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

HEALTH REFERRAL COMMENTS
ADDENDUM TO REVERB ACOUSTICS REPORT 11-160-R1
REQUEST FOR ADDITIONAL INFORMATION
KIAORA LANDS REDEVELOPMENT, DOUBLE BAY
DEVELOPMENT APPLICATION No. 531/2011/1

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**1. ACOUSTICS: SUMMARY OF ADDITIONAL INFORMATION
REQUIRED BY HEALTH REFERRAL RESPONSE OF 22nd
DECEMBER 2011 & REVIEWED 31st JANUARY, 2012.**

1.	The road traffic noise assessment in the acoustic report must be based on the Traffic Report prepared by Halcrow (Ref. No. CTLREAr01v5 110513.doc of 16 May 2011) and the acoustic report is to be amended accordingly.
2.	A delivery schedule shall be provided for all service delivery vehicles for Dan Murphy and the supermarkets including vehicle size, number of deliveries and precise time frames for the deliveries. The acoustic report is to be amended to include this information.
3.	The acoustic report shall identify any service deliveries that may occur outside the recommended operating hours of the service docks, such as milk deliveries and incorporate these activities in the acoustic assessment.
4.	The car park noise assessment in the acoustic report must be based on the Traffic Report prepared by Halcrow (Re. No. CTLREAr01v5 110513.doc of 16 May 2011) and the acoustic report is to be amended accordingly.
5.	It is considered that the Rated Background Level calculated for the car park areas is biased towards the lowest LA90 noise levels during the entire day or evening period. Accordingly, for comparison purposes, an hourly RBLhr based on each individual one hour period across the entire monitoring period should also be calculated (based on traffic flow data for the area) to provide a more accurate representation of the background noise levels during each hourly period and the acoustic report is to be amended accordingly.
6.	A “Car parking Plan of Management” is to be submitted to Council complying with the requirements of control C23 of A2.5.6-Car park and loading dock design” of the Double Bay Centre Development Control Plan 2002.
7.	The location and design criteria of the acoustic barriers to be located on the rooftop car park are required to be included on the development application plans. The specific design specifications of the barriers are to be included in the acoustic report.
8.	A detailed specification of the car park floors and interconnecting ramps to preclude tyre squeal is required to be submitted in accordance with the requirements of control C27 of A2.5.6-Car park and loading dock design” of the Double Bay Centre Development Control Plan 2002.
9.	The acoustic report is to be amended to address the potential noise arising from waste service vehicles entering and leaving the development site and from the collection of waste. The assessment must include calculations based on similar size stores with respect to frequency, vehicle type and size and the type of waste streams (including recycling and grease trap collection) and the expected times of waste collection.
10.	The acoustic report is to be amended to address the potential noise arising from cleaning contractors working at the completed development site. The assessment must describe the type of cleaning work that would be carried out, the type of machinery to be used, the times that cleaning work is to be carried out and the areas of the development where cleaning would occur.
11.	The acoustic report is to be amended to provide further discussion on the likely impact of noise from shopping trolleys. The report should consider ‘containment’ options in controlling trolleys leaving the site and explore alternate trolley designs to minimise potential noise impact.
12.	The mechanical plant assessment within the acoustic report must assess the cumulative noise impact from all plant in operation from the Supermarket/Dan Murphys Design Kit Specification. As the noise control measures are known predicted calculations of noise emissions on nearby residential properties from the operation of

