



Dunmore Quarry

Increased Road Transport

Section 75W Modification
Assessment
(DA 470-11-2003 MOD 11)



March 2019

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Cover photo

Dunmore Quarry (Source: Department of Planning and Environment, 2016)

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Executive Summary

Boral Resources (NSW) Pty Ltd (Boral) has lodged a modification application for its Dunmore Quarry, which is located off Tabbita Road, Dunmore, in the Shellharbour City local government area. Boral has advised that its ability to transport quarry products by rail is limited by the capacity of its rail terminals in the Sydney Metropolitan region and it is therefore seeking to remove the road transportation limit in the development consent to allow all quarry products to be transported by road.

The modification application and supporting Environmental Assessment were exhibited from 11 October until 25 October 2018. The Department received five submissions from government agencies, including Shellharbour City Council. None of the agencies objected to the proposal and no submissions were received from members of the public or special interest groups.

The Department has assessed the merits of the proposed modification having regard to the advice provided by government agencies. The Department considers that the key impacts associated with the proposal relate to traffic and noise. These issues have been carefully considered in this assessment report.

The proposed increase in product tonnage allowed to be transported by road would not impact Boral's ability to resume rail transport, should new terminal capacity be developed. The Department considers that there is an economic incentive for Boral to maximise rail transport from the site and that Boral is actively exploring its options to develop a new rail terminal. Nonetheless, the Department has recommended a condition requiring Boral to commission an independent Transport Options Review three years after approval of Mod 11, and thereafter every five years, in consultation with the relevant government agencies. The Department has also recommended hourly and daily road transportation limits to minimise impacts on the road network.

The Department considers that the proposed modification would have limited environmental impacts and that these impacts could be appropriately managed by existing, modified and/or updated conditions of consent. The Department concludes that the impacts of the modification are acceptable, and the proposal is in the public interest and is approvable, subject to the recommended conditions of consent.



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1. Introduction

Boral Resources (NSW) Pty Ltd (Boral) owns and operates the Dunmore Quarry, located off Tabbita Road, Dunmore, in the Shellharbour City local government area (see **Figure 1**). The site is adjacent to Boral's Dunmore Lakes Sand Quarry and is in the vicinity of other hard rock quarries, including the Bass Point Quarry to the east and the Albion Park Quarry to the north.

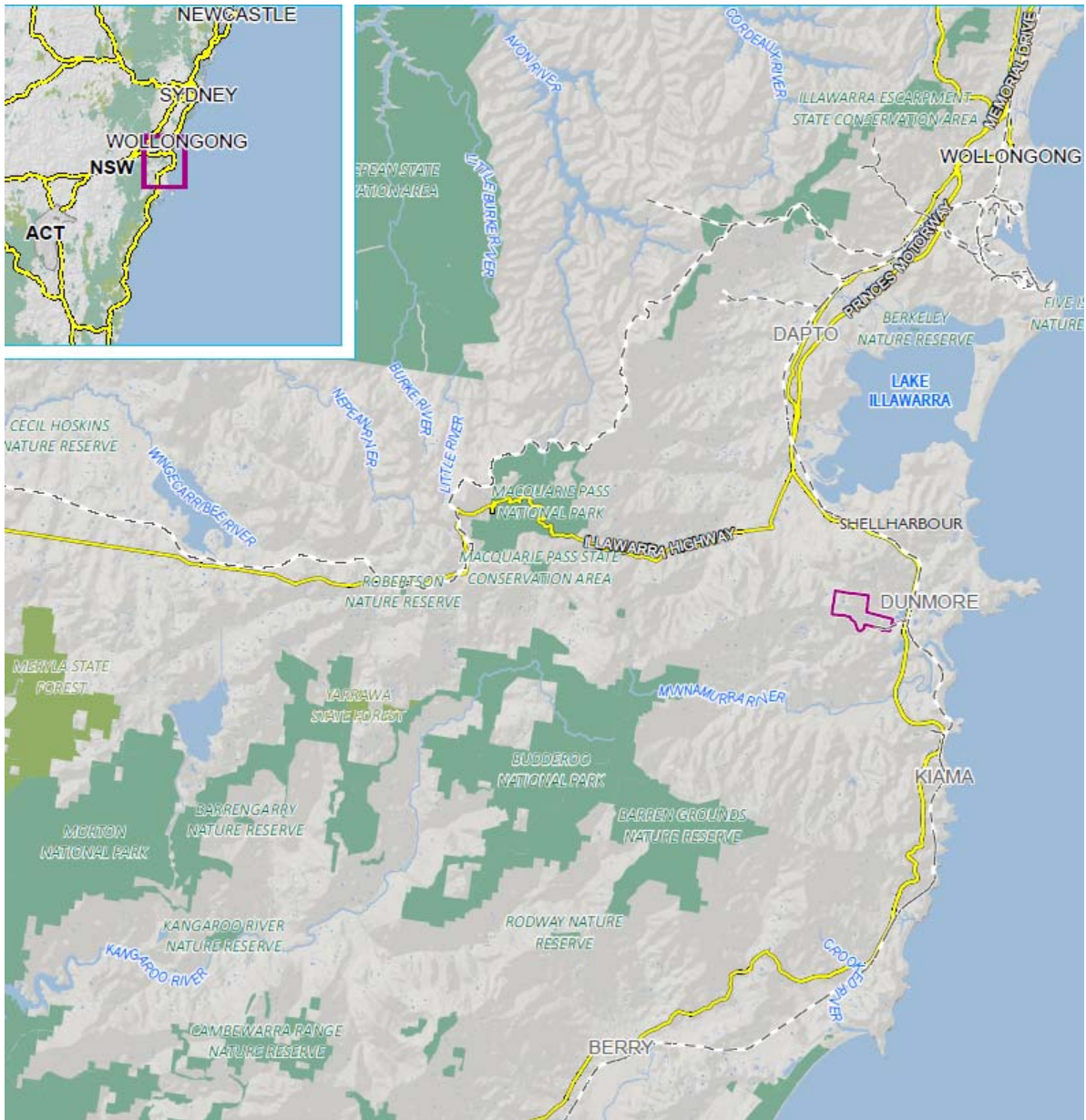


Figure 1 | Location of the Dunmore Quarry

Dunmore Quarry operates under development consent DA 470-11-2003, granted by the Minister Assisting the Minister for Infrastructure and Planning in September 2004. The consent has been modified on ten previous occasions and currently permits Boral to extract and process up to 2.5 million tonnes per annum (Mtpa) of hard rock material (basalt/latite), and distribute product aggregates to market by both road and rail. Currently, Boral is

permitted to transport up to 1.5 Mtpa of quarry products by road but is also required to maximise transport of quarry products by rail, so far as is reasonable and feasible. Since 2014, Boral has only been transporting product by road due to limited availability at its three Sydney rail terminals at Maldon, Enfield and St Peters.



2. Proposed Modification

On 28 February 2018, Boral submitted a modification application under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Boral has advised that its ability to transport quarry products by rail is limited by its rail terminal capacities in the Sydney Metropolitan region, which are being fully utilised by deliveries from Boral's Peppertree Quarry in the Southern Highlands. Boral is therefore seeking to remove the 1.5 Mtpa road transportation limit and allow all 2.5 Mtpa of Dunmore's quarry products to be transported by road. Boral asserts that rail transport remains its preferred option for product transportation, since it is cheaper. However, the limited rail terminal capacity is affecting its ability to meet the current high levels of construction market demand in Sydney.

The modification does not seek to change any other key aspects of the approved development, including the annual extraction rate, approved transport routes or hours of operation. A detailed description of the modification is provided in Boral's Environmental Assessment (EA, see **Appendix A**).



3. Statutory Context

3.1 Section 75W

DA 470-11-2003 was originally granted under Part 4 of the EP&A Act, however the project remains a transitional Part 3A project under Schedule 2 of the *EP&A (Savings, Transitional and Other Provisions) Regulation 2017*. The power to modify transitional Part 3A projects under section 75W of the EP&A Act, as in force immediately before its repeal on 1 October 2011, has been discontinued. However, as the request for this modification was made before the 'cut-off date' of 1 March 2018, as found in clause 3BA of Schedule 2, the provisions of clause 3 of Schedule 2 continue to apply. Consequently, this report has been prepared in accordance with the requirements of Part 3A and associated Regulations and the Minister (or his delegate) may approve or disapprove the carrying out of the project under section 75W of the EP&A Act.

Although the modification would increase the allowable road transportation limit, it would not change the overall disturbance footprint, annual extraction rate or total volume of resource to be extracted from the site. As such, the Department considers that the modification would not significantly change the nature and scale of the approved development, and is therefore within the scope of section 75W and may be determined accordingly.

3.2 Consent Authority

The Minister for Planning is the consent authority for the application. However, under the Minister's delegation of 17 October 2017, the Director Resource Assessments may determine the application, as no submissions were received from the public, Shellharbour City Council (Council) does not object to the proposal and Boral has not declared any political donations.

3.3 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 objects set out in Section 1.3 of the Act. The objects of most relevance to the proposed modification are:

- *(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;*
- *(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment;*
- *(c) to promote the orderly and economic use and development of land;*
- *(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;*
- *(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State; and*
- *(j) to provide increased opportunity for community participation in environmental planning and assessment.*

The Department considers that the proposed modification encourages the proper management and development of resources (Object (a)) and promotion of the orderly and economic use of land (Object (c)).

The Department has considered the principles of ecologically sustainable development (ESD, Object (b)) in its assessment of the proposed modification. The Department considers that the proposal is able to be carried out in a manner that is consistent with the principles of ESD. The Department's assessment has sought to integrate all significant environmental, social and economic considerations.

Consideration of the protection of the environment (Object (e)) is provided in **Section 5** of this report. The Department considers that the proposal has been designed to minimise potential environmental impacts.

Lastly, the Department considers that the exhibition of the application and consultation undertaken with key stakeholders satisfies the objectives to enhance community participation and share responsibility between different levels of government (Objects (i) and (j)).

3.4 Environmental Planning Instruments

The following environmental planning instruments (EPIs) apply to the development:

- *State Environmental Planning Policy (State and Regional Development) 2011;*
- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP);
- *State Environmental Planning Policy No.33 (Hazardous and Offensive Development);*
- *State Environmental Planning Policy No.55 (Remediation of Land);*
- *State Environmental Planning Policy (Coastal Management) 2018; and*
- *Shellharbour Local Environmental Plan 2013.*

The Department has considered the assessment of these EPIs in the EA and assessed the modification against the relevant provisions of these instruments. Based on this assessment, the Department considers that the modification can be undertaken in a manner that is generally consistent with the aims, objectives and provisions of these instruments.



4. Engagement

4.1 Department's Engagement

After accepting the EA for the proposed modification, the Department:

- publicly exhibited the EA from 11 October until 25 October 2018, on the Department's website and at:
 - NSW Service Centres;
 - Council's office; and
 - the Nature Conservation Council's office;
- advertised exhibition of the EA in the *Wollongong Advertiser* and *Kiama Independent*; and
- notified relevant government agencies including Council.

The Department is satisfied that the notification process met the requirements of the EP&A Act and the *Environmental Planning and Assessment Regulation 2000*.

In response to the exhibition, the Department received five submissions from government agencies, including Council. A summary of the issues raised in submissions is provided below. Full copies of these submissions and Boral's Response to Submissions (RTS) are provided in **Appendix B** and **Appendix C**, respectively. No submissions were received from members of the public or special interest groups.

4.2 Agency Submissions

Council noted that the transport impacts of the proposal are generally limited to the State road network, however, additional noise impacts may be experienced by local residents. Council requested that the existing Transport Management Plan (including the Driver's Code of Conduct) remain a requirement of the consent to ensure proper management of traffic, noise and dust impacts associated with the site.

Road and Maritime Services (RMS) raised concern that the proposal would be contrary to clause 16(1)(a) of the Mining SEPP and considered it crucial that Boral maximise rail transport wherever possible. Clause 16(1)(a) requires a consent authority to consider whether or not a consent should be issued subject to conditions that require some or all of the transport of materials to be other than by way of public road. The Department has considered whether or not this type of condition should be imposed in **Section 5.1.2** of this report.

RMS recommended that, should the application be approved, conditions should be imposed to limit the proposal to a defined time period, and to ensure that rail transportation is still maximised wherever possible. In its RTS, Boral advised that it would be difficult to impose a time restriction due to a number of uncertainties surrounding securing additional rail terminal capacity. RMS recommended that the existing condition to maximise rail transportation from the site be retained, and that Boral undertakes annual investigations during the life of the project to maximise the use of rail transportation. This matter is discussed further in **Section 5.1**.

Transport for NSW (TfNSW) requested that Boral investigate the use of higher productivity road transport vehicles, such as Performance Based Standards vehicles, which have a higher payload and thereby reduce the number of additional heavy vehicle movements. In its RTS, Boral advised that it is progressively replacing truck and dog vehicles (33 tonne) with quad dog vehicles (39 tonnes) in accordance with capital availability.

TfNSW requested that Boral undertake a five-yearly Transport Options Review to ensure options to maximise the use of rail are frequently investigated and pursued. This matter is further discussed in **Section 5.1**.

The **Environment Protection Authority (EPA)** noted that there are clear environmental benefits from minimising road transport in favour of rail and encouraged Boral to seek any available alternatives to road transport, including addressing rail congestion and/or scheduling amendments. EPA highlighted key regional planning documents favouring rail transport including *The Illawarra Shoalhaven Regional Plan 2015* and *NSW Freight and Ports Plan 2018-2023*.

The Department's **Division of Resources and Geoscience (DRG)** advised that it had no issues with the proposal.



5. Assessment

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

- modification application, EA and accompanying RTS;
- existing conditions of consent, as previously modified;
- additional information provided by Boral;
- agency advice on the proposal; and
- relevant EPLs, policies and guidelines.

The Department considers that the key impacts associated with the proposal relate to traffic and noise. Consideration of these impacts is provided below, with consideration of other impacts provided in **Table 5**.

5.1 Transport

The EA included a Traffic Impact Assessment (TIA) prepared by EMM Consulting Pty Ltd to assess potential traffic impacts on the quarry's haulage route. The TIA advised that quarry trucks predominantly head north on the Princes Highway to deliver quarry products to sites in the Illawarra and Southern Highlands regions and to metropolitan Sydney. This transport route passes through eleven major intersections along the Princes Highway, with key turn-off points at Heathcote (Heathcote Road), Blakehurst (King Georges Road) and Sydenham (Railway Road). The quarry is approved to distribute its aggregate products via road 24 hours per day, Monday to Saturday, and 8 AM to 6 PM on up to 15 Sundays per calendar year.

The existing development consent restricts Boral from transporting more than 1.5 Mtpa of product via road. However, it does not specify the total number of laden trucks that may be dispatched from the site per hour or per day. The Department considers that daily and hourly dispatch limitations reflect contemporary operating conditions for most State significant quarry sites, and set clear expectations for applicants, regulators and the community.

Within the TIA and other documentation provided for this application, there were a number of disconnects and other uncertainties in relation to the number of truck movements modelled and the maximum number of trucks proposed to be dispatched from the site. Initially, Boral advised that the TIA modelled and assessed a maximum daily dispatch of 275 laden trucks. Subsequently, Boral advised that the TIA was actually based on 317 laden dispatches and that this figure was calculated based on:

- existing traffic survey data from 24 July 2018 when the quarry was dispatching at a 'near maximum' rate (207 laden dispatches per day); plus
- an 'average' of 110 additional laden dispatches to accommodate the proposed additional product tonnage on the road network (1 million tonnes / 275 operational days / 33 tonnes per truck).

However, the Department considers that the addition of a modelled 'average' (110 dispatches) to an existing monitored 'near peak' (207 dispatches) does not accurately identify the maximum number of trucks that would be dispatched from the site per day. As such, the Department requested that Boral identify and assess the proposed maximum number of trucks that would be dispatched from the site per day and per hour. On 24 January 2019, Boral provided an Addendum TIA, identifying a proposed maximum dispatch rate of 400 laden trucks per day. The Addendum TIA also included a breakdown of the proposed hourly maxima (see **Table 1**).

Table 1 / *Proposed maximum dispatches per hour*

Hourly Period	Proposed Maximum Dispatch
5 am – 6 am	16
6 am – 7 am	33
7 am – 8 am	31
8 am – 9 am	30
9 am – 10 am	39
10 am – 11 am	40
11 am – 12 pm	39
12 pm – 1 pm	40
1 pm – 2 pm	39
2 pm – 3 pm	38
3 pm – 4 pm	23
4 pm – 5 pm	21
5 pm – 6 pm	11
Total	400

The Addendum TIA also provided modelling results for all intersections that would experience increases in delay over those assessed in the TIA. As such, the Department has based its assessment on the relevant components of both the TIA and Addendum TIA, which will be herein referred to collectively as the TIA.

5.1.1 Predicted Traffic Impacts

The proposal would increase heavy vehicle movements at various points along the quarry's haulage route by between 1.9 % and 7.05 %. The TIA advised that the existing road geometry and structural design of road pavements are in adequate condition to accommodate the proposed additional truck movements.

The proposal would have negligible impacts on the site access intersection, which is predicted to continue operating at Level of Service (LoS) A. This intersection is a grade separated interchange with the Princes Highway and is only used by vehicles accessing the Dunmore Quarry and Boral's adjoining operations.

The TIA grouped the analysis of other intersections into three categories being: Dunmore to Heathcote, Sutherland to Blakehurst and Rockdale to Sydenham. These categories relate to the three key turn-off points (Heathcote Road, King Georges Road and Railway Road) where trucks from the project leave the Highway to proceed towards Boral's major construction material plants.

All intersections currently operate with a Degree of Saturation (DoS) between 0.89 and 1.19. In accordance with *RMS's Traffic Modelling Guideline 2013*, a DoS over 1.0 represents oversaturated conditions, and on this basis, most intersections are operating close to capacity, with some oversaturation. However, the TIA found that the proposal in isolation would result in negligible impacts to DoS at all intersections (ie < 0.1).

The TIA also provided an analysis of these intersections with the proposed additional trucks, and with consideration of cumulative impacts from other recent and proposed quarry approvals including:

- Bass Point Quarry Modification 2 - approved to dispatch additional trucks between 5 AM and 7 AM; and
- Sydney Trains' Dunmore Quarry - seeking to establish a new quarry adjacent to the Dunmore Quarry.

The TIA assumed that these proposals would together contribute an additional 46 truck movements on the Princes Highway during the worst-case peak hour. **Table 2** summarises the predicted changes to intersection LoS and average delay during the worst-case peak hour, under this cumulative scenario.

Table 2 / Cumulative scenario - predicted intersection performance changes during the worst-case peak hour

Intersection	LoS before / after	Existing average delay (sec)	Proposed average delay increase (sec)
Princes Hwy / Tongarra Road	B / C	27.2	5.7
Princes Hwy / Illawarra Hwy	F / F	385	140.2
Princes Hwy / Heathcote Road	F / F	99.8	3.6
Princes Hwy / President Ave	E / F	79.6	2.43
Princes Hwy / Acacia Road	F / F	108	2.92
Princes Hwy / Kingsway	D / D	48.1	1.3
Princes Hwy / Port Hacking Road	E / E	64.2	2.02
Princes Hwy / King Georges Road	F / F	139.4	0.82
Princes Hwy / Bay Street	D / D	43.2	1.0
Princes Hwy / Forest Road	D / D	46.2	1.4
Princes Hwy / Railway Road	D / D	51.8	1.6

Six of the eleven intersections currently operate at a poor LoS (ie LoS E and F) during the AM and/or PM peak hour. Of these intersections, five are predicted to experience only minor increases in delay (ie less than 4 seconds). Other predicted changes to intersection performance include:

- an additional 140.2 second delay at the Illawarra Highway intersection, resulting in a total average delay of 524.2 seconds;
- an additional 3.6 second delay at the Heathcote Road intersection, resulting in a total average delay of 103.4 seconds;
- a declining LoS from E to F at the President Ave intersection; and
- a declining LoS from B to C at the Tongarra Road intersection.

The TIA considered that the predicted delays at intersections operating at capacity (LoS E and F) would generally be minor in comparison to their existing state. Performance at the intersections of Princes Highway / Illawarra Highway and Princes Highway / Tongarra Road would significantly improve following the completion of the Albion Park bypass. This bypass forms part of the Princes Highway Upgrade Program and will divert highway traffic inland and around Oak Flats. This program is expected to commence construction in early 2019 and is due for completion by 2022. Upon completion, quarry trucks would no longer pass through these two intersections.

The TIA also advised that the intersection of Princes Highway / Heathcote Road would significantly improve once an additional right turn lane from Heathcote Road onto the Princes Highway southbound is constructed. RMS advises that this is expected to be completed in the first half of 2019.

The Department notes that the greatest predicted impacts would occur at intersections planned for future bypass or upgrade and most intersections would remain within their existing LoS category. Additionally, the Department notes that all intersections operate with traffic light or roundabout control, which would reduce any risks to other road users.

The Department recognises that Sydney Trains has not yet submitted a development application for its proposal, and there is no firm date for its submission. The Department considers that trucks from this quarry are unlikely to be dispatched prior to completion of the Albion Park bypass in 2022. On this basis, Boral's predicted average delay at the Princes Highway / Illawarra Highway intersection (see **Table 2**) is unlikely to eventuate.

Nonetheless, the Department recognises that there is a substantial existing delay at the Princes Highway / Illawarra Highway intersection during the morning peak period (7:45 am to 8:45 am). At other times of the day, delays at this intersection are substantially less, including during the afternoon peak. The TIA modelled intersection impacts during the peak hour for each intersection, with Boral's corresponding maximum dispatch rate (between 31 and 33 laden trucks per hour). To ensure that the modelled delays at this intersection are not exceeded, the Department considers that truck dispatches during the morning peak period should be limited to no more than 33 laden trucks per hour.

A key question for the Department has been whether the existing delay at this intersection warrants further restrictions on truck movements during the morning peak period. However, further restrictions during this period would impact Boral's ability to meet the current high demands of the Sydney construction market, including key public infrastructure construction. The Department considers that the more critical need is to guarantee supply to the Sydney construction market, over mitigating the existing short-term traffic impacts at this intersection.

RMS raised no concerns over predicted intersection performance. The Department understands that RMS considers that the proposal's incremental impacts on all intersections including the Princes Highway / Illawarra Highway intersection, do not warrant additional intersection upgrades, particularly as the three most affected intersections are already scheduled for bypass or upgrade.

Boral has proposed to dispatch up to 40 laden trucks per hour during the non-peak day period (9am – 3pm). The Department notes that, during non-peak periods, traffic volumes through the relevant intersections would be much lower and the proposed additional laden trucks would have lesser impacts than those modelled for the peak period.

The Department considers that the traffic impacts of the proposal are acceptable. However, the Department considers that hourly and daily limits should be specified in the consent in order to avoid any future confusion and to ensure that traffic impacts along the haulage route do not exceed the predictions in the TIA. Accordingly, the Department has recommended a maximum daily dispatch rate of 400 laden trucks per day, and hourly dispatch rates of up to:

- 33 per hour between 6 am and 9 am;
- 40 per hour between 9 am and 3 pm; and
- 23 per hour between 3 pm and 6 am.

The Department notes that Boral would be unable to consistently dispatch at these maximum dispatch rates, without exceeding its annual tonnage limit. On this basis, the Department considers the proposed dispatch rates would allow operational flexibility, whilst generally maintaining the hourly dispatch levels modelled. RMS supported the proposed dispatch limitations.

5.1.2 Rail Scheduling and Terminal Capacity

RMS considered it crucial that Boral maximise its rail transport over road transport from the site wherever possible. TfNSW shared this perspective and noted that there is available freight capacity on the Illawarra line.

To gain a better understanding of rail capacity limitations, the Department requested that Boral provide additional data concerning its rail scheduling and associated terminal availability. **Table 3** provides a summary of rail transport

tonnages from Boral's Peppertree Quarry, Dunmore Quarry and Dunmore Lakes Sand Quarry (DLS) over the past five years to its three Sydney rail terminals, located at St Peters, Enfield and Maldon.

Table 3 / Rail transport tonnages from Boral quarries over the last five years

Year	Peppertree Quarry (tpa)	DLS Quarry (tpa)	Dunmore Quarry (tpa)
2014	1,086,920	81,225	139,925
2015	1,829,662	112,354	0
2016	2,340,161	144,124	0
2017	2,662,880	113,811	0
2018 (at Nov 18)	2,498,540	89,291	0

Boral acknowledged that, while there is available freight capacity on the Illawarra line, rail transport from Dunmore Quarry is limited by rail terminal availability. Boral advised that its Enfield, St Peters and Maldon terminals are all fully utilised by rail deliveries from Peppertree Quarry and one train per week from DLS Quarry. No product has been dispatched from the Dunmore Quarry since 2014, coinciding with the commencement of operations at Peppertree.

Boral advised that it requires an additional rail terminal in the Sydney Metropolitan region in order to re-commence rail transport from Dunmore Quarry, ie there is no longer any capacity to enlarge or increase throughput at its existing terminals.

RMS recommended that, if the proposal is approved, Boral undertake annual reviews during the remaining life of the project to investigate and implement new options to maximise rail transportation. TfNSW recommended a similar condition for Boral to review available transport options every five years. However, Boral considered that these reviews would provide little value to long term transport planning.

The Department acknowledges that, at this point in time, Boral has limited rail terminal capacity in Sydney and that the proposed modification would allow it flexibility to deliver increased quantities of product aggregates to the Sydney market. The proposed increase in allowable product tonnage by road would not impact Boral's ability to resume rail transport, should new terminal capacity be developed. The Department considers that there is an economic incentive for Boral to maximise rail transport from the site and understands that Boral is actively exploring its options to develop a new rail terminal. However, the Department also agrees with RMS and TfNSW that there should be a regulated approach to investigating and pursuing rail terminal availability.

On this basis, the Department has recommended a condition requiring Boral to commission an independent Transport Options Review three years after approval of Mod 11, and thereafter every five years, in consultation with TfNSW and RMS, unless the Secretary agrees to vary this schedule. This review would include:

- review of the economic, social and environmental costs and benefits of reasonable and feasible options for the transport of quarry products from the site;
- review of available rail terminal capacity; and
- recommended measures or actions to reduce economic, social and environmental costs associated with product transport and to maximise the use of rail deliveries from the site.

5.2 Noise

The EA included a Noise Impact Assessment (NIA) prepared by EMM Consulting Pty Ltd to assess the operational and road noise impacts of the proposal.

5.2.1 Traffic noise

The NIA calculated predicted traffic noise levels at thirteen locations along the quarry's haulage route, considered to be representative of the most affected receivers. The *NSW Road Noise Policy* (RNP) sets out residential noise assessment criteria for existing freeways, arterial roads and sub-arterial roads, being 60 dB(A) L_{Aeq} (15 hour) and 55 dB(A) L_{Aeq} (9 hour), for the day and night periods, respectively.

Along the quarry's haulage route, existing traffic noise levels range from 63 to 70 dB(A) during the day period and from 56 to 65 dB(A) during the night period. These levels exceed the RNP criteria at all thirteen locations. Where existing traffic noise levels exceed the noise assessment criteria, the RNP advises that additional traffic noise from a project should not increase more than 2 dB(A) above existing traffic noise levels.

The NIA predicted that traffic noise levels from the additional truck movements would range between 39 and 54 dB(A). Under a cumulative scenario, including additional truck movements from Bass Point Quarry and the proposed Sydney Trains Quarry, the NIA found that traffic noise levels would not exceed existing levels.

Under both scenarios, incremental noise levels are predicted to be orders of magnitude less than existing traffic noise levels. As such, the NIA predicts that there would be no increase in total traffic noise resulting from the proposal, and the proposal could achieve the relative increase requirements of the RNP. EPA raised no concerns over the proposal's potential road noise impacts.

The Department acknowledges that existing road noise levels along the haulage route are high and as such, additional traffic generated by the proposal would likely be indiscernible to the human ear, ie receivers would not be able to distinguish the noise from the additional trucks from the high levels of noise from trucks already using these roads. On this basis, the Department considers that the traffic noise impacts of the proposal are relatively minor and can be managed under existing conditions of consent.

5.2.2 Operational noise

To predict the operational noise impacts associated with the proposal, the NIA compared two product loading scenarios, being the:

- *existing scenario* – one locomotive (idling) being loaded by a front-end loader (FEL) on the Dunmore Quarry rail siding, trucks being loaded by a front-end loader in the northern stockpile area and eight trucks hauling on the site.
- *proposed scenario* – trucks being loaded by a FEL in the northern stockpile area and thirteen trucks hauling on the site.

The proposed scenario assumes an additional five trucks operating on the site, however no noise emissions from rail loading and idling. Under this scenario, the NIA predicts that product loading noise levels at the closest privately-owned receivers would reduce by between 2 and 4 dB(A) (see **Table 4**). In essence, the additional trucks are quieter than the idling locomotive and FEL that they would replace.

Table 4 / Predicted product loading noise levels

Receiver location	Existing Scenario dB(A) L_{Aeq} (15 minute)	Proposed Scenario dB(A) L_{Aeq} (15 minute)	Change in dB(A)
J	38	34	- 4
K	31	28	-3
O	24	22	-2

It is important to note that the noise predictions set out in **Table 4** only reflect changes to product loading noise, and do not reflect total noise emissions generated on the site. However, as the site has historically achieved compliance with its existing operational noise limits, the Department considers that the proposed scenario would have a neutral or beneficial impact on the total noise emissions generated on site. EPA raised no concern over the proposal's operational noise impacts and the Department considers that the proposal would not affect Boral's ability to comply with its existing operational noise limits. However, the Department has recommended the development consent is updated to include contemporary noise operating conditions.

5.3 Other Issues

The Department is satisfied that the other impacts of the proposal are likely to be minor. **Table 5** summarises the Department's assessment of these impacts.

Table 5 / *Assessment of other impacts*

Issue	Impact and consideration	Recommendation
Air quality	<ul style="list-style-type: none"> The proposal would not result in additional dust emissions from loading material on to trucks instead of trains. The proposal has the potential to generate some additional dust emissions from increased truck movements on internal haul roads. Boral has advised that it would continue to water internal haulage routes, as required, and implement its Air Quality Management Plan. 	<ul style="list-style-type: none"> The Department considers that the air quality impacts of the proposal are minor. The Department has recommended contemporary air quality operating conditions in accordance with current drafting standards.
Greenhouse gas emissions	<ul style="list-style-type: none"> Diesel usage by road trucks would be partially offset by decreased diesel usage by trains. However, total project greenhouse gas emissions are predicted to increase from 17,910 t CO₂-e to 23,224 t CO₂-e per year. This is equivalent to a 0.004% increase in NSW and 0.001% increase in national greenhouse gas emissions. The Department considers the additional climate change impacts from the proposed modification to be negligible. 	<ul style="list-style-type: none"> The Department has recommended a condition requiring Boral to take all reasonable steps to minimise greenhouse gas emissions of the development.



6. Evaluation

The Department has assessed the modification application in accordance with the relevant requirements of the EP&A Act. The Department has carefully considered the likely impacts of the proposal on the natural and cultural environment, and on nearby residents. The Department acknowledges that the proposal would allow Boral to contribute to a critical need to supply product aggregates to the Sydney construction market. Whilst the proposal would result in additional heavy vehicles on the road network, the Department recognises that the most affected

intersections on the quarry's haulage route are scheduled for upgrade or bypass in the next three years. Additionally, the Department considers that the impacts of the proposal can be appropriately managed by existing, modified and/or updated conditions of consent, including conditions governing operational practice of air quality, noise and blasting.

A proposed notice of modification (see **Appendix D**) and a proposed consolidated version of the development consent, as proposed to be modified (see **Appendix E**), have been prepared.

Boral has accepted the proposed modified conditions of consent.

The Department considers that the modification is approvable, subject to the proposed conditions of approval.

7. Recommendation

It is recommended that the Director, Resource Assessments, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **determines** that the modification falls within the scope of section 75W of the EP&A Act;
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant consent to the application;
- **modifies** the consent DA 407-11-2003;
- **signs** the attached approval of the modification (**Appendix D**).

Recommended by:



15.3.19

Genevieve Seed

Senior Planning Officer

Resource Assessments

8. Determination

The recommendation is: **Adopted by:**



15.3.19

Howard Reed

Director

Resource Assessments



Appendices

Appendix A – Environmental Assessment

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=9175

Appendix B – Agency Advice

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=9175

Appendix C – Response to Submissions

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=9175

Appendix D – Notice of Modification

Appendix E– Consolidated Consent