

DUNLOE PARK SAND QUARRY PROJECT Truck Movement Modification (MP 06_0030 MOD 2)

Environmental Assessment Report

Section 75W of the *Environmental Planning and Assessment Act 1979*

1. BACKGROUND

Holcim (Australia) Pty Ltd (Holcim) operates Dunloe Park Sand Quarry (Dunloe), located approximately 3 kilometres (km) south of the Pottsville township in the Tweed local government area. Dunloe is accessed via a private access road that intersects with Pottsville Road (see **Figure 1**).

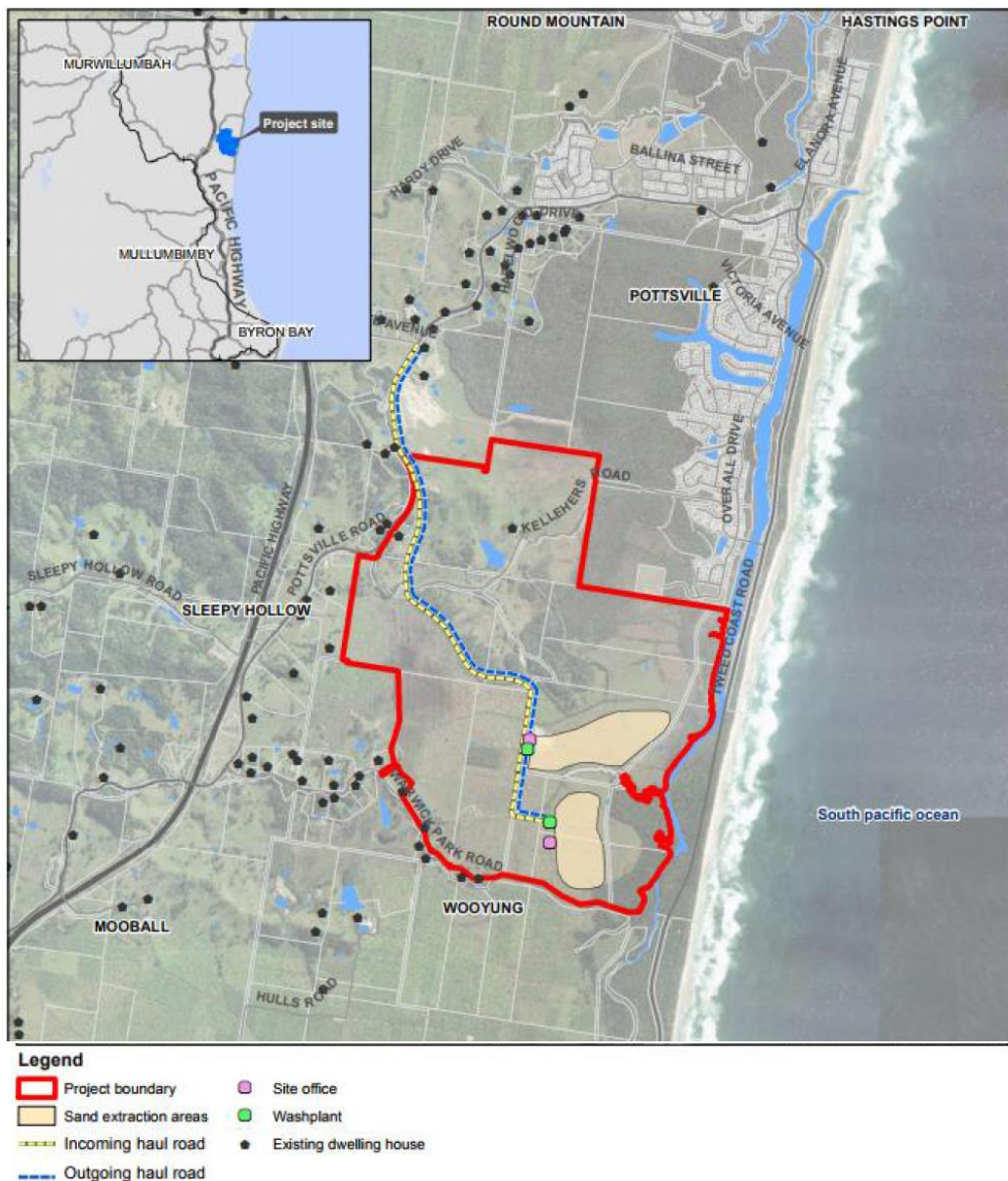


Figure 1: Location of Dunloe Park Sand Quarry

Dunloe was granted project approval (MP 06_0030) on 24 November 2008 to undertake sand extraction operations until 1 January 2035. Conditions of approval currently restrict transportation of sand from the site to 300,000 tonnes per annum (tpa) at a maximum rate of eight heavy vehicle movements (four in and four out) per hour.

A modification to MP 06_0030 was approved on 28 August 2009 to permit the construction of a machinery shed on the site.

2. PROPOSED MODIFICATION

On 12 July 2017, Holcim submitted a second modification application for MP 06_0030 under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposed modification seeks to increase the maximum number of allowable truck movements to and from the site, from eight to 24 movements per hour. Based on the quarry's approved hours of operation of 7 am to 5 pm weekdays and 7 am to 12 pm Saturday, this represents a 200% increase in the approved daily truck movements (ie 80 to 240 on weekdays and 40 to 120 on Saturdays).

The proposed modification does not seek to change its approved annual transport limit of 300,000 tpa.

Holcim has advised that the reason for the proposed increase is that it is struggling to meet demand for product sand during peak periods due to the restrictive hourly limit for truck movements.

3. STATUTORY CONTEXT

3.1 Section 75W

MP 06_0030 was approved on 24 November 2008 under Part 3A of the EP&A Act. The proposal is a transitional Part 3A project under Schedule 2 to the *EP&A (Savings, Transitional and Other Provisions) Regulation 2017*. The power to modify transitional Part 3A projects under section 75W of the Act as in force immediately before its repeal on 1 October 2011 is being discontinued – but as the request for this modification was made before the 'cut-off date' of 1 March 2018, the provisions of Schedule 2 (clause 3) continue to apply. Consequently, this report has been prepared in accordance with the requirements of Part 3A and associated regulations, and the Minister (or delegate) may approve or disapprove the carrying out of the project under section 75W of the EP&A Act.

The proposal would not change any of the core elements of the project, including the approved extraction limits, quarrying methods, operational hours, or annual extraction volumes and processing rates. Consequently, the Department is satisfied that the proposed modification is within the scope of section 75W, and may be determined accordingly.