<p>all mechanical plant should be presented to determine if the noise control measures will achieve the noise criterion.</p>
<p>13. The acoustic report must further consider the potential impact of the substation kiosk. In this regard the report must detail the predicted noise emissions of the substation kiosk and identify the required noise control measures that are to be installed to achieve the noise criterion.</p>
<p>14. The acoustic report should consider and discuss the benefits of preparing a Noise Management Plan (NMP) for the development. A NMP would set out how the site will be managed and how the recommendations of the acoustic report will be implemented to ensure that the site will be operate in a satisfactory manner with minimal impact on surrounding properties. Any NMP should include, but not be limited to the following:</p> <ul style="list-style-type: none"> • Service vehicles & waste collection vehicles including scheduling. • Car park maintenance. • Whether staff, including cleaning staff will be permitted to use the car park outside operating hours. • Loading dock operating procedures. • Hours of operation. • Cleaning. • Shopping trolleys. • Signage. • Complaints handling. • Unauthorised access.
<p>15. Part 6.5-‘Construction Noise & Vibration Control Strategies’ of the acoustic report recommends the implementation of an attended noise and vibration at the commencement of each construction process/activity that has the potential to produce excessive noise and vibration. However the report fails to nominate the noise and vibration levels that are considered excessive and would require ameliorative action. Also the report does not specify the ameliorative action that would be required to be initiated if excessive noise and vibration was encountered. Accordingly, the acoustic report is required to be amended to include such information.</p>
<p>16. Section 4-‘Cumulative Noise Impact Site Operation’ of the acoustic report will need to be amended following the inclusion of the additional information requested above. Not all noise sources identified by Council have been assessed in the acoustic report or included in the current cumulative assessment.</p>
<p>17. The acoustic report shall include a statement certifying that the built form of the completed development will comply with the following controls of A2.5.3-‘Built form south of Kiaora Lane’ of the Double Bay Centre Development Control Plan 2002;</p> <p>‘C10 All mechanical plant is to be designed on the basis that if that equipment could operate at any time of the day or night, then its noise emission component, when measured at the nearest or at any other residential property façade, must not exceed the nocturnal background level. The cumulative noise level from all relevant items of mechanical plant and equipment, when measured at the same location must not exceed the nocturnal background level by more than 5 dBA’.</p> <p>Note: The background noise level is to be measured on a windless Tuesday night which is normally the quietest night of the week. The results of this measurement must not be degraded by the noise of passing traffic, or by the noise from vehicles entering or exiting the Anderson Street entry and exit. This may require the background noise level to be measured when the Anderson Street entry and exit is closed.</p> <p>‘C11 The use of the premises must not give rise to noise which exceeds the relevant nocturnal background sound levels by more than 5 dBA when measured at the façade of the nearest or any other residential premises’.</p>

2. RESPONSE TO ACOUSTIC MATTERS BY REVERB ACOUSTICS

Reverb Acoustics have provided a letter of response titled '*Addendum to Reverb Acoustics Report 11-1605-R1; Request for additional information Kiaora Lands Redevelopment, Double Bay*' dated 1st March, 2012 to the additional information required by Health Referral Response of 22nd December, 2011 & reviewed 31 January, 2012.

2.1 Comments to Reverb Acoustics Response to Item 1:

A revised road traffic noise assessment has been provided reliant upon an up to date Traffic Report (Halcrow Pty Ltd dated 19th October, 2011).

For truck movements, the revised report shows that there will be an anticipated total maximum of 10 truck movements per day to Dan Murphys dock and a maximum of 38 truck movements per day to the main Woolworths dock.

For customer vehicle movements, the Halcrow Traffic report now shows that up to 412 vehicles may visit the site each hour during peak periods, typically at opening time or on Thursday evenings and Saturday mornings, and for assessment purposes it has been assumed that 250 movements occur each hour. This equates to approximately 4000 movements during day hours (7am-10pm). Fewer movements are expected at night, with 150 vehicle movements expected per hour during busy periods and 90 during normal periods. This equates too approximately 900 movements during night hours (10pm-7am).

Truck and customer vehicle movements have significantly changed as previously presented in the acoustic report prepared by Reverb Acoustics titled '*Noise Impact assessment: Kiaora Lands Redevelopment, New South Head Road and Kiapra Lane, Double Bay NSW*' (Report No. 11-1605-R1 and dated November 2011). A total of 28 truck movements were previously assumed compared to the revised total of 48 truck movements. Likewise, for customer vehicle movements the previous report assumed up to 250 vehicles may visit the site each hour during peak periods, typically at opening time or on Thursday evenings and Saturday mornings, and for assessment purposes it has been assumed that 150 movements occur each hour. This equates to approximately 2500 movements during day hours (7am-10pm); for night periods (10pm-7am), it was assumed that only 80 vehicle movements were expected.

The assessment based on the revised traffic movements assumes that a typical truck will produce a sound power of 104 dBA (as full engine power is not typically required to approach and depart the site at low speed); and cars typically produce a sound power of 92 dBA based on worst case situation of cars accelerating at full power. The report has again assumed that 60% of vehicles will pass residences along Kiaora Road

and Court Road as they approach and depart the site and 40% along Manning Road and Patterson Street.

Based on calculations shown in Table 1 and Table 2, the noise impact from traffic movements associated with the development are shown to comply with the Road Noise Policy criterion during the day and night for residences along nearby roads:

- **Traffic Noise Calculations Day/Night, Kiaora Rd & Court Rd – dB(A)Leq(T)**

Day (2400 Cars & 38 Trucks) = 55.4 dB(A) Criteria 60 dB(A), Leq 15hr
Night (540 Cars) = 49.9 dB(A) Criteria 55 dB(A), Leq 9hr

- **Traffic Noise Calculations Day/Night, Manning Rd & Patterson St – dB(A)Leq(T)**

Day (1600 Cars & 10 Trucks) = 53.0 dB(A) Criteria 60 dB(A), Leq 15hr
Night (360 Cars) = 48.2 dB(A) Criteria 55 dB(A), Leq 9hr

Peak vehicle noise of 64 dBA (Lmax) is predicted on occasion at night, however given that the existing Lmax noise levels on the surrounding streets regularly exceed 75-80 dBA, it is expected that these infrequent peak noise would not be noticeable.

Conclusion

Based on the on the revised traffic movements (truck and customer vehicles) calculations by Reverb Acoustics have demonstrated compliance with the 'Road Noise Policy' (RNP¹) where Kiaora Road, Court Road, Manning Road and Patterson Street have been classified as a sub-arterial roads.

2.2 Comments to Reverb Acoustics Response to Item 2:

An adequate delivery schedule has been provided for Dan Murphys, Thomas Dux, Woolworths and miscellaneous deliveries as follows:

Dan Murphys:

1-4 Deliveries per day with anticipated total maximum 10 truck movements per day to the dock

Thomas Dux:

3 grocery/week; 1 frozen/week and 3 fruit & vegetables/day

Woolworths:

3 grocery/day; 1 meat/day; 1 frozen/day; 2 dairy & milk/day; 1 bread/day; 3 miscellaneous/day; 4 paper bails/week; 6 refuse/week and 5 fat & bone/week with an anticipated total maximum 38 truck movements per day to the dock.

Miscellaneous:

20 deliveries per day by smaller vans and trucks.

Conclusion

No further information is required. It should be noted that deliveries to loading docks will only occur between the hours of 7am-10pm.

2.3 Comments to Reverb Acoustics Response to Item 3:

Deliveries to loading docks will only occur between the hours of 7am-10pm.

Conclusion

No further information is required.

2.4 Comments to Reverb Acoustics Response to Item 4:

The revised road traffic noise assessment has been based on an up to date Traffic Report (Halcrow Pty Ltd dated 19th October, 2011). Calculations demonstrate (based on 412 vehicle movements per hour or 103 vehicle movements during a 15 minute assessment period), Table 3 shows that projected noise calculations are compliant with the day and evening criteria incorporating a 1500mm acoustic screen on the south edge side of the car park with fully enclosed ramps as recommended in Section 6 of the acoustic report prepared by Reverb Acoustics titled '*Noise Impact assessment: Kiaora Lands Redevelopment, New South Head Road and Kiapra Lane, Double Bay NSW*' (Report No. 11-1605-R1 and dated November 2011).

Conclusion

No further information is required.

2.5 Comments to Reverb Acoustics Response to Item 5:

Reverb Acoustics makes reference to the NSW Industrial Noise Policy (INP) as the accepted document for the assessment of environmental noise in calculation of the Rating Background Level (RBL). The RBL has correctly been used in establishing the noise criterion for the development site; Reverb Acoustics states that "*we have provided a measure of conservatism by adopting the lowest RBL in the receiver locations. To apply a higher RBL based on average assessment background levels would imply higher criteria and residents may then be exposed to higher levels of noise from the development*". It was only for comparison purposes that an hourly RBLhr based on each individual one hour period across the entire monitoring period

was to be calculated (based on traffic flow data for the area) to only strengthen Reverb Acoustic argument for compliance with the noise criterion.

