14.

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(1) MODIFY CONDITION C.1: Modification of details of the development (s80A(l)(g) of the Act)

It is requested that Condition C.1 l) iii), iv), v and vii, be amended as follows:

l) The Construction Certificate plans and specification required to be submitted pursuant to clause 139 of the Regulation must detail the following noise control measures required pursuant to A2.5.6 of the Double Bay Centre Development Control Plan 2002;

i. The loading docks are to be provided with automated doors with a surface mass greater than 3kg/m² and the sides, head and thresholds of each is to be designed to obviate, or minimise any undesirable sound leakage.

ii. The loading dock doors are to be designed so that their noise emission components when either opening or closing are no more than 5dB(A) above the background sound level when measured at the façade of the nearest, or any other residential property.

~~*iii. The ceiling, as well as significant areas of the walls of the loading docks are to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area and ensure there is minimum possibility of the loading docks impacting on neighbours.*~~

~~*iv. The underside of the roof of the ground floor carpark is to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.*~~

~~*v. The soffit of the supermarket floor is to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.*~~

vi. The interconnecting ramp between the ground level and rooftop carpark is to have a smooth primary surface and not parallel ribbed surfaces. The ramp should incorporate small angled parallel grooves in a chevron pattern which may be cut into the surface of the cured concrete. The surface must be designed to preclude structural vibration and adverse related intrusive noise levels (or noise radiation from the main building structure) as well as provide positive tyre adhesion in the presence of water or oil.

~~*vii. The ceiling and walls of the entry and exit structure to Kiaora Road are to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.*~~

Comments

The Statement of Environmental Effects (September 2012 Project No. 213.041) has provided the following justification for modification of C.1 l) iii), iv), v and vii:

The building has been redesigned so as to move the circulation ramp to the northern side of the supermarket building, fully enclose the ramp and fully enclose the ground floor parking area. The loading dock areas each have roller shutter doors which will be closed so as to stop noise emanating from these areas.

Condition C.1 (l) (iii)

In relation to Condition C.1 (l) (iii), Reverb Acoustics has commented that internal lining to the walls and ceilings in the docks are not required as it can be demonstrated that noise emissions will comply with the criteria. The following noise controls are proposed for the loading docks;

- solid acoustic doors to the docks
- trucks not to begin reversing until the dock doors are shut
- loading is not to commence until dock doors are shut

No calculations were included with the Acoustic Response attached to Appendix C of the Statement of Environmental Effects (September 2012 Project No. 213.041). In response Reverb Acoustics has provided additional information by way of noise calculations in letter dated 31 October, 2012 (Ref. No. 11-1605-L8).

<u>Calculations: Noise impact from activities associated with the loading docks</u>

Supermarket Loading Dock: Receivers R1 & R2 40dB(A), Leq
Dan Murphys Loading Dock: Receivers R11 & R12 46dB(A), Leq

When trucks enter the loading docks, the doors are to be closed and only then are the trucks to manoeuvre/reverse into the unloading area while a compactor is used intermittently. The predicted impact from these activities is as follows:

Leq at inside surface doors	82dB(A)
Transmission loss doors	-25dB(A)
Area gain doors	+8dB(A)
Loss to receiver	-36dB(A)

Sound Pressure Level at receiver 29dB(A)

Noise impacts from external truck movements and loading dock doors operating are also added to the noise impact within the loading dock areas when the doors are closed. Reverb Acoustics has recalculated the noise impact as follows:

Supermarket Loading Dock: Receivers R1 & R2
40dB(A), Leq + 29dB(A) (internal) = 40dB(A) at the receivers

Dan Murphys Loading Dock: Receivers R11 & R12
46dB(A), Leq + 29dB(A) (internal) = 46dB(A) at the receivers

Reverb Acoustics has demonstrated by way of calculations that there will not be any additional impact of noise at receivers R1, R2, R11 and R12 if the internal lining to the walls and ceilings in the loading docks are not provided.

RECOMMENDATION

Condition C.1(l) (iii), be amended to read as follows:

Automated solid acoustic roller shutter doors are to be provided to all loading dock areas to ensure that there is no break-out noise from delivery vehicle activities and compactor use. Staff assigned to the loading dock areas are to be made aware of the noise control responsibilities requiring that delivery vehicles are not to begin reversing until loading dock doors are shut; unloading and loading of delivery vehicles and use of compactors are not to commence until loading dock doors are shut.