3.2 Environmental Planning Instruments

Several environmental planning instruments (EPIs) apply to the modification, including the:

- *State Environmental Planning Policy (SEPP) (State and Regional Development) 2011*;
- *SEPP (Mining, Petroleum and Extractive Industries) 2007*;
- *SEPP No.33 (Hazardous and Offensive Development)*;
- *SEPP No.44 (Koala Habitat Protection)*;
- *SEPP (Infrastructure) 2007*;
- *Tweed Local Environmental Plan 2000*; and
- *Tweed Local Environmental Plan 2014*.

The Department has considered the modification application against the relevant provisions of these EPIs, as well as Holcim's review of these matters. The Department considers the project, if modified could continue to operate in a manner that is consistent with the aims, objectives and provisions of these EPIs.

3.3 Approval Authority

The Independent Planning Commission of NSW (IPC) must determine the application, in accordance with the Minister's delegation of 14 September 2011, because:

- Council has objected to the proposed modification;

- Council's objection was not received during the public exhibition period, and as such, clause 8A(2) of the *State Environmental Planning Policy (SEPP) (State and Regional Development) 2011* does not apply;
- the Minister's delegation to Department officers (11 October 2017) only applies to applications where Council has not made an objection;
- the Minister's delegation of 14 September 2011 to the Planning Assessment Commission (PAC) has not been revoked; and
- references to the PAC are to be construed as references to the IPC.

3.4 Objects of the EP&A Act

The Minister or delegate must consider the objects of the EP&A Act when making decisions under the Act. The objects of the EP&A Act changed on 1 March 2018. The Department has assessed the proposed modification against the current objects of the EP&A Act. The objects of most relevance to the decision of whether or not to approve the proposed modification are found in section 1.3. They are:

- Object 1.3(a): *to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources;*
- Object 1.3(b): *to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment;*
- Object 1.3(c): *to promote the orderly and economic use and development of land;*
- Object 1.3(e): *to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;*
- Object 1.3(f): *to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage); and*
- Object 1.3(j): *to provide increased opportunity for community participation in environmental planning and assessment.*

The Department is satisfied that the proposed modification encourages the proper management and development of resources (Object 1.3(a)) and the promotion of the orderly and economic use of land (Object 1.3(c)), since the modification:

- involves a permissible land use on the subject land;
- does not alter the existing quarry site or transport infrastructure; and
- maintains socio-economic benefits for the community of NSW.

The Department has considered the principles of ecologically sustainable development (ESD, Object 1.3(b)) in its assessment of the proposed modification. The Department has also noted Holcim's consideration of these matters in the Environmental Assessment (EA) for the original project application, and considers that quarrying operations would remain consistent with the principles of ESD under the proposed modification. The Department's assessment has sought to integrate all significant environmental, social and economic considerations.

Consideration of the protection of the environment and heritage (Objects 1.3(e) and (f)) is provided in **Section 5** of this report. The Department considers that the modification as proposed would not introduce additional impacts on items of Aboriginal cultural heritage significance. The Department also considers that there will be little (if any) additional direct disturbance to threatened biodiversity.

The Department exhibited the modification application and made the accompanying EA publicly available (Object 1.3(j)). One public submission by way of objection was received (see **Section 4.3**).

4. CONSULTATION

4.1 Exhibition and Notification

The Department exhibited the modification application from 27 July until 10 August 2017 and made the accompanying EA (see **Appendix A**) publicly available on its website, at NSW Service Centres, at Tweed Shire Council's offices, and the office of the Nature Conservation Council.

The Department also invited comment from the **Environment Protection Authority (EPA)**, **Department of Industry – Water (Dol – Water)**, **Office of Environment and Heritage (OEH)**, **Division**

of Resources and Geoscience of the Department (DRG), Roads and Maritime Services (RMS), Local Land Services (LLS) and Tweed Shire Council (Council).

On 1 July 2018, the Department was informed that the July 2017 advertisement contained erroneous information in that it stated the proposed truck movements would increase from 80 per day (in and out) to 120 (in and out) on Monday to Friday and from 40 to 60 on Saturday. The proposed numbers are double these numbers (see **Section 2**).

The Department acknowledges that incorrect information was included in the advertisement but is satisfied that the exhibition process was not significantly affected. The public and agencies were provided an opportunity to comment on the EA and/or enquire directly with the Department about the project. Holcim also informed its Community Consultative Committee about the proposal and provided it with the correct information contained in its EA.

The Department notes that no submissions received from agencies or the public during the exhibition period referred to the information as exhibited. In particular, RMS's submission was based on the increased truck movements described in the EA rather than the exhibited information. Therefore, the Department is satisfied that the notification process met the requirements of the EP&A Act and the EP&A Regulation.

4.2 Agency Submissions

RMS raised concern that the EA did not adequately address existing road geometry and available sight distances at the intersections along the quarry's haulage route. Further, RMS advised that the EA did not consider the proposed truck movements in the context of future growth of traffic along the haulage route and potential impacts on pedestrians, cyclists and public transport (including school buses).

To better understand potential safety hazards for existing intersections, RMS recommended that Holcim prepare a Road Safety Audit (RSA), in accordance with Austroads Guidelines. Additionally, RMS recommended that Holcim prepare a contemporary Traffic Management Plan for the ongoing monitoring and management of heavy vehicle movements.

On 15 November 2017, Holcim submitted a Response to Submissions report (RTS), which included an independent RSA that assessed the current condition of the Pottsville Road/access road intersection and the condition of a 500 metre (m) section of Pottsville Road (250 m north and 250 m south of the intersection, see **Appendix C**). The RSA made a number of recommendations to improve road safety along Pottsville Road.

In response, RMS requested that Holcim demonstrate that the recommendations included in the RSA would address safety for vehicles turning in and out of the quarry access road. Holcim provided a response to this request on 29 March 2018. The Department's consideration of traffic safety matters is set out in **Section 5.1**

In its initial submission, **Council** raised concern over the use of the desktop review conducted for the quarry access road / Pottsville Road intersection. Council noted that the available sight distances at this intersection did not meet Austroads requirements and requested that these deficiencies be further identified and addressed. This matter is further discussed in **Section 5.1**.

On 5 February 2018, Council provided email correspondence that raised concern over recommendations made in the RSA relating to vegetation clearance within the Pottsville Road reserve to improve drivers' sightlines. Council noted that some vegetation in this reserve is mapped as Koala habitat and no biodiversity assessment had been undertaken regarding potential impacts to Koalas. Council also identified that the recommended vegetation clearance would be inconsistent with its Koala Plan of Management. This matter is further discussed in **Section 5.4**.

