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Ref: SSDA1: 22/32733

15 November 2022

Independent Planning Commission NSW
Suite 15.02, Level 15, 135 King Street
SYDNEY NSW 2000

Attention: Chris Wilson
Clare Sykes
Snow Barlow

Dear Sir/Madam

RE: MARTINS CREEK QUARRY PROJECT (SSD-6612)

Thank you for meeting with Council staff and Mayor John Connors on 20 October 2022 to discuss the proposed Martins Creek Quarry Project and for the opportunity to speak at the Public Meeting.

While Council maintains its view that the community should not be subjected to increased impacts as a result of road haulage associated with the quarry, it was discussed at the meeting on 20 October 2022 that Council would provide suggestions in relation to the recommended conditions, should the application be approved. Comments on the wording of conditions as they relate to Council infrastructure are provided as **Attachment 1**.

Following the Public meeting on 7-8 November 2022, it was also apparent that the IPC had not been provided with copies of the peer review reports that were undertaken on behalf of Council in relation to social, economic and acoustic impacts.

The peer review of the social impact assessment and economic impact assessment was undertaken by Judith Stubbs and Associates in September 2021 and is included as **Attachment 2**. The review identified significant flaws in both documents and found that the findings and conclusions of both reports cannot be relied upon. The Peer Review by Judith Stubbs and Associates was submitted to the Department of Planning, Industry and Environment on 2 September 2021 and was referenced in the Response to Submissions Report prepared by Umwelt in November 2021. However, the assessment report as referred to the IPC does not seem to include reference to the Judith Stubbs and Associates report, despite reference being made at paragraph 183 to the review of the SIA that was commissioned by the Martin's Creek Quarry Action Group. Council is concerned that the content of the peer review of the social and economic impacts has not been considered in the assessment of the application.

The Acoustic Group Pty Ltd was also engaged by Council to undertake a review of the Noise Impact Assessment prepared by Umwelt (Australia) Pty Ltd. A copy of the review document is included as **Attachment 3**. As with the peer review of the social and economic impacts, the DPE assessment report does not seem to include any reference to the peer review undertaken by the Acoustic Group Pty Ltd.

For completeness, the previously endorsed Council submission to the DPE in relation to the quarry is also included as **Attachment 4**.

I trust that the above comments will be of assistance to you, although should you require any further information, please contact Trevor Ryan, Director Planning and Environment on (02) 4995 7777.

Yours Faithfully



Gareth Curtis
GENERAL MANAGER

Attachment 1 - Comments on Recommended Conditions of Consent

DPE Recommended Condition

A12. *Until the road upgrade requirements in conditions B40 or B41 have been met to the satisfaction of the Secretary, the Applicant must ensure total truck movements (i.e. arrivals and dispatches) from the site do not exceed:*

- (a) a total tonnage of 30,000 tonnes per month;*
- (b) 20 movements per hour; and*
- (c) 140 movements per day.*

Note: Truck movements to and from the site are also controlled by the operating hours specified in condition A16 and provisions in condition B43.

Council Suggested Amendment

A12. The road upgrade requirements in condition B39 and B40 are to be completed to the satisfaction of Council prior to the commencement of any road haulage of quarry products.

Note: Should this amended condition be adopted, condition A11 may also need amending/deletion.

Should Council's suggestion not be accepted and haulage is permitted prior to the completion of road works, Council would suggest an alternate amendment to condition A11 that haulage by road should not exceed the existing 150,000 tonnes, rather than the 250,000 tonnes currently stated in the draft conditions.

DPE Recommended Condition

A23. *The Applicant must make annual financial contributions to Council and Maitland City Council towards the maintenance of local roads used for haulage of quarry products. The contributions must be determined either:*

- (a) in accordance with the relevant council local infrastructure contribution plan (including any updated or revised version of these plans) for local roads within the relevant local government area; or*
- (b) by a suitably qualified and experienced person commissioned by the Applicant, in consultation with the relevant council, and endorsed by the Planning Secretary; or*
- (c) as otherwise agreed by the relevant Council;*

to the satisfaction of the Planning Secretary.

Council Suggested Amendment

A23. The Applicant must make annual financial contributions to Council and Maitland City Council towards the maintenance of local roads (including, but not limited to rural sub arterial and rural local roads) used for haulage of quarry products. The contributions must be determined in accordance with the relevant council local infrastructure contribution plan (including any updated or revised version of these plans) for local roads within the relevant local government area.

DPE Recommended Condition

A24. *If there is a dispute over the determination of the contributions in condition A23, the Applicant or the relevant council may refer the matter to the Planning Secretary for resolution. The decision of the Planning Secretary will be final.*

Council Suggested Amendment

A24. Delete condition - Condition not required as contributions to be paid in accordance with adopted Contributions Plan.

DPE Recommended Condition

A26. *Within 12 months of the date of commencement of the development and annually thereafter for the life of the development, the Applicant must contribute \$40,000 to Council's Community Benefits and Wellbeing Fund. These funds are to be distributed via the CCC on an annual basis.*

Council Suggested Amendment

A26. Within 6 months of the date of commencement of the development and annually thereafter for the life of the development, the Applicant must contribute \$40,000 to a Community Benefits and Wellbeing Fund. These funds are to be distributed via the CCC on an annual basis.