Condition C.1 (l) (iv)

In relation to Condition C.1 (l) (iv), Reverb Acoustics has commented that the ground level car park is fully enclosed and that noise from vehicle movements will be fully contained within the car park. Only noise from vehicles entering and exiting the car park will be audible.

It should be noted that acoustic standards provided for in the Double Bay Development Control Plan for Kiaora Lands were developed prior to the building being redesigned to fully enclose the ground floor car parking area.

RECOMMENDATION

Condition C.1(l) (iv), be amended to read as follows:

That acoustic treatment shall be provided to the underside of the ceilings in the entry and exit areas of the ground level car park to control noise leakage paths by providing an effective reduction of the reverberant characteristics resulting from vehicular movements.

Condition C.1 (l) (v)

In relation to Condition C.1 (l) (v), Reverb Acoustics has commented that the ground level car park is fully enclosed and that noise from vehicle movements will be fully contained within the car park. Only noise from vehicles entering and exiting the car park will be audible.

RECOMMENDATION

That Condition C.1 (l) (v) is deleted as part of Condition C.1.

Condition C.1 (l) (vii)

In relation to Condition C.1 (l) (vii), Reverb Acoustics has commented that original noise calculations were conducted with no allowance for acoustic treatment of ceilings or walls. Again it should be noted that acoustic standards provided for in the Double Bay Development Control Plan for Kiaora Lands were developed prior to the building being redesigned to fully enclose the ground floor car parking area. Reverb Acoustics does agree for treatment of the ceilings as being acceptable.

RECOMMENDATION

Condition C.1(l) (vii), be amended to read as follows:

The ceiling of the entry and exit structure to Kiaora Road are to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.

(2) <u>MODIFY CONDITION F.20: Acoustic treatment – vehicle ramp between car parking levels</u>

It is requested that Condition F.20 be amended as follows:

~~The walls and ceiling of the vehicle ramp enclosure are to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area. This condition is imposed to ensure conformity with the Double Bay Centre Development Control Plan 2002 (amendment 3), A2.5.6, C13.~~

Comments

Condition F.20

In relation to Condition F.20 Reverb Acoustics argues that the condition would be acceptable if the vehicle ramp was open; however with the building being redesigned to fully enclose the car parking area, the noise leakage path is contained. The only noise leakage path is at the opening to the upper car park deck area.

RECOMMENDATION

Condition F.20 be amended to read as follows:

The ceiling to the opening of the upper car park deck area is to be provided with an appropriately selected and effective fire resistant, sound absorbing facing (an

approved acoustical spray, or modular acoustical panels/tiles) to provide an effective reduction of the reverberant characteristics of that area.

(3) MODIFY CONDITION F.22: Electronic vacant car parking space identification

It is requested that Condition F.22 be amended as follows:

~~The carpark is to be equipped with an effective electronic vacant car space identification system through which a driver may more rapidly find an empty car space to minimise the need to circle around the carpark to find where they can park.~~

Comments

Condition F.22

In relation to this condition Reverb Acoustics correctly argues that the ground floor level of the car park is to be fully enclosed and therefore the noise will be contained within the car park. The only potential noise leakage paths as previously discussed are at the entry and exit areas of the car park. Acoustic treatment is to be provided to the underside of the ceilings in the entry and exit areas of the ground level car park to control noise leakage paths.

RECOMMENDATION

That Condition F.22 is deleted as part of the Conditions.

No comment is offered in relation to the comments that *'The car parking area when completed will be in Council's ownership and management, and should Council wish to operate the car park based on a controlled ticketing system, then a separate DA should be submitted by Council for the same'.*

(4) MODIFY CONDITION F.42: Rooftop car parking – acoustic treatment

It is requested that Condition F.42 be amended as follows:

~~Additional transparent acoustic lining shall be erected underneath the shade structure at the rooftop car parking level at Edge Conditions B & D (shown on Drawing No 3109 SK 564). Such lining is to provide acoustic attenuation to ensure that noise from the use of the roof top car parking level outside of the hours referred to in Condition I.30 satisfies the acoustic requirements of this development consent. The objective of this condition is to ensure that residents in the Double Bay amphitheatre are not adversely affected by noise from the use of the rooftop car parking.~~