On 30 April 2018, Council provided a formal submission in response to Holcim's RTS and recommended conditions for matters including traffic safety, section 94 contributions, Koala impacts and noise amenity impacts. On 18 June 2018, Holcim provided a detailed response to these issues. Whilst Council accepted some of Holcim's responses relating to which RSA recommendations would be implemented, Council retained residual concerns regarding impacts on Koalas and amenity. On 6 July 2018, Council provided an additional submission detailing its recommended conditions of approval, as well as additional comments arising from a Council resolution at the most recent Planning Committee

meeting. These additional comments advised that Council did not support the modification application for a number of reasons including traffic and amenity impacts, and potential Koala road strike. Additionally, Council requested that the modification be re-exhibited due to the erroneous information contained in the Department's exhibition advertisement (see **Section 4.1**).

In subsequent discussions, Council confirmed that its submission should be considered to be a formal objection.

The Department has further discussed the various issues raised by Council in **Section 5**.

DRG raised no concern over the proposed modification, but requested that Holcim continue to provide annual production data to assist in resource management planning for NSW.

OEH initially advised that it had no issues with the proposed modification. The Department sought additional advice from OEH following Council's concerns over impacts on Koalas. OEH raised no concerns over impacts on Koalas but recommended a number of conditions. This matter is discussed further in **Section 5.5**.

DPI advised that it had no concerns or comments on the proposed modification.

No comments were received from the **EPA** and **LLS**.

4.3 Public Submission

One submission was received from a member of the public which objected to the proposal on the grounds that increased truck movements would further deteriorate the condition of Pottsville Road and that additional dust and road noise would further impact the amenity of nearby residents. It also raised concerns over the behaviour of truck drivers and that Pottsville Road had poor sightlines because of overgrown vegetation (see **Appendix B**). The Department's assessment of these matters is set out in **Section 5.1**.

5. ASSESSMENT

In assessing the merits of the proposal, the Department has considered the:

- application documentation, EA, submissions and RTS;
- existing conditions of approval;
- relevant EPIs, policies and guidelines; and
- requirements of the EP&A Act, including the objects of the Act.

The Department considers the key issues for the modification to be traffic and safety, noise, Koala habitat and air quality. The Department's assessment of the proposal's potential impacts is provided below.

5.1 Traffic and Safety

The EA included a traffic impact assessment (TIA) that assessed potential impacts on the quarry's haulage route. Specifically, the TIA evaluated the existing condition of the nearby road network to assess whether there was sufficient capacity to accommodate the proposed additional truck movements.

5.1.1 Road Capacity

The quarry is located on the southern side of Pottsville Road which is accessed from the Pacific Highway via Cudgera Creek Road. Cudgera Creek Road is a regional road consisting of a two-way sealed undivided carriageway. Council traffic data indicates that traffic volumes on this road (east of the Pacific Highway) are approximately 4,300 vehicle movements per day. The proposed modification would increase traffic generation on this road by approximately 3.6%.

The TIA conservatively classified Pottsville Road as a 'sub-arterial road' under the management of the local Council, meaning that it should accommodate between 2,000 and 10,000 vehicles per day. A vehicle survey conducted between 7 March and 13 March 2017 quantified the maximum traffic volumes on Pottsville Road to be around 1,800 vehicle trips per day, which is more in line with classification as a 'rural road'.

The proposed modification would increase heavy vehicle movements on Pottsville Road by approximately 8%. The Department considers this increase to be small in relation to the overall level of traffic on this road.

At the request of RMS, the RTS included an independent RSA. The RSA classified the road as a rural road, typically accommodating between 1,000 and 3,000 vehicle movements per day. While this is inconsistent with the classification in the TIA, the rural classification is to be preferred considering that the maximum total vehicle movements (including from the proposal) would be around 2,000 per day, which is well within the average range of vehicle trips for a rural road and well below the maximum for sub-arterial roads.

5.1.2 Road Safety

The quarry haulage route consists of three intersections including the Pacific Highway / Cudgera Creek Interchange, and the intersections of Cudgera Creek Road / Pottsville Road and Pottsville Road / quarry access road.

During exhibition, one public submission raised concerns about road safety due to interactions with additional heavy vehicles, particularly at sections of Pottsville Road with limited sightlines and inclines that impede acceleration. Pottsville Road has a posted speed limit of 80 km/h which is difficult for laden vehicles exiting Dunloe's access road to reach for a significant distance due to a road incline immediately north of the intersection. This may hold up light vehicles in transit as there are limited overtaking options and may present a risk of collision due to the significant speed difference between turning laden trucks and light vehicles in transit. Council and RMS shared the same concerns about road safety and sightlines. Concerns were also raised by RMS about increased traffic over the life of Dunloe's operations.

In response to the concerns raised, Holcim commissioned an independent RSA. This audit identified that the available sight distances for vehicles turning right at the quarry access road / Pottsville Road intersection (205 m north and 135 m south) did not meet Austroads standards (228 m). Additionally, a number of other safety concerns were identified including faded line markings, unprotected road edging, uneven road surfaces, differing pavement surfaces at the access road intersection, an absence of sealed shoulders on the western side of Pottsville Road and limited guideposts.

The RSA included a range of recommendations to address these concerns, including:

- upgrading road line markings to relevant standards;
- installing guardrails in locations with steep edge drop-offs;
- trimming roadside vegetation to the south of the Pottsville Road/access road intersection to improve sightlines;
- installing additional signage along Pottsville Road due to the limited sight distances;
- providing a consistent colour finish to the intersection approach of the access road;
- replacing and installing guideposts;
- resurfacing damaged road surfaces; and
- providing a 1m wide shoulder on sections of Pottsville Road.

Of these recommendations, the RSA prioritised the need to improve sight distances at the quarry access road / Pottsville Road intersection. It was recommended that this could be achieved by vegetation removal along Pottsville Road and installing additional signage.

In response to the RSA, Council raised concern with recommendations to trim/clear potential Koala habitat in the road reserve. Additionally, RMS requested that Holcim provide further justification of how the recommendations would address safety for vehicles using the quarry access road / Pottsville Road intersection. Holcim then further investigated its options to improve safety relating to sight distances at this intersection and submitted an additional report to the Department on 29 March 2018.

This report investigated the amount of vegetation clearing that would be required to improve sight distances. However, due to Council's concerns regarding vegetation clearance, it also proposed two options to address sight distance concerns which did not involve vegetation clearing. These were:

- a reduction in the posted speed limit; and
- the installation of additional road signage and the adoption of other road improvement works (referred to as 'Option 1 Clear Zone provisions').

Council did not support the proposed reduction in speed limit and considered the second option to be more appropriate, subject to implementation prior to the commencement of additional truck movements. The Department accepts that option two is generally appropriate as it avoids vegetation clearance that could potentially impact Koala habitat and improves motorists' awareness of the Pottsville Road / access road intersection.

5.1.3 Conclusion

The Department considers that the proposed additional truck movements could be accommodated on the existing road network, and that any potential road safety impacts would be mitigated by implementing the road treatments identified in the RSA and Holcim's additional report.

However, the Department considers that there is a need to balance protection of Koala habitat with ensuring the safety of the road for all users. Given that Council is the appropriate authority for both road works and for implementing its Koala management plan (see **Section 5.4**), the Department considers it appropriate that its recommendation that Holcim implement the recommendations of the RSA is done to the satisfaction of Council. This would enable Council to actively oversee how much, if any, vegetation requires clearing/trimming, whilst ensuring road safety for all users of Pottsville Road.

To ensure these works are carried out quickly, the Department has recommended a condition requiring that recommended road safety treatments are implemented within 12 months of the date of approval of the proposed modification. This timeframe is considered appropriate for Holcim to obtain the relevant approvals from Council and to undertake the necessary works. The Department has also recommended a condition requiring Holcim to prepare and implement a contemporary Traffic Management Plan in consultation with Council and RMS.

As the proposed modification does not seek to increase the amount of product transported from the site per annum, the Department recognises that there would be no increase in the maximum allowable number of trucks on the haulage route over the course of a year. Rather, the modification seeks to allow flexibility in the number of trucks that can be dispatched in any hour. The Department is satisfied that, subject to the recommended conditions of approval, the proposed modification would not adversely impact road traffic and safety.

5.2 Development Contributions

Dunloe's existing approval conditions require a one-off development contribution payment to Council of \$47,250 in accordance with Council's Tweed Road Contribution Plan (TRCP) and a further one-off payment of \$399.40 in accordance with Council's Section 94 Plan No.18, which were the plans in place at the time of the approval.

On 30 April 2018, Council requested that the Department reconsider the current condition for development contributions. Council is of the view that the project approval incorrectly applied a heavy haulage contribution of \$47,250, and further that it did not indicate that this fee was required to be an annual fee, as per the provisions of the TRCP at the time (Version 5, dated March 2007). The Department accepts Council's position that its intention was that this was to be an annual payment, notwithstanding that no Council submission proposing this has been found.

Further, review of the TRCP indicates that an incorrect calculation was used to determine Council's proposed rate of \$47,250. The rate was calculated using the formula in the TRCP's section 7.2 which also states that heavy vehicle contributions under that section '*do not apply to source activities such as extractive industries and quarries*'. The Department considers that the more appropriate calculation would have been that contained in Schedule 1 – Heavy Haulage (of Extractive Material). Using the then applicable calculation of 5.4 cents/tonne/km (as at the time) of the haul route, Holcim should have been required to pay \$97,200 on an annual basis. If it is accepted that Holcim should have been paying \$47,250 annually for the past ten years, then a total of approximately \$472,500 would have been paid to Council. If the correct calculation had been used, then a total of approximately \$972,000 would have been paid.

Nonetheless, Council has advised that heavy haulage fees are no longer charged (based on either of the above calculations) and instead contributions are now charged at a trip rate in accordance with the current TRCP (Version 6). Council would usually apply these calculations for new developments or in cases of modifications where there is a proposed increase in trucking limits.

In its letter of 30 April 2018, Council advised that it was recommending the condition be changed to require a one-off payment of \$173,480 (subsequently amended to \$182,280 due to indexing). This amount was calculated using the difference between the currently approved truck limit of eight movements per hour to the proposed truck limit of 24 movements per hour (ie 16 truck movements per hour). This calculation was made in recognition of Holcim's previous payment of \$47,250 and Council's acceptance that the current conditions of approval could be interpreted as a one-off payment.

Holcim contended that there is no proposed change to the annual output (ie 300,000 tpa) from the quarry and that it has already paid a required payment of \$47,250 and should not be subject to any new payment. This argument only works on the interpretation that the \$47,250 was only required as a one-off payment. The Department accepts that Council's calculation is based on a trucking rate which Holcim would not actually be able to achieve (ie 16 trucks per hour would exceed 300,000 tpa well within a 12-month timeframe). While the patterns of heavy vehicle arrival and departure would change the overall number of annual heavy vehicle movements required to service the approved 300,000 tpa output would not change.

Nevertheless, given that the intention of the applicable TRCP was that contributions were made annually and this has not occurred for ten years, the Department has carefully considered Council's request for a one-off payment to account for truck movements going forward. There is no simple way to calculate a new contribution given that:

- the original contribution was based on an incorrect formula and should have been substantially greater;
- Holcim has avoided paying annual contribution rates for the past ten years;
- the previous contribution formula differs from how contribution rates are currently calculated; and
- the recommendation put forward by Council is based on a trucking rate that Holcim would not be able to meet (ie it would exceed its approved limit of 300,000 tpa).

However, the Department recognises that Council has based its calculation on the proposed increase in trucks per hour rather than the proposed total trucks per hour and that this was done in recognition of the fact the annual tonnage is not proposed to change. Whilst accepting that Holcim would not actually truck at these rates for the whole year (without exceeding 300,000 tpa and being in non-compliance), overall, the Department considers Council's request to be fair and reasonable given that it is for an amount substantially less than that which Holcim would otherwise have paid over the past ten years. As such, the Department has recommended to modify condition 13 of Schedule 2 to require Holcim to pay Council a road maintenance contribution of \$182,280 in accordance with Council's Contribution Plan. The Department has recommended that this payment be made prior to the increasing heavy vehicle movements per hour, or as otherwise agreed under Council's Business Investment Policy.

5.3 Noise

The modification is supported by a noise impact assessment (NIA) included in the EA. The NIA assessed the noise impact of the modification at sensitive receivers against Dunloe's current approved noise criteria to confirm that the criteria could continue to be met. Additionally, the NIA assessed the increased truck movements against the EPA's *Road Noise Policy 2015* (RNP).

Both Council and a member of the public raised concern with potential noise and amenity impacts associated with increased heavy vehicles on Pottsville Road.

5.3.1 Operational Noise

The NIA assessed the potential operational noise impacts of the modification against the currently approved noise criterion for the existing site operations of 48 $L_{Aeq(15min)}$ dB(A). The NIA identified the closest sensitive receivers as residences R1 to R8. Receivers 1 to 7 are located to the south-west of the Project boundary and are predominantly affected by operational noise from quarrying operations. Receiver 8 is located on the north-west boundary of the site and is predominantly affected by noise from the quarry access road (see **Figure 2**).

The NIA assessed two scenarios to predict noise impacts from the proposed modification, including:

- site operations – including the operation of plant and equipment at maximum capacity, and the loading of 12 trucks per hour; and
- the quarry access road – including 24 truck movements in and out of the site.

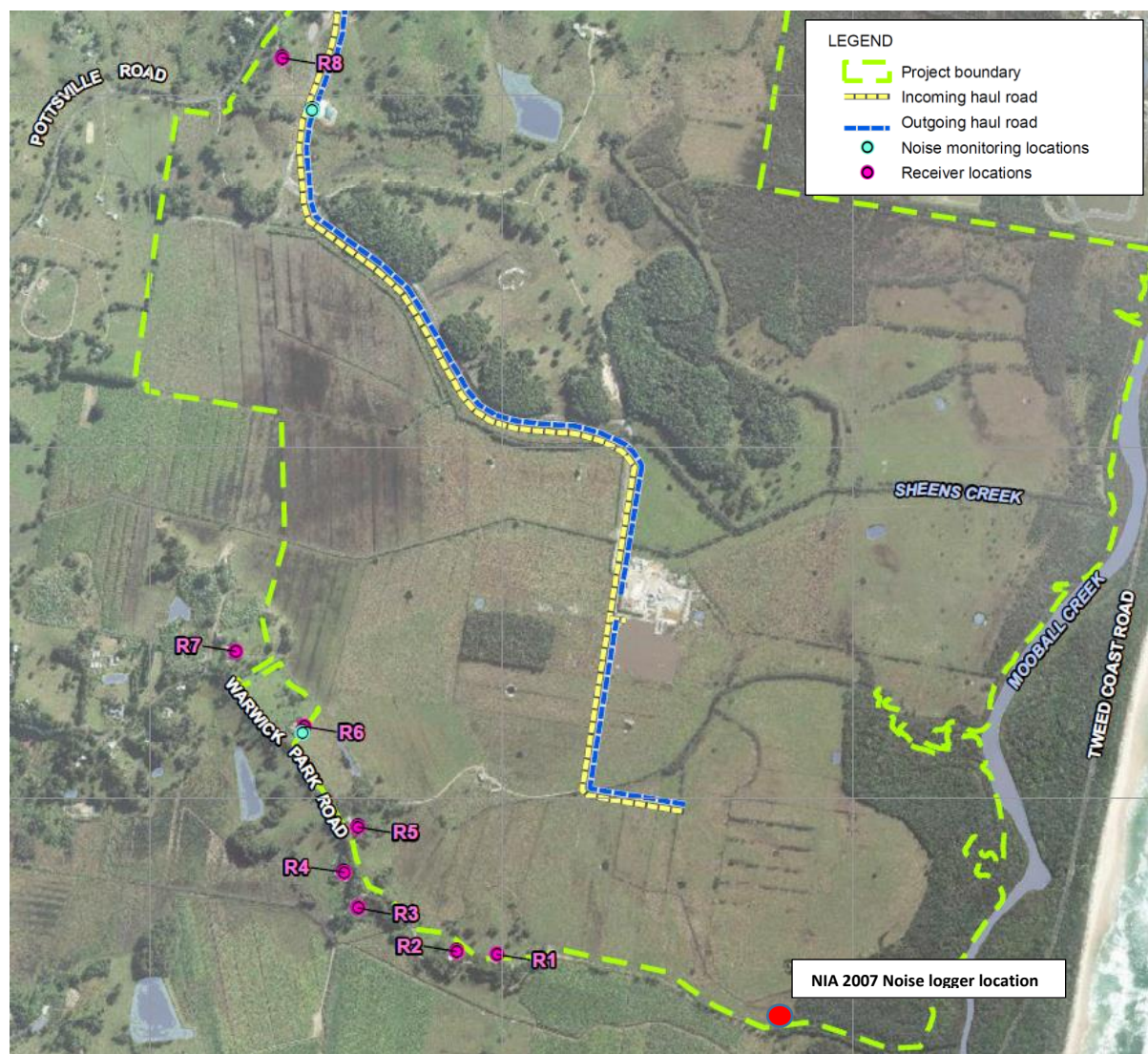


Figure 2: Sensitive receivers and noise monitoring locations

Table 1 identifies the worst-case noise predictions at sensitive receivers, arising from these two scenarios. For each receiver, noise levels were predicted to remain compliant with the approved criteria.

Table 1: Proposed site operations and quarry road noise levels at sensitive receivers

Receiver	Predicted Noise Level $L_{Aeq}(15min)$ dB(A)	Criterion, dB(A)	Compliance
R1	40	48	Yes
R2	38		Yes
R3	36		Yes
R4	36		Yes
R5	41		Yes
R6	42		Yes
R7	42		Yes
R8	46		Yes

The existing noise criterion of 48 dB(A) is based on the NIA for the original Dunloe EA prepared in 2007, which monitored background noise and then applied the *NSW Industrial Noise Policy* (INP) to determine the project's specific noise level by adding 5 dB(A) to the background noise measurements.

However, the 2007 NIA monitored background noise at just one location at the southern site boundary, which is isolated from any of the identified sensitive receivers and is close to Tweed Coast Road and breaking waves of the nearby beach (see **Figure 2**). This approach led to a relatively high background noise level of 43 dB(A). The Department now questions the relevance of the logger's location so distant from sensitive receivers and where the background noise level is elevated by ocean noise and road

noise. It is apparent that the logger's location has resulted in elevated background noise levels when compared to the predicted noise levels included in **Table 1**.

The Department therefore considers that this modification application warrants reviewing the single noise criterion imposed under the original approval.

The NIA provided results of recent background noise monitoring at locations considered representative of sensitive receivers. For Receivers 1 to 7, the measured background level was 36 dB(A). Therefore, in accordance with the *Noise Policy for Industry 2017*, the project noise trigger level (PNTL), which is background + 5 dB(A), is 41 dB(A) ($L_{Aeq, 15min}$) for these receivers.

The NIA predicts that Receivers 1 to 5 would experience noise levels at or below the PNTL, and therefore, the Department considers it appropriate that the PNTL is adopted as the noise criterion for these receivers. Receivers 6 and 7 are predicted to experience noise levels of up to 42 dB(A), which is 1 dB(A) above the PNTL. The Department recognises that this 1 dB(A) difference would be inaudible to the human ear but, nevertheless, a noise limit of 42 dB(A) is recommended for these receivers.

The measured background noise level for Receiver 8 was 44 dB(A), which results in a PNTL of 49 dB(A). The NIA predicts that noise levels at this receiver would not exceed 46 dB(A). On this basis, the Department considers that the existing noise criterion of 48 dB(A) should remain for this receiver.

Table 2 summarises the Department's proposed changes to the noise criteria.

Table 2: Existing vs proposed noise criteria

Receiver	Existing Noise Criterion $L_{Aeq, 15min}$ dB(A)	Proposed Noise Criteria $L_{Aeq, 15min}$ dB(A)
R1 – R5	48	41
R6 & R7		42
R8		48

The proposed noise criteria would result in a beneficial change for Receivers 1 to 7, whilst maintaining achievable noise limits for Holcim. Additionally, the Department has recommended contemporary noise operating conditions and that Holcim prepare and implement a contemporary Noise Management Plan.

Subject to the proposed conditions, the Department is satisfied that the noise impacts of the proposed modification are acceptable.

5.3.2 Road Traffic Noise

Under the RNP, roads are classified as sub-arterial where they:

- provide connection between arterial roads and local roads;
- support arterial roads during peak periods; or
- have been designed as local streets but serve major traffic-generating developments or support non-local traffic.

Pottsville Road is consistent with the above functions and as such, was classified as a sub-arterial road for the purposes of the NIA. The RNP sets the noise criterion for existing residences affected by additional traffic on an existing sub-arterial road at 60 $L_{Aeq, 15hr}$ dB(A) between 7 am and 10 pm.

The NIA identified sensitive receivers along Pottsville Road as R9 to R21 (see **Figure 3**). The NIA indicated that predicted noise levels do not exceed the criterion for sub-arterial road noise (see **Table 3**). The highest expected noise level was predicted at R10 (57 dB(A)). This section of Pottsville Road has a steady incline from the intersection with the access road. Typically, a laden truck would be required to engage a lower gear to maintain higher engine speed to negotiate this incline. This scenario would account for the higher road noise predicted at R10.

One public submission was received stating that any increase in truck movements would be unreasonable due to the associated impacts on nearby residences. The Department acknowledges this concern. However, the RNP sets a road noise criterion of 60 dB(A) for traffic movements along Pottsville Road and the modification application does not seek to exceed this standard.

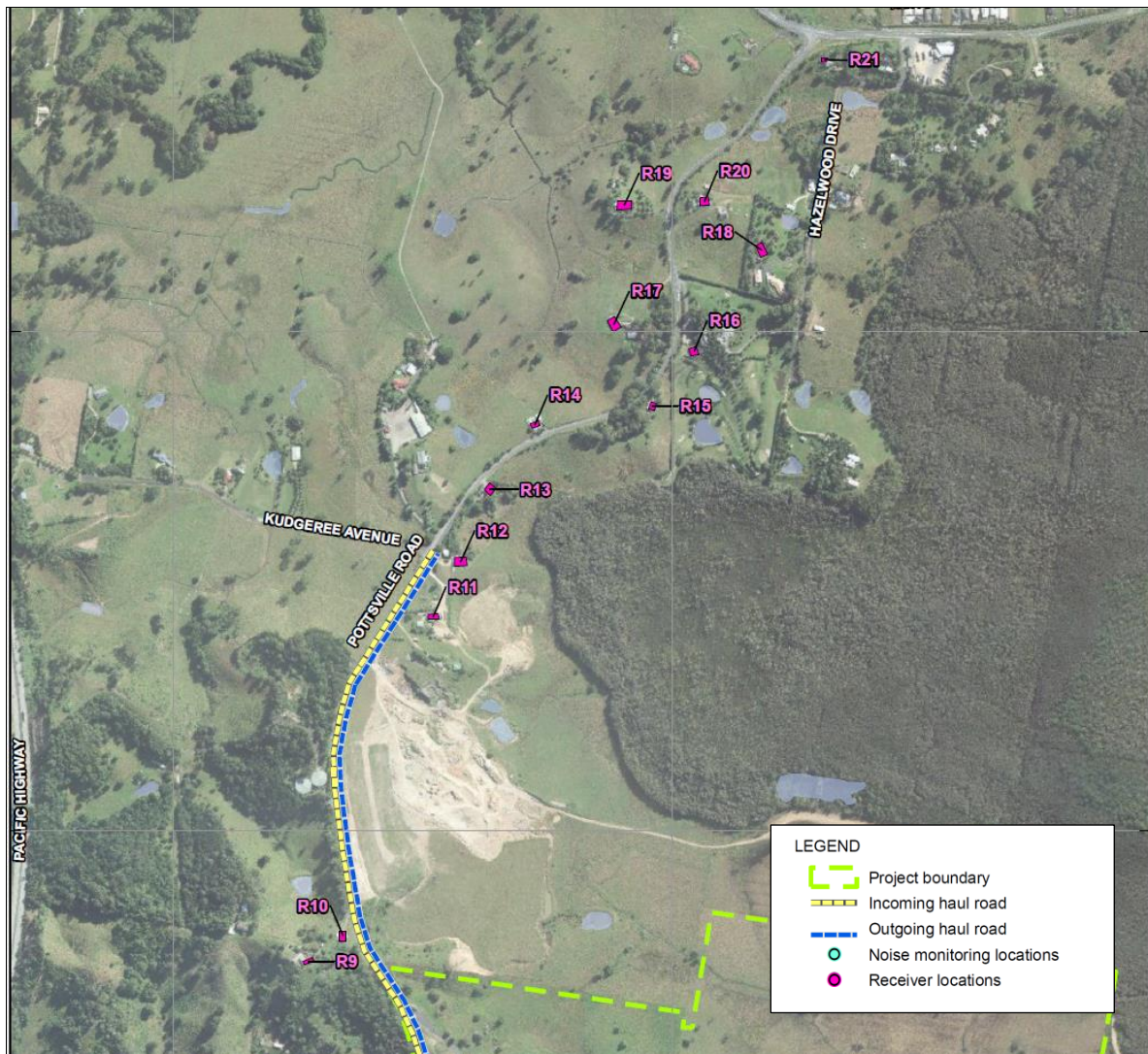


Figure 3: Sensitive receivers north of Dunloe

Table 3: Pottsville Road noise levels at sensitive receivers

Receiver	Proposed twelve laden trucks per hour $L_{Aeq}(15hr)$ dB(A)	Criterion, dB(A)	Compliance
R9	52	60	Yes
R10	57		Yes
R11	45		Yes
R12	49		Yes
R13	51		Yes
R14	56		Yes
R15	48		Yes
R16	44		Yes
R17	50		Yes
R18	42		Yes
R19	54		Yes
R20	48		Yes
R21	38		Yes

Although the proposed modification is predicted to achieve compliance with the relevant road noise criteria, Holcim has proposed additional mitigation measures, including:

- all personnel on site to be made aware of potential for noise impacts and to aim to minimise elevated noise levels;
- all engine covers to be kept closed while equipment is operating;
- vehicles to be kept properly serviced and fitted with appropriate mufflers;
- eliminating the use of exhaust brakes;

- machines found to produce excessive noise compared to industry best practice should be removed from the site or stood down until repairs or modifications are made; and
- internal speed limit of 25 kilometres per hour on the quarry access road.

The Department has recommended that Holcim prepare and implement a contemporary Traffic Management Plan that details all management measures that Holcim would implement to reduce road noise emissions. The Department is satisfied that the road noise impacts from Dunloe's operations can be appropriately managed under modified conditions of approval.

5.4 Air Quality

The EA included an air quality impact assessment (AQIA) that modelled the worst-case scenario for dust generation by the proposal. While a significant portion of Dunloe's transport route is sealed, limiting dust creation from truck wheels, the area accessed by trucks within the site remains unsealed and capable of generating dust. The AQIA identified road wheel dust generation and truck loading operations as the main contributors of total suspended particulate (TSP) and fine particulate (PM₁₀) emissions.

The AQIA assessed the proposed truck movements along a section of unsealed road within the quarry site that has a return trip distance of 370 m. The AQIA compared dust emissions from existing truck movements per hour against the maximum truck movements sought under the proposal for the same stretch of unsealed road.

Under a worst-case scenario, modelling indicated that the additional truck movements would result in increases in TSP and PM₁₀ of 3,256 and 965 kg per annum, respectively (at the wheel). This is predicted to increase 24-hour PM₁₀ concentrations at the nearest receiver by a maximum of 2 µg/m³.

However, the Department notes that this modelling scenario is based on trucks travelling on a soil and gravel road, which does not exist on site but was included for comparative purposes. In reality, the unsealed section of road is predominantly sandy, which has lower dust generation potential. Under this scenario, based on the particle size of sand and separation distances to receivers, the AQIA predicts that there would be no increase in PM₁₀ emissions measured at sensitive receivers.

No agency expressed concerns about air quality impacts. The public submission stated that currently there was dust generation occurring from truck wheels not remaining wholly on the paved surface of the access road and Pottsville Road. The submission was concerned that the proposed increase in trucking would result in increased dust generation.

In its RTS, Holcim committed to implement a range of measures to further mitigate dust generation, including:

- controlling on-site traffic by designating specific routes for haulage and access and limiting vehicle speeds to 25 kilometres per hour;
- requiring all trucks hauling material to be covered before exiting the site and to maintain a reasonable amount of vertical space between the top of the load and top of the trailer; and
- material spillage on sealed roads to be cleaned up as soon as practicable.

The Department notes that Holcim's commitment to improvements at the quarry access road / Pottsville Road intersection, including road shoulder treatments, would also reduce off-pavement dust generation.

The Department has recommended that the approval be amended to include contemporary air quality operating conditions and a requirement for Holcim to prepare a contemporary Air Quality Management Plan. The Department is satisfied that the air quality impacts of the modified project could be effectively managed under the recommended conditions of approval.

5.5 Koala Habitat and Road Strike

As discussed above, the RTS included an RSA in response to concerns about traffic safety, particularly sightline distances for vehicles entering Pottsville Road from the quarry access road. The RSA provided two recommendations (numbered 1.4 and 1.5) to improve sightlines by clearing vegetation within the Pottsville Road reserve (see **Figure 4**).

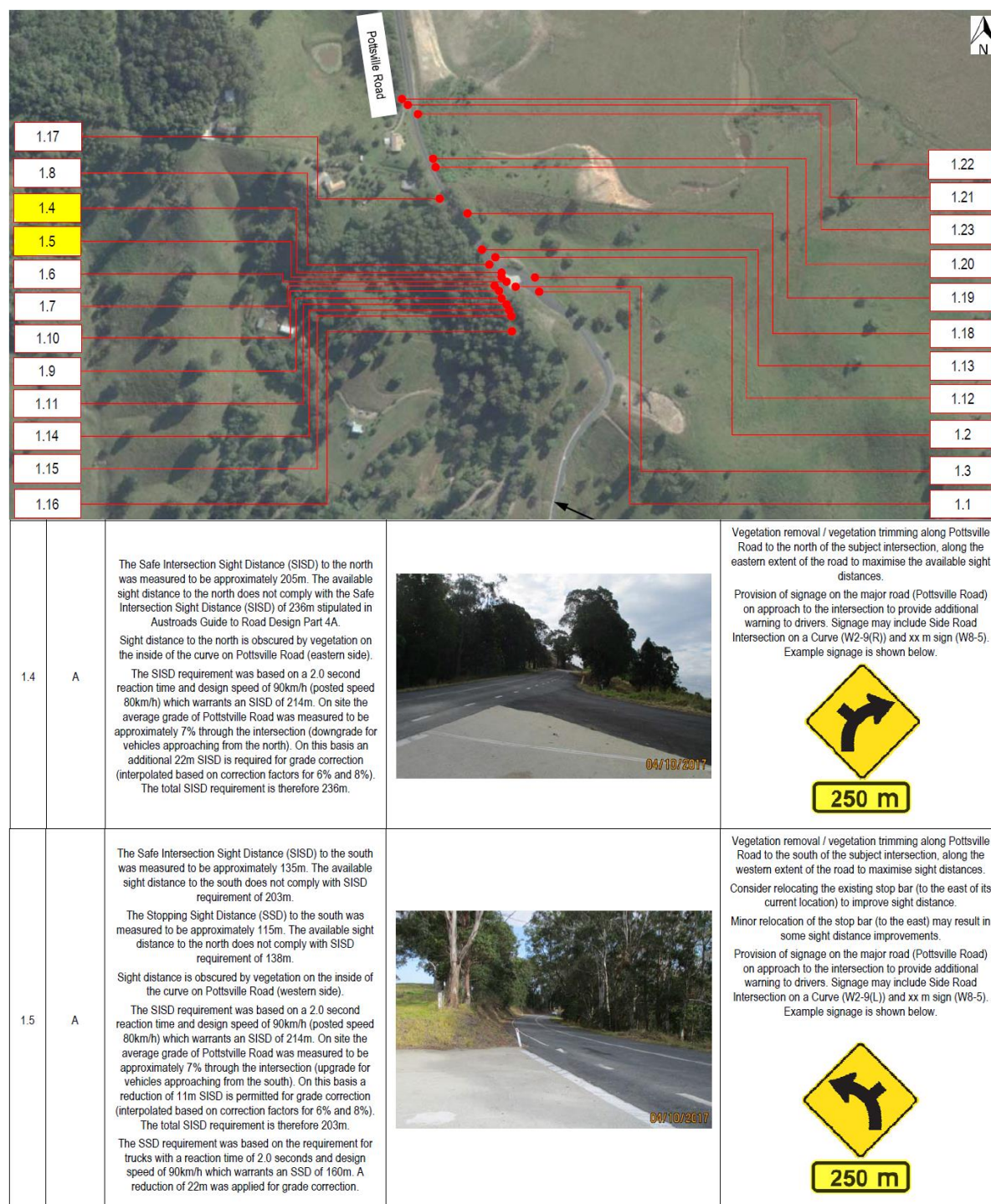


Figure 4: Proposed vegetation removal in Pottsville Road reserve

Council was strongly opposed to any vegetation clearance along the road reserve as the area is mapped as Koala habitat. Council also requested that Holcim undertake further environmental assessment of the potential impact on Koalas, particularly regarding road strike mortality and inconsistencies with its *Tweed Coast Comprehensive Koala Plan of Management 2015* (KPOM).

In response to Council's concerns about vegetation clearance, Holcim investigated alternative options to address sight distance limitations. These options were presented in an additional report which identified that no vegetation clearance in the Pottsville Road reserve would be required, subject to the implementation of other measures. Council agreed that these other measures (Option 1 Clear Zone provisions) would be sufficient and recommended a condition for their implementation prior to the commencement of any additional trucking from the site.

In response to Council's concerns about road strike, the Department sought advice from OEH regarding potential impacts to Koalas. OEH did not raise concerns about Koala mortality, as Dunloe's daytime-only operations pose a low possibility of road strike against animals which generally only move nocturnally. OEH recommended conditions requiring a monitoring program for Koala strike as well as adaptive management options. The Department has recommended a condition to this effect.

5.5.1 Tweed Coast Comprehensive Koala Plan of Management 2015 (KPOM)

It is noted that, under Clause 13 of SEPP 44, a Koala plan of management has no effect unless it has been endorsed by the Director-General of the National Parks and Wildlife Service. The Department has considered Council's KPOM, even though it has not yet been endorsed.

The vision of the KPOM is for the recovery of the Tweed Coast Koala population to more sustainable levels over the next two decades to 2035. The aims of the KPOM are to increase the Tweed Coast Koala population by 200 – 250 Koalas over 15 to 20 years, increase preferred Koala habitat by 2,600 hectares (ha), ensure development encourages conservation and management of Koala habitat consistent with SEPP 44, and provide information to the community about the status of Koalas.

Dunloe is located within the Dunloe Koala Linkage Precinct (DKLP). Management of the DKLP focusses on retention and extension of habitat with a specific focus on creating viable movement corridors between Koala activity precincts and significant habitat west of the Pacific Highway. The Department considers that the proposed modification would not affect the management focus of the DKLP, as Holcim has committed to not remove any vegetation in the road reserve, and no opportunities for vegetation enhancement are restricted.

The Department considers that Part 8 of the KPOM is most relevant to the modification, as it relates to Koala mortality due to road strike. The objective of Part 8 is to reduce the level of road strike through better road design. Council is the authority for many of the roads in the area of the DKLP and, as such, most of Part 8's requirements are focussed on Council to implement. Part 8.5 refers to community awareness of the presence of Koalas. The Department is satisfied that Holcim would contribute to driver awareness of Koalas in the DKLP by installing new Koala warning signage as part of the suite of road upgrades included in the RSA and Holcim's response to the RSA.

The Department is satisfied that the proposed modification poses minimal risk to Koalas and their associated habitat.

6. CONDITIONS

A notice of modification (see **Appendix D**) and a consolidated version of the Dunloe Park Sand Quarry approval (see **Appendix E**) as proposed to be modified have been prepared. The Department considers that the environmental impacts of the proposed modification can be appropriately managed through the recommended amended conditions of approval.

The primary amendments are the revisions to heavy vehicle movement limits in condition 8 of Schedule 2 and the reduced noise criteria for R1 to R7 in condition 2 of Schedule 3. The Department has also included requirements for monitoring Koalas and recording of road strike incidences and taken the opportunity to update existing conditions to reflect current drafting standards, including providing further clarity on compliance and consultation requirements.

Holcim has accepted the modified conditions of approval.

7. CONCLUSION

The Department has assessed the merits of the proposed modification in accordance with the requirements of the EP&A Act. This assessment has shown that the proposed increase in truck movements would have limited increased impacts on the environment and the public. The increased truck numbers do not result in exceedances of the noise or air quality criteria currently applicable to Dunloe. Additionally, the Department proposes tightening of the existing noise criteria to better reflect the lower background noise levels in the immediate vicinity of the quarry project. Importantly, the existing road network can absorb the increased heavy vehicle movements without compromising the safety of other road users.

The Department considers that the proposal would continue to provide benefits to the region by supplying construction materials, namely fine concrete sand, to both private and Government construction projects.

Following on from its assessment of the modification, the Department considers that the modification is approvable, subject to the proposed conditions of approval (see **Appendix D**). This assessment is hereby presented to the Independent Planning Commission of NSW for determination.

8. RECOMMENDATION

It is recommended that the Independent Planning Commission of New South Wales:


- consider the findings and recommendations of this report;
- determine that the modification request falls within the scope of section 75W of the EP&A Act;
- modify the approval MP 06_0030; and
- sign the attached modification of approval (**Appendix D**).

Recommended by:

 7/8/18

Jessie Evans
Team Leader
Resource Assessments

Recommended by:

 7.8.18

Howard Reed
Director
Resource Assessments

APPENDIX A: ENVIRONMENTAL ASSESSMENT

(Refer to the following link:

http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8619)

APPENDIX B: SUBMISSIONS

(Refer to the following link:

http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8619)

APPENDIX C: RESPONSE TO SUBMISSIONS

(Refer to the following link:

http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8619)

APPENDIX D: NOTICE OF MODIFICATION

APPENDIX E: CONSOLIDATED APPROVAL