Conclusion

Reverb Acoustics provide an hourly RBLhr based on each individual one hour period across the entire monitoring period to be calculated (based on traffic flow data for the area) for comparison purposes against the presented assessment noise criteria (lowest RBL in the receiver areas). This would demonstrate if there are any times of the day/night period when the RBLhr would be exceeded. Further, can Reverb Acoustics explain if the lowest RBL would also represent the lowest RBLhr ?

2.6 Comments to Reverb Acoustics Response to Item 6:

Reverb Acoustics advises that a Car parking Plan of Management has been prepared and included as part of the most up to date Traffic Report prepared by Halcrow Pty Ltd dated 19th October, 2011 in accordance with the requirements of control C23 of A2.5.6 – Car park and loading dock design of the Double Bay Centre Development Control Plan 2012.

Conclusion

No further information is required. It should be noted that the car parking plan of management may need to be amended should the car park be owned and managed by Woollahra Council.

2.7 Comments to Reverb Acoustics Response to Item 7:

Reference should be made to the Nettleton Tribe Pty Ltd design plans no. 3109_SK_563 and 3109_SK_564 which shows the location, height and construction details for acoustic barriers at the perimeter of the roof top car park. Construction materials are to be either masonry, or a masonry and transparent material (such as Plexiglass or similar) combination providing that the transparent material is a minimum of 12mm thick.

Conclusion

No further information is required.

2.8 Comments to Reverb Acoustics Response to Item 8:

Reverb Acoustics refers to C27 of the Double Bay Centre Development Control Plan 2012 which provides for options to treat the concrete floors which are in place. Given that the concrete floors are to be constructed as part of the proposal, polished (steel float) finishes are not permitted; other forms of concrete finishing are effective in controlling tyre squeal such as broom finish, coving trowel, timber float and the like.

Conclusion

The forms of concrete finishing that are effective in controlling tyre squeal such as

broom finish, coving trowel, timber float and the like are to be incorporated as part of the car park concrete floors and interconnecting ramps surface finish.

2.9 Comments to Reverb Acoustics Response to Item 9:

Reverb Acoustics has provided for a revised loading dock assessment which includes all vehicles using the loading docks, including waste service vehicles which will operate only between the hours of 7am-10pm. The following information has been provided to Reverb Acoustics for waste collection:

Woolworths:

4 paper bails/week; 6 refuse/week and 5 fat & bone/week with collection 2-3 times a day in total.

Dan Murphys:

Assumed 2-3 collections a week with 1 a day in total.

Thomas Dux:

Assumed 3-4 collections a week with 1 a day in total.

Calculations presented in Table 4 and 5 in the report shows that potential noise associated with loading dock activities and truck movements, including waste service vehicles will comply with the day and evening noise criterion at the nearest affected residential boundaries. There is a 1 dBA exceedance shown in Table 5 during the evening period, however Reverb Acoustics recommends that waste collection is restricted during 7am-6pm.

Conclusion

Waste collection from all docks is to be restricted during the hours of 7am to 6pm.

All acoustic modifications as detailed in Section 6 of the acoustic report prepared by Reverb Acoustics titled '*Noise Impact assessment: Kiaora Lands Redevelopment, New South Head Road and Kiapra Lane, Double Bay NSW*' (Report No. 11-1605-R1 and dated November 2011) are to be incorporated into the design of the development site.

Waste collection at the rear of businesses along Kiaora Lane will be reduced significantly given that the new buildings will provide significant shielding to residences.

2.10 Comments to Reverb Acoustics Response to Item 10:

Reverb Acoustics advises that cleaners for each tenancy will enter the car parks via dedicated entries and all cleaning will be conducted within the buildings; Reverb

Acoustics advises that no noise will be produced in residential areas from these activities.

Conclusion

The cleaning of the car parks is not a tenancy control and potential noise arising from cleaning services of car parking areas should be addressed by future contractors having regard to the Double Bay Centre Development Control Plan 2012.

2.11 Comments to Reverb Acoustics Response to Item 11:

No tractors will be used for trolley collection with a coin operated system to be applied for the return of the trolleys as part of a containment option in controlling trolleys leaving the site. As all trolley bays will be located with the development site, noise arising from trolley collections outside of the development site is not envisaged to be a major issue.

Conclusion

No further information is required.

2.12 Comments to Reverb Acoustics Response to Item 12:

Reverb Acoustics states that Table 13 in the Reverb Acoustics titled '*Noise Impact assessment: Kiaora Lands Redevelopment, New South Head Road and Kiapra Lane, Double Bay NSW*' (Report No. 11-1605-R1 and dated November 2011) demonstrates the calculation procedure carried out to predict mechanical plant noise impact at a receiver. Reverb Acoustics states that this may have misinterpreted by the reader of the report; in actual fact the cumulative noise impact from all anticipated mechanical plant has been carried out (as shown in Tables 14 & 15 of the report). Predicted calculations of the cumulative noise impact of all mechanical plant at the site will be compliant with the nominated noise criterion subject to acoustic controls being incorporated into the design as recommended in the acoustic report. Upon finalisation of the plant layout, such details are to be forwarded to the acoustic consultant for approval.

Conclusion

I acknowledge the comments made by Reverb Acoustics and I am in agreement; no further information is required.

2.13 Comments to Reverb Acoustics Response to Item 13:

Reverb Acoustics advises that only a substation box is required on the west side of the development. It is the opinion of Reverb Acoustics that such equipment produces insignificant noise and no further analysis is required.

Conclusion

The above conclusion in relation to potential noise arising from the substation is to be confirmed and documented as part of the final acoustic certification and prior to final occupation.

2.14 Comments to Reverb Acoustics Response to Item 14:

Consideration was to be given for the preparation of a Noise Management Plan (NMP) for the development site in relation to service vehicles & waste collection vehicles including scheduling; car park maintenance; whether staff, including cleaning staff will be permitted to use the car park outside operating hours; loading dock operating procedures; hours of operation; cleaning; shopping trolleys; signage; complaints handling and unauthorised access.

Conclusion

The report has adequately addressed the above issues; no further information is required.

2.15 Comments to Reverb Acoustics Response to Item 15:

Reverb Acoustics has confirmed that no driven piling will be undertaken during construction works; instead boring of piles will be the preferred option. Reverb Acoustics acknowledges that piling activities will significantly contribute to noise during construction activities. Typical noise levels are expected to be in the order of 70-79 dBA from such activities for a receiver at 20 metres away.

Reverb Acoustics acknowledges that compliance with the construction noise criteria will not occur, however noise mitigation strategies have been suggested to reduce noise impacts by as much as 10 dBA.

Conclusion

It is recommended that prior to construction activities commencing at the development site that all construction noise mitigation measures shall be in place, including barriers at the perimeter of the construction site and/or around construction machinery and the selection of alternate equipment that produces less noise to negate noise emissions from such activities.

Attended noise and vibration monitoring is to be carried out at sensitive receivers at the commencement of each process/activity that has the potential to produce excessive noise or vibration.

2.16 Comments to Reverb Acoustics Response to Item 16:

Revised cumulative noise impacts predicted at the site have been provided by Reverb Acoustics. It should be noted that noise impacts from mechanical plant remains unchanged and that the minor change in the number of activities occurring in the car park has not changed the predicted impacts from car park activities at sensitive

receivers.

Conclusion

The report has adequately addressed the above issue; no further information is required.

2.17 Comments to Reverb Acoustics Response to Item 17:

Reverb Acoustics advises that it is not possible to provide a statement certifying that the development will comply with A2.5.3 – Built form south of Kiaora Lane of the Double Bay Centre Development Control Plan 2002 due to the fact that the development has not been built.

Reverb Acoustics do state however, that based on predicted calculations and the implementation of noise control strategies and controls identified in the Reverb Acoustics titled '*Noise Impact assessment: Kiaora Lands Redevelopment, New South Head Road and Kiapra Lane, Double Bay NSW*' (Report No. 11-1605-R1 and dated November 2011), that compliance with A2.5.3 of the DCP is possible.

Reverb Acoustics also state that certification is important in verifying predictions and making adjustments to noise control measures or incorporating further modifications into the design where non-compliances are identified.

Conclusion

Upon completion of the built form of the development, an acoustic assessment shall be undertaken from all identified sensitive receivers to determine compliance or otherwise with A2.5.3 – Built form south of Kiaora Lane of the Double Bay Centre Development Control Plan 2002. The results of the acoustic assessment shall be forwarded to Council including modifications into the design (noise control) where non-compliances are identified.