Comments

Condition F.42

In response Reverb Acoustics has commented in letter dated 31 October, 2012 (Ref. No. 11-1605-L8) that *'Acoustic barriers 1200-1500mm in height have been specified at the perimeter of the car park. The shade structure is higher than these barriers and inclusion of a transparent reflective surface at the car park perimeter underneath will raise the source height and render the acoustic barriers ineffective, resulting in an increase in noise levels by 5dB(A) or more at receivers. We therefore strongly object to inclusion of any reflective surface under the shade structure from an acoustics point of view'.*

It is clear that Reverb Acoustics object to the inclusion of a *reflective surface* under the shade structure which may interfere with the effectiveness of the proposed sound barriers. However Reverb Acoustics does not refer to the many available transparent noise panels which are available in maintaining noise attenuation, such as for example polycarbonate panels; so if a non-resonant material barrier is extended to the underside of the shade structure would this not stop the loss of noise transmission through the opening between the proposed noise barriers and the shade structure, that is, preventing sound travelling over the top of the proposed sound barriers?

By extending the noise barrier with a noise maintaining attenuation material to the underside of the shade structure, in my opinion will further provide for the source noise to be absorbed and enhance to the 1200-1500mm noise control barriers at the perimeter of the roof of the car park.

I am in agreement with Reverb Acoustics that in providing a barrier without any added absorptive treatment (transparent reflective surface) is by default reflective; this means most of the noise is reflected back towards the noise source and beyond. In my opinion Reverb Acoustics has not provided a more detailed assessment and/or justification for deletion of this condition based on their response that a *'transparent reflective surface at the car park perimeter underneath will raise the source height'*; in light of this I can only assume that if a non-resonant transparent noise maintaining material is used then the noise source can be effectively controlled.

RECOMMENDATION

Condition F.42 is to remain as originally conditioned as sufficient assessment and/or justification for its deletion has not been provided for by Reverb Acoustics.

(5) <u>MODIFY CONDITION E.7: Hours of Work – Amenity of the Neighbourhood</u>

It is requested that Condition E.7 be amended as follows:

a) No *work* must take place on any Sunday or public holiday,
b) No *work* must take place before 7am or after 5pm any weekday,
c) No *work* must take place before 7am or after 1pm any Saturday,

d) The following *work* **must not** take place before 9am or after 4pm any weekday, or before ~~9~~ (7) am or after 1pm any Saturday or at any time on a Sunday or public holiday;
   (i) Piling;
   (ii) Piering;
   (iii) Rock or concrete cutting, boring or drilling;
   (iv) Rock breaking;
   (v) Rock sawing;
   (vi) Jack hammering; or
   (vii) Machine excavation,

e) No loading or unloading of material or equipment associated with the activities listed in part d) above must take place before ~~9~~ (7)am or after 4pm any weekday, or before ~~9~~ (7)am or after 1pm any Saturday or at any time on a Sunday or public holiday.

f) No operation of any equipment associated with the activities listed in part d) above must take place before 9am or after 4pm any weekday, or before 9am or after 1pm any Saturday or at any time on a Sunday or public holiday

g) No rock excavation being cutting, boring, drilling, breaking, sawing , jack hammering or bulk excavation of rock, must occur without a 15 minute break every hour.

This condition has been imposed to mitigate the impact of work upon the amenity of the neighbourhood. Impact of work includes, but is not limited to, noise, vibration, dust, odour, traffic and parking impacts.

Note: The use of noise and vibration generating plant and equipment and vehicular traffic, including trucks in particular, significantly degrade the amenity of neighbourhoods and more onerous restrictions apply to these activities. This more invasive work generally occurs during the foundation and bulk excavation stages of development. If you are in doubt as to whether or not a particular activity is considered to be subject to the more onerous requirement (~~9~~ (7) am to 4pm weekdays and ~~9~~ (7) am to 1pm Saturdays) please consult with Council.

Comments

Condition E.7

Justification for the removal of this condition is purely based on causing significant delays to the construction program adding to lost productivity and additional costs.

The Environmental Noise Assessment conducted for the development predicted that a majority of the construction work activities were expected to exceed the day external construction noise criterion; noise levels as high as 87dBA are expected during piling activities at the closet residential location. The recommended deletion of this condition has not considered the environmental noise impact upon the neighbourhood; an assessment and comment from the acoustic consultant would have been expected.

Condition E.7 is consistently applied to major development works in the Woollahra Municipality; altering the hours of work so that construction activities can commence at 7am will have a significant impact in terms of noise to neighbouring residents.