DPE Recommended Condition

A27. *Within 12 months of the date of commencement for the development, the Applicant must pay a contribution of \$180,000 to Council which is to be used for local road infrastructure.*

Council Suggested Amendment

A27. Within 6 months of the date of commencement for the development, the Applicant must pay a contribution of \$180,000 to Council which is to be used for local road infrastructure.

DPE Recommended Condition

B39. *The Applicant must as soon as is reasonable and feasible, and no later than two years following the date of commencement of development, construct the new quarry access road intersection off Dungog Road as described in the EIS, unless otherwise agreed by the Planning Secretary.*

Council Suggested Amendment

B39. Prior to the commencement of any road haulage of quarry products, the Applicant must construct the new quarry access road intersection off Dungog Road as described in the EIS.

Note: Should this amended condition be adopted, condition A11 may also need amending.

DPE Recommended Condition

B40. *The Applicant must as soon as is reasonable and feasible, and no later than 18 months following the date of commencement of development:*

- (a) upgrade the approach to Gostwyck Bridge;*
- (b) upgrade the Dungog Road and Gresford Road intersection; and*
- (c) upgrade the King Street and Duke Street intersection,*

as described in the EIS.

Note: The road upgrades listed above will require further approval under Section 138 of the Roads Act 1993.

Council Suggested Amendment

B40. Prior to the commencement of road haulage, the Applicant must:

- (a) upgrade the approach to Gostwyck Bridge;
- (b) upgrade the Dungog Road and Gresford Road intersection; and
- (c) upgrade the King Street and Duke Street intersection,

as described in the EIS.

Note: The road upgrades listed above will require further approval under Section 138 of the Roads Act 1993.

DPE Recommended Condition

B41. *Should the road upgrades required under condition B40 not be completed after 18 months following the date of commencement of development, the Applicant may instead make a payment to Council for any road upgrades not yet completed, provided that:*

- (a) the Applicant has submitted detailed engineering designs for the road upgrades required under condition B40 to Council;*
- (b) the engineering design has been endorsed by a suitably qualified and experienced person commissioned by Council and paid for by the Applicant; and*
- (c) the costs of any road upgrades not yet completed has been determined by a suitably qualified and experienced person commissioned by Council and paid for by the Applicant;*

to the satisfaction of the Planning Secretary.

Council Suggested Amendment

B41. Condition to be deleted. Road upgrade works to be completed by the Applicant prior to commencement of road haulage.

DPE Recommended Condition

B42. *If there is a dispute over the requirements in conditions B41, the Applicant or Council may refer the matter to the Planning Secretary for resolution. The decision of the Planning Secretary will be final.*

Council Suggested Amendment

B42. Condition to be deleted. Road upgrade works to be completed by the Applicant prior to commencement of road haulage.

Council Suggested New Condition

NEW Prior to commencement of the development the applicant must upgrade Station Street. All works shall be designed and constructed in accordance with Council's AusSpec specification and Council's Roads Management Strategy. The applicant shall submit an application to Council for approval of these works under Section 138 of the Roads Act (1993). The applicant shall not commence any works within the road reserve until an approval has been issued by Council as the Road Authority.

Council Suggested New Condition

NEW A six month defect liability period shall apply to roadworks required under this consent. Prior to Commissioning of required roadworks, a cash bond or bank guarantee in an amount equivalent to 5.0% of the final construction value of the works shall be lodged with Council. A further inspection of the works will be undertaken by Council at the cessation of the Defect Liability period at which time any defects identified by Council are to be rectified by the developer prior to Council's acceptance of maintenance responsibility and the release of the bond.

Attachment 2 - Peer Review of Social Impact Assessment and Economic Impact Assessment - Judith Stubbs and Associates, 1 September 2021

Peer Review:

Martins Creek Quarry Extension Project Social and Economic Impact Assessments



1 September 2021

This report has been prepared for
Dungog Shire Council

by

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1 Executive Summary

Judith Stubbs and Associates has been commissioned by Dungog Shire Council to carry out a peer review of a Social Impact Assessment and an Economic Impact Assessment prepared to accompany an EIS prepared for the Martins Creek Quarry Project.

That review has showed **significant flaws in both documents**. Because of the impact of the flaws on the findings and conclusions of both reports, those **findings and conclusions cannot be relied upon**.

The **Social Impact Assessment** has the following flaws:

- **The matrix** used for the evaluation of potential social risks leads to illogical outcomes.
- In the application of the matrix to potential social impacts, the **SIA has incorrectly assessed likelihood**.
- **The threshold criterion for acceptance of adverse social impacts** without further mitigation is high risk of adverse social impacts, and this level is not appropriate.

The following examples illustrate problems with the matrix and the criterion.

If an impact is posited that is almost certain to occur, such as amenity impacts due to noise from crusher operation in the quarry, but that has minimal consequence as the distance to the nearest receiver means noise will be imperceptible, then the matrix rates the social risk as high even though there is no risk of an associated social impact. Logically the matrix should denote such a risk as low and so acceptable without further mitigation.

Similarly, if a risk is low probability but catastrophic consequence, for example a speeding truck killing pedestrians, the matrix rates the social risk as high, however the SIA threshold criterion would not require mitigation against such an event. An event such as the 1984 Bhopal disaster which resulted in at least 4,000 deaths would be rated as high risk rather than the more appropriate catastrophic, and considered acceptable.

The following examples illustrate problems with the assessment.

In table 7.7 of the SIA, the residual impact of product haulage on Quarry near neighbours is shown as C3 high, that is a moderate impact that has a possible likelihood. The correct assessment should be as a moderate impact that is almost certain to occur, as it is difficult to envisage operation of the proposed quarry without haulage of the product. Using the SIA matrix, the rating should be A4, extreme, and so requiring further mitigation.

In table 7.34 of the SIA, the residual impact of presence of operations on Heritage and Culture for Paterson residents is assessed as D2 low, that is a minor impact that is unlikely to occur. The correct assessment should be as a minor impact that is almost certain to occur, as it is difficult to envisage operation of the proposed quarry without the presence of operations. Using the SIA matrix and criterion, the rating should be A2, high, but acceptable and so not requiring further mitigation.

We have conducted an **independent assessment** of the various potential social impacts identified in the SIA using our own matrix (addressing logical errors in the SIA matrix), correctly assigning likelihood, and generally adopting the SIA author's assessment of magnitude level. We have taken an assessed risk of the occurrence of actual adverse social impacts of high to be a trigger for the requirement of additional mitigation.

Based on this assessment, our findings are set out below.

With regard to **product haulage**, there are **ten** areas (combinations of potential impacts and affected communities) where our assessment shows further mitigation is required. These impacts are typically experienced at a local level.

With regard to **quarry operation**, there are **five** areas (combinations of potential impacts and affected communities) where our assessment shows further mitigation is required. These impacts are typically experienced at a local level.

With regard to presence of the quarry, there are **four** areas (combinations of potential impacts and affected communities) where our assessment shows further mitigation is required, and **two** areas showing a high positive impact. The potential adverse impacts are experienced at a local level while the positive impacts are experienced at a regional and state level.

As is typical of many such projects, the positive impacts are experienced at a wider geographical area and the adverse impacts are experienced at a local level.

On balance, the adverse social impacts outweigh the positive social impacts.

It may be possible to further mitigate the adverse social impacts and so lower their social impact. Some proposals include:

- Provide additional sound mitigation to reduce impacts on three Station Street residents from loading of trains from extreme to moderate;
- Construction of the new access road as a condition precedent on granting of development consent;
- Construction of a heavy vehicle bypass in Paterson prior to opening the quarry;
- A general reduction in the scale of proposed operations.

The SIA assessment of the Project Assessment Process as a high social impact is likely to be understated. We would rate this adverse social impact as Extreme. Mitigation of this impact would require the proponent to engage in an open and transparent process with the community, recognising potential adverse impacts and proposing thoughtful and appropriate mitigations in response. We note that the most recent round of community consultation addresses this impact to some extent.

The Economic Impact Assessment has the following flaws:

- The document **does not establish and assess the base case**. The assessment of the base case, or the do nothing option, is fundamental to Cost Benefit Analysis. The net benefit of the project is the difference between the benefit in a world with the project less the benefit

in a world without the project.^{1,2} As no base case has been assessed, this means that **the EIA does not comply with the requirement of the EARs** to determine “whether [the development] would result in a net benefit for the NSW community”. The underlying reason is that the Economic Impact Assessment fails to recognise that production at the quarry will be at the cost of loss of market share at other quarries, or alternatively, if rock products are not available from Martins Creek Quarry, consumers will find appropriate substitutes.

- The Economic Impact Assessment **fails to properly identify and address transfers**, and these have no part in a Cost Benefit Analysis.³ The various items identified as benefits in Table 13 of the Economic Impact Assessment are all transfers and should not be included.

Both of these flaws have the same effect on the estimation of benefits, that is that the benefits column of Table 13 should sum to zero. At the same time, the table provides an estimate of the cost of externalities of \$13.9 million (NPV), showing **a net benefit for the project of -\$13.9 million (NPV)**. The cost of externalities will be offset to greater or lesser extent by any competitive advantages pertaining to the quarry, and these advantages will be manifested as a combination of increased producer surplus (profit) and increased consumer surplus (lower prices) and so can be easily estimated. The Economic Impact Assessment has not provided such an estimate. The estimates of the cost of externalities have not been reviewed, but there **may be opportunities to reduce these costs through appropriate mitigations**. The additional mitigations would have the consequence of internalising the costs, and so would maximise economic efficiency across society.

¹ NSW Government (2015) *Guidelines for the economic assessment of mining and coal seam gas proposals* page 7, “In a CBA, the costs and benefits of a project are compared to the costs and benefits ‘without’ the project. The without project case is termed the ‘base case’.”

² The Treasury (2017) *NSW Government Guide to Cost-Benefit Analysis* page 9, “CBA should compare the state of the world with the proposed project, program or policy against the state of the world without the proposal. The base case is the projection of costs and benefits ‘without’ the project or program.”

³ The Treasury *op cit* page 62, “Transfer payments are financial transfers between groups that do not involve the use of economic resources. These payments should be excluded from a CBA because they have no impact on net benefits of the program, **as the benefits to one group are offset by costs to other groups** [emphasis added]. If the analysis, however, aims to show distributional impacts on various groups affected by the proposal, this could be included in the analysis and appropriately qualified so as to avoid double-counting.”

2 Introduction

Judith Stubbs and Associates has been commissioned by Dungog Shire Council to carry out a peer review of a Social Impact Assessment and an Economic Impact Assessment prepared to accompany an EIS prepared for the Martins Creek Quarry Project.

3 Background

3.1 Description of the proposal

3.1.1 The locality

Martins Creek Quarry is located next to the village of Martins Creek in the Shire of Dungog. The quarry is adjacent to the main northern railway line.

There are a number of localities to be considered.

- The immediate locality includes the areas adjacent to the quarry and to transport routes and these localities will experience the adverse impacts of the project such as amenity impacts.
- The wider locality is the region where economic benefits such as employment will be experienced. This includes the LGAs of Dungog, Maitland and Port Stephens.
- The tertiary locality is the wider Newcastle and Sydney region, where the economic benefit of lower prices for quarry products will be experienced.

3.1.2 History

In September 2014, Dungog Council resolved to commence proceedings against the Martins Creek Quarry Operators with regard to compliance with development consents.

Concurrently, the Quarry Operators commenced a Development Approval Process, with the Secretary's Environmental Assessment Requirements issued in November 2014.

In September 2016, the operator lodged a development application to extract up to 1.5 million tonnes per annum.

We understand Dungog Council commenced proceedings in 2015.

In October 2018, the Land and Environment Court found that the Quarry was not operating in accordance with existing consents, but provided a stay of three months.

We understand the Quarry operator appealed the decision in the NSW Court of Appeals following that judgement.

In January 2019, the Land and Environment Court allowed a further stay of two months.

In June 2019, the NSW Court of Appeals dismissed the appeal, but provided a further stay of three months.

In September 2019, an application for a further stay of 12 months was refused by the NSW Land and Environment Court.

Martins Creek Quarry ceased operations in September 2019, but recommenced limited operations in 2020. In the year ended 30 November 2020, we understand the quarry produced around 25,000 tonnes of crushed rock under existing consents, of which 5,500 tonnes was transported by road.

A revised proposal (the current proposal) for 1.1 million tonnes per annum was prepared by the operator and exhibited in 2021.

3.1.3 The current project

Key aspects of the current proposal include:

- A project duration of 25 years
- Total extraction of 1.1 million tonnes per annum, with 500,000 tonnes by road and 600,000 tonnes by rail
- A disturbance area of 22 ha
- Operating hours for quarrying are 7.00 am to 6.00 pm, Monday to Friday, with blasting between 11.00 am and 3.00 pm Monday to Friday
- Restrictions on truck movements including no movements through Paterson prior to 6.45 am Monday to Friday, no movements over Christmas New Year period, no departures prior to 7.00 am and restricted movements between 6.00 pm and 7.00 pm Monday to Friday
- Two hundred truck movements per day generally, increasing to 280 movements per day for up to 50 days per year; with a maximum of 40 movements per hour between 7.00 am and 3.00 pm and 15 movements per hour between 3.00 pm and 6.00 pm
- Train loading 24 hours/ 7 days per week
- Construction of a new access road and rail overbridge
- Potential extension of internal rail siding

One primary road haul route is identified to the New England Highway at Maitland.

3.2 The EARs

The most recent Environmental Assessment Requirements for the Project (the “EARs”) were issued on 4 August 2016. Of relevance to this peer review, conditions include:

The EIS [Environmental Impact Statement] must address the following specific matters:

...

Social & Economic – including:

- an assessment of potential impacts on local and regional communities including impacts on social amenity;

- a detailed description of the measures that would be implemented to minimise the adverse social and economic impacts of the development, including any infrastructure improvements, or contributions and/or voluntary planning agreement or similar mechanism; and

- a detailed assessment of the costs and benefits of the development as a whole, and whether it would result in a net benefit for the NSW community.

...

and

During the preparation of the EIS, you must consult with relevant local, State and Commonwealth Government authorities, service providers, Aboriginal stakeholders, community groups and affected landowners.

In particular, you must consult with the:

- *Commonwealth Department of the Environment;*
- *Office of Environment and Heritage (including the Heritage Branch);*
- *Environment Protection Authority;*
- *Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services;*
- *Department of Primary Industries (including the NSW Office of Water, NSW Forestry, Agriculture and Fisheries sections and Crown Lands division);*
- *Roads and Maritime Services;*
- *Hunter Local Land Services;*
- *Dungog Shire Council;*
- *Maitland City Council;*
- *Port Stephens Council; and*
- *community groups including, but not limited to the: Martin's Creek Quarry Action Group, Paterson Progress Association, Bolwarra Heights Community Group and the Voice of Wallalong and Woodville.*

The EIS must:

- *describe the consultation process used and demonstrate that effective consultation has occurred;*
- *describe the issues raised by public authorities, service providers, community groups and landowners;*
- *identify where the design of the development has been amended in response to issues raised; and*
- *otherwise demonstrate that issues raised have been appropriately addressed in the assessment.*

The NSW Government issued *Guidelines for the economic assessment of mining and coal seam gas proposals* (the “**EIA guideline**”) in December 2015. NSW Planning and Environment issued the *Social impact assessment guideline for State significant mining, petroleum production, and extractive industry development* (the “**SIA guideline**”) in September 2017.

The project was amended on 7 September 2020 with the amendment agreed to by DPIE on 6 November 2020. As this is after the date of issue of the SIA guideline, the SIA and EIA guidelines are relevant to the preparation of any social impact assessment.

An amended SIA guideline was issued in July 2021.⁴

A Social and Economic Assessment⁵ was prepared to accompany the EIS. Due to concerns with this document a further Social Impact Assessment⁶ (the “**SIA**”) and Economic Impact Assessment⁷ (the “**EIA**”) were prepared. Those documents are the subject of this peer review.

⁴ Department of Planning, Industry and Environment (2021) *Social Impact Assessment Guideline For State Significant Projects*

⁵ Monteath & Powys Pty Ltd (2016) *Social and Economic Assessment*

⁶ Umwelt (2021) *Martins Creek Quarry Extension Project - Social Impact Assessment*

⁷ Ernst and Young (2021) *Economic impact assessment of Martins Creek Quarry*

4 Assessment process

The quarry is an extractive industry (*State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* – Section 3 Interpretation).

The quarry is State Significant development (*State Environmental Planning Policy (State and Regional Development) 2011* – s8(1)(b) and s7(1) of Schedule 1) by virtue of its nature as an extractive industry and its scale.

The Consent Authority is the Independent Planning Commission (*State Environmental Planning Policy (State and Regional Development) 2011* – s8A(1)(a) and (b) and/or Environmental Planning and Assessment Act 1979 – s4.5(a)).

Matters to be considered are listed in s4.15 of the *Environmental Planning and Assessment Act 1979* (*Environmental Planning and Assessment Act 1979* s4.40). These include:

4.15(1)(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

An EIS is required in accordance with s5.7 of the *Environmental Planning and Assessment Act 1979* (*Environmental Planning and Assessment Act 1979*).

5 Other decisions

This section reviews the Decisions in *Bulga Milbrodale Progress Association Inc v Minister for Planning and Infrastructure and Warkworth Mining Limited* [2013] NSWLEC 48 and *Warkworth Mining Limited v Bulga Milbrodale Progress Association Inc* [2014] NSWCA 105, noting that Dr Stubbs was an expert witness in the LEC matter for Warkworth Mining Limited. This case has similarities with the Martins Creek proposal and may provide appropriate precedent for rejection of the application, particularly with regard to the disproportionate negative impacts on a small rural community.

The judgement is lengthy, covering 126 pages. With regard to social and economic impacts, the judge appears to implicitly reject the notion of summing impacts across society,⁸ and refers at a number of places to the distributional aspects of social and economic impacts. While acknowledging that the decision required assigning of weight and balancing of the relevant matters, it appears that the judgement gave considerable weight to the likely adverse social impacts arising in the immediate locality of the development and lesser weight to the economic benefits of the proposal experienced in the wider locality.

Adverse social impacts included impacts in terms of noise, dust and visual impacts and the adverse change in the composition of the community by reason of the acquisition of noise and air quality affected properties. The Project's impacts were also found to exacerbate the loss of sense of place, and materially and adversely change the sense of community, of the residents of Bulga and the surrounding countryside.

The Decision was upheld on appeal.

⁸ Known in Economics as the modified Pareto Principle, where the winners could theoretically reimburse the losers and still be better off.

6 The Social Impact Assessment

6.1 Review Questions

Appendix D of the SIA guideline sets out 29 review questions as a check as to whether the SIA follows the SIA guideline. A preliminary review of the SIA demonstrates:

- General adherence to principles in Section 1.3
- A qualified and experienced author, noting that the author does not appear to have formal qualifications in a social science discipline
- Extensive community engagement using appropriate methods
- Extensive scoping of the area of social influence
- Identification and categorisation of relevant social impacts
- An extensive social baseline study
- A framework for the evaluation of the significance of impacts
- Responsive and appropriate mitigations

However, there are two areas of concern.

The SIA does not appear to clearly state the baseline impacts, that is the likely impacts under the current approvals, so that marginal impacts are not clearly stated. These baseline impacts can be determined from the determination in *Hunter Industrial Rental Equipment Pty Ltd v Dungog Shire Council* [2019] NSWCA 147.

The assessment of social impacts at Section 7 of the SIA is flawed for two reasons. Firstly, the matrix used for the assessment of risk (the conjunction of likelihood and severity) is flawed. Secondly, the matrix has been incorrectly applied. These factors lead to an incorrect assessment of potential social impacts.

6.2 The baseline impacts

The SIA demonstrates some confusion regarding baseline impacts, and seems to consider the baseline for the purpose of assessment of impacts to be the levels of impact experienced when the quarry was operating illegally, rather than operations under existing consents. The degree to which this incorrect baseline may have affected the assessment of the magnitude levels for potential social impacts has not been assessed in this review.

Some examples are shown below:

In the context of the above views, while not intending to diminish the impacts on the community and the extent to which they are felt, it is also important to acknowledge the historical operations prior to Daracon's management of the quarry and the associated historical road haulage of

product from the quarry as outlined at Section 4.1. The proposed road transportation limit of 500,000 tpa returns road haulage volumes to a level that is not inconsistent with road haulage volumes occurring prior to Daracon securing its licence in 2013 with road transportation volumes proposed for the Revised Project less than those previously transported by RailCorp, particularly through the period of 2003-2004 to 2010-2011 (refer to Figure 4.1). (SIA page 269-270)

For context, Figure 7.3 shows the history of peak daily laden trucks during the period that Daracon has operated the site until limited operations were implemented in 2019. It can be seen that the proposed peak daily laden trucks of 140 trucks/day (for up to 50 days per year) is well below levels experienced during Daracon most recent previous operations. (SIA page 270)

Overall the Revised Project as currently presented represents a significant reduction in the volume of quarry related trucks compared to both those originally proposed in the 2016 EIS and also compared to historical activities to which the community have been exposed over more recent years and which has informed lived experiences. (SIA page 272)

Historically quarry product trucks had travelled to the quarry early in the morning, around 5.00am and sometimes earlier as the market in which the Martins Creek Quarry sold its products typically seeks to have the quarry products at the destination at 7.00am to coincide with the standard construction hours. To meet this market demand, trucks started entering the quarry to haul product from 6.00am. (SIA page 272)

That said, there is a reduction in the noise impacts from those experienced during previous operations, by these most affected proximate private residences. (SIA page 288)

Dungog Road (South of Grace Avenue) residents: it is anticipated there will be a reduction in day-time operating noise levels in comparison to those previously experienced levels due to the changes in the quarry's processing plant area. This was therefore assessed as a new development. (SIA page 288)

Martins Creek Village: is to experience a reduction in day-time operating noise levels in comparison to previous levels due to the changes in the processing plant area. A reduction in the noise from the train loading activities will also be experienced once the new rail spur is constructed. Road traffic noise levels associated with trucks entering and leaving the quarry will also be reduced once the new access road is constructed. (SIA page 288)

Additionally, reasonable and feasible noise attenuation measures consistent with current best practice in a modern approval have been incorporated into key items of plant and equipment and the day-to-day operation of the quarry. These are in excess of those that would have been relevant and / or required during historical operations at the quarry. (SIA page 290)

When considering sense of community and place related impacts, it is important to acknowledge that quarrying has a long history in the locality (albeit at a lower scale), the significance of which has also been acknowledged by MCQAG and participants during consultation activities. (SIA page 307)

While not to detract from the importance and potential impact of complaints to a business, the examination of historical customer reviews has indicated that the majority of the reviews published on TripAdvisor positively rating their experience – 19 out of 32 reviews rated as

excellent with the large majority of these made prior to reduced operations at the quarry in September 2019. (SIA page 324)

These indirect impacts were also identified to be similar to those experienced with the historic and more recent operations at the quarry and will therefore not be expected to substantially change as a result of the proposed Revised Project. (SIA page 337)

However, quarrying also has a long history in the locality. During the early 1900s there were three quarries in the Martins Creek area, with the quarry now known as the Martins Creek Quarry having started operations in 1914. (SIA page 342)

The appropriate baseline impacts can be determined from the Decision in *Dungog Shire Council v Hunter Industrial Rental Equipment Pty Ltd (No 2)* [2018] NSWLEC 153, which sets out the uses allowable on the site under existing consents.

Relevant parts of that Decision are set out below.

Declare that the consent to development application 171/90/79 granted by Dungog Shire Council (“the consent”) permitted use of the land only as a quarry primarily for the purpose of winning material for railway ballast, in breach of which the appellants have since 2012 used the land otherwise than primarily for winning railway ballast, in breach of the Environmental Planning and Assessment Act 1979 (NSW) (“the Planning Act”), s 4.2(1)(a).

Declare that the consent did not extend to the excavation of rock on lot 6, DP 242210 and that the activity of the appellants in extracting rock from lot 6 is carried out without development consent and in contravention of s 4.2(1)(a) of the Planning Act.

Declare that –

(i) condition (vi) of the consent prevents the appellants permitting the transport of greatly more than 30% of the products of the quarry by public road on an annual basis without the specific approval of Dungog Shire Council;

(ii) condition (vi) applies to rock excavated from the land the subject of the consent, whether processed and dispatched by public road from that land or from adjoining land, including lot 1, DP 1006375; and

(iii) the appellants, in transporting in excess of 80% of quarry products by road since 2012 have been and continue to be in breach of condition (vi), and therefore in breach of s 4.2(1)(b) of the Planning Act.

Order that the appellants by themselves, their employees, agents and assigns, be restrained from:

(a) using the land otherwise than as a quarry primarily for the purpose of winning railway ballast; and

(b) excavating rock on lot 6 DP 242210 without a consent granted for such activity under the Planning Act; and

(c) permitting the transport of greatly more than 30% of the quarry products derived from rock excavated from the land, and whether processed on the land or on adjoining land, including lot 1, DP 1006375, by public road on an annual basis without the specific approval of Dungog Shire Council.

Set aside the determination of the Environment Protection Authority set out in the Notice of Variation No 1071585, dated 2 April 2007, varying EPL 1378 to permit the extraction of between 500,000 tpa and 2 million tpa from the land.

In summary, the baseline is a quarry winning railway ballast on Lot 5 DP 242210, of which no more than 30% can be transported by road, and so at any time the quarry could operate in accordance with these conditions.

The viability of operation is likely limited by the market for railway ballast and the availability of rock from Lot 5 DP 242210. Once the various stays on the Decision were exhausted, the quarry is understood to have shut down for a period and then reopened. In the year to 30 November 2020, 25,000 tonnes of crushed rock were produced, of which 5,500 tonnes were transported by road.

We have taken the view that the appropriate baseline impacts of the quarry are likely to be similar to those that exist at the time of writing, that is under existing consents, and impacts should be assessed as marginal impacts, such as an increased number of trucks or greater frequency of blasting.

6.3 Assessment of social impacts

6.3.1 Introduction

The assessment of social impacts at Section 7 of the SIA is flawed for two reasons. Firstly, the matrix used for the assessment of risk (the conjunction of likelihood and severity) is flawed. Secondly, the matrix has been incorrectly applied. These factors lead to an incorrect assessment of potential social impacts.

6.3.2 The Framework

The SIA takes a risk assessment approach to the evaluation of the magnitude of social impacts. This approach requires each potential social impact to be assessed with regard to probability of occurrence and the consequence of occurrence. The approach is commonly used in risk assessment frameworks, such as under AS/NZS ISO 31000:2009 Risk Management, and has the advantage of transparency.

The details of the risk assessment framework used in the SIA are reproduced below.

Table 7.1 Social Risk Matrix

		Consequence Level				
		1	2	3	4	5
		Minimal	Minor	Moderate	Major	Catastrophic
Likelihood category	A. Almost certain	HIGH	HIGH	EXTREME	EXTREME	EXTREME
	B. Likely	MODERATE	HIGH	HIGH	EXTREME	EXTREME
	C. Possible	LOW	MODERATE	HIGH	EXTREME	EXTREME
	D. Unlikely	LOW	LOW	MODERATE	HIGH	HIGH
	E. Rare	LOW	LOW	MODERATE	HIGH	HIGH

Source: NSW SIA Guidelines (DPE 2017)

Figure 6.1: Social Risk Matrix

Source: Umwelt 2021

Table 7.2 Defining Magnitude Levels for Social Impacts (DPIE 2020)

Magnitude Level	Meaning and examples
Transformational* / Catastrophic	Substantial change experienced in community wellbeing, livelihood, amenity, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	No noticeable change experienced by people in the locality.

*Note: In the draft 2020 Guideline, the use of the term catastrophic has been proposed to be changed to 'transformational'. While the term transformational has been included above to reflect the definitions in the draft 2020 Guideline and its Technical Supplement, for the purposes of the following assessment, catastrophic continues to be used as per the 2017 SIA Guideline for consistency.

Table 7.3 Social Likelihood Definitions

Likelihood Category	Definition
Almost certain	Common repeating occurrence, ongoing Will occur in most circumstances
Likely	Will probably occur in most circumstances There is at least a 50% chance that it may happen
Possible	Might occur at some time Could occur but not often 5% chance it could happen
Unlikely	Unusual occurrence Unexpected
Rare	May occur only in exceptional circumstances Unheard of in the industry

Figure 6.2: Social Risk Assessment Criteria

Source: Umwelt 2021

The risk matrix takes an approach commonly used in risk assessment, such as under AS/NZS ISO 31000:2009 Risk Management. The underlying method is to articulate a threshold level of risk which is acceptable to the decision maker. For example in the matrix above, levels of risk include low, moderate, high and extreme. Such a table would typically be accompanied by a statement of risk tolerance. An example could be: the organisation will mitigate any risk with a rating of high or extreme so that the residual risk rating (the rating following the application of mitigations) is no more than moderate.

The SIA does not state a threshold for risk tolerance, but an examination of the various assessment tables in Section 7 of the SIA suggests that the SIA takes a risk of high to be acceptable, as many of the residual risk ratings (rating after mitigation) are high. On the face of it, this level of

acceptance of risk appears to be unduly sanguine, and a mitigation to an impact of moderate might be more reasonable.

The matrix itself is quite flawed and this can be seen from some examples.

If an impact is posited that is almost certain to occur, such as amenity impacts due to noise from crusher operation in the quarry, but that has minimal consequence as the distance to the nearest receiver means noise will be imperceptible, then the matrix rates the impact as high even though it is of no consequence. Logically the matrix should denote such a risk as low.

Similarly, if a risk is low probability but catastrophic consequence, for example a speeding truck killing pedestrians, the matrix rates the risk as high, and the SIA threshold criterion would not require mitigation against such an event. An event such as the 1984 Bhopal disaster which resulted in at least 4,000 deaths would be rated as high consequence using the SIA approach, and so acceptable.

As a consequence of these flaws, we will use the matrix set out below as the basis of an independent assessment of social impacts and the adequacy of mitigations. The matrix is based on some assumptions. The definitions of minor and minimal magnitudes from Table 7.2 of the SIA suggest that impacts of these magnitudes should be tolerable, so the matrix should show these as acceptable (Low and Moderate). Similarly, the definitions of catastrophic and major magnitudes suggest that these impacts are unlikely to be acceptable (High and Extreme).

		Consequence Level				
		1	2	3	4	5
		Minimal	Minor	Moderate	Major	Catastrophic
Likelihood Category	A. Almost Certain	Low	Moderate	High	Extreme	Extreme
	B. Likely	Low	Moderate	High	Extreme	Extreme
	C. Possible	Low	Low	Moderate	Extreme	Extreme
	D. Unlikely	Low	Low	Moderate	High	Extreme
	E. Rare	Low	Low	Low	High	Extreme

Figure 6.3: Social Risk Matrix

Source: JSA 2021

The categorisation in Table 7.2 of the SIA can also be difficult to apply as the magnitude has three dimensions: magnitude of impact, size of affected group and duration of impact. An event that affects many people but that has a short duration could be categorised as either major or minor. This can be addressed by rewriting the criterion for minor as:

Mild deterioration/improvement, for a reasonably short time, *or affecting* a small number of people who are generally adaptable and not vulnerable.

6.3.3 Application of the framework

The framework does not appear to have been correctly applied in the SIA. The author of the SIA appears to have confused an assessment of likelihood with the consequence level, noting that this may have been a result of an intuitive response on the part of the SIA author to the matrix overrating the consequences of minor impacts. Further confusion is likely to have arisen from the characterisation of impacts as social impacts rather than as *potential* social impacts, with the latter carrying a connotation of assessment rather than description.

We will address two examples below, noting that these represent a flaw found in all analyses in the SIA.

In table 7.7 of the SIA, the residual impact of product haulage on Quarry near neighbours is shown as C3 high, that is a moderate impact that has a possible likelihood. The correct assessment should be as a moderate impact that is almost certain to occur, as it is difficult to envisage operation of the proposed quarry without haulage of the product. Using the SIA matrix, the rating should be A4, extreme, and so requiring further mitigation.

In table 7.34 of the SIA, the residual impact of presence of operations on Heritage and Culture for Paterson residents is assessed as D2 low, that is a minor impact that is unlikely to occur. The correct assessment should be as a minor impact that is almost certain to occur, as it is difficult to envisage operation of the proposed quarry without the presence of operations. Using the SIA matrix, the rating should be A2, high, but acceptable and so not requiring further mitigation.

6.3.4 Independent assessment of potential social impacts

Overview

As a consequence of these various flaws, we have undertaken an independent assessment of the potential social impacts identified in the SIA using the Social Risk Matrix in Figure 8.3 above and correctly applying the criteria in tables 7.2 and 7.3 of the SIA, noting the amendment of the definition of the criterion for minor magnitude level. We have assumed a consequence level of moderate as being acceptable without further mitigation. For the purpose of an initial assessment, we have accepted the SIA author's consequence level unless noted otherwise, however a detailed review of underlying reports such as those regarding noise, dust and could question these assessments. A review of historical breaches would also provide insight into the previous compliance of the quarry operator and its ability to adequately mitigate impacts.

The assessment has been carried out as a residual risk assessment, as it is likely that many of the assessments in the SIA, such as dust impacts, are based on the implementation of appropriate controls such as watering of roads and screening of crushing plant. The SIA is not clear on this matter. A more rigorous analysis would consider the risk in the absence of controls and propose mitigation in the form of controls. The risk would then be assessed as a residual risk in the presence of controls.

Findings

With regard to **product haulage**, there are **ten** areas (combinations of potential impacts and affected communities) where our assessment shows further mitigation is required. These impacts are typically experienced at a local level.

With regard to **quarry operation**, there are **five** areas (combinations of potential impacts and affected communities) where our assessment shows further mitigation is required. These impacts are typically experienced at a local level.

With regard to presence of the quarry, there are **four** areas (combinations of potential impacts and affected communities) where our assessment shows further mitigation is required, and **two** areas showing a high positive impact. The potential adverse impacts are experienced at a local level while the positive impacts are experienced at a regional and state level.

As is typical of many such projects, the positive impacts are experienced at a wider geographical area and the adverse impacts are experienced at a local level.

On balance, **the adverse social impacts outweigh the positive social impacts**.

It may be possible to further mitigate the adverse social impacts and so lower their social impact rating. Some proposals include:

- Provide additional sound mitigation to reduce impacts on 3 Station Street residents from loading of trains from extreme to moderate
- Construction of the new access road prior to opening the quarry
- Construction of a heavy vehicle bypass in Paterson prior to opening the quarry
- A general reduction in the scale of proposed operations

The SIA assessment of the Project Assessment Process as a high social impact is likely to be understated. We would rate this adverse social impact as Extreme. Mitigation of this impact would require the proponent to engage in an open and transparent process with the community, recognising potential adverse impacts and proposing thoughtful and appropriate mitigations in response. We note that the most recent round of community consultation addresses this impact to some extent.

Assessment

The table below shows our evaluation of potential social impacts using an appropriate matrix and correctly applying an assessment of likelihood.

Table 6.1: Assessment of Potential Social Impacts

Project Aspect	Potential