RECOMMENDATION

Condition E.7 is to remain as originally conditioned as sufficient justification for its deletion has not been provided. The likely impact in terms of noise on the neighbourhood is significant and it is recommended that the scheduled hours of work as detailed in condition E.7 remain.

(6) MODIFY CONDITION E.17: Filling of Site

It is requested that Condition E.17 be amended as follows:

To the extent that this consent permits filling of the site such fill is to consist of either ~~must be~~ *virgin excavated natural material ("VENM")* or soil redistributed from the subject site which is of a suitable standard as required by the site auditor.

VENM means "*Virgin excavated natural material (such as clay, gravel, sand, soil and rock) that is not mixed with any other type of waste and which has been excavated from areas of land that are not contaminated with human-made chemicals as a result of industrial, commercial, mining or agricultural activities and which do not contain sulphidic ores or soils*."

Comments

Condition E.17

Modification of this condition has been justified on the basis that the builder has advised that the recycling and redistribution of suitable soil from the site rather than importing fill will have less impacts in terms of truck movements and reduced costs to the project. Only soil that is deemed suitable by the accredited site auditor will be used on the site.

RECOMMENDATION

Condition E.17 be amended to read as follows:

To the extent that this consent permits filling of the site such fill is to consist of either ~~must be~~ *virgin excavated natural material ("VENM")* or soil redistributed from the subject site which is of a suitable standard as required by the site auditor.

VENM means "*Virgin excavated natural material (such as clay, gravel, sand, soil and rock) that is not mixed with any other type of waste and which has been excavated from areas of land that are not contaminated with human-made chemicals as a result of industrial, commercial, mining or agricultural activities and which do not contain sulphidic ores or soils*."

Note: This definition is the same as in Schedule 1 of the *Protection of the Environment Operations Act 1997*, Appendix IX: Types of waste.

Note: Sulphidic ores and soils are commonly known as Acid Sulphate Soils.

Note: If a person transports waste to a place (the site) that cannot lawfully be used as a waste facility for that waste: (a) the person, and, (b) if the person is not the owner of the waste, the owner, are each guilty of an offence under section 143 of the *Protection of the Environment Operations Act 1997*.

Note: A person who is the owner or occupier (principal contractor) of any land that cannot lawfully be used as a waste facility and who permits the land to be used as a waste facility is guilty of an offence under section 144 of the *Protection of the Environment Operations Act 1997*.

Note: Additional information is available from the following websites:
Illegal waste dumping - http://www.epa.nsw.gov.au/waste/dumping.htm
Is that fill legal?
http://www.epa.nsw.gov.au/resources/012648web.epa%20fill.dl%20bro.pdf

Standard Condition: E18

(7) MODIFY CONDITION I.14: Noise from mechanical plant & equipment

It is requested that Condition I.14 be deleted and amended to be consistent with Condition I.19 as follows:

~~The noise level measured at any boundary of the site at any time while the mechanical plant and equipment is operating must not exceed the *background noise level*. Where noise sensitive receivers are located within the site, the noise level is measured from the nearest strata, stratum or community title land and must not exceed *background noise level* at any time.~~

~~The *background noise level* is the underlying level present in the ambient noise, excluding the subject noise source, when extraneous noise is removed. For assessment purposes the background noise level is the LA90, 15 minute level measured by a sound level meter.~~

~~This condition has been imposed to protect the amenity of the neighbourhood.~~

~~**Note**: Words in this condition have the same meaning as in the:
NSW Industrial Noise Policy
(http://www.environment.nsw.gov.au/resources/ind_noise.pdf)
ISBN 0 7313 2715 2, dated January 2000, and
Noise Guide for Local Government
(http://www.environment.nsw.gov.au/noise/nglg.htm)
ISBN 1741370671 , dated December 2004.~~
~~Standard Condition: I53~~

Comments

Condition I.14

Reverb Acoustics have correctly stated that this condition is contradictory to the DCP and Condition I.19 of the Consent which states that single items are not to exceed the background noise level and the cumulative noise level from all relevant items of mechanical plant and equipment must not exceed the background noise level by more than 5dB(A).

To apply a consistent approach to noise emanating from mechanical plant and associated equipment, it would be appropriate for Condition I.14 to be deleted.

RECOMMENDATION

That Condition I.14 is deleted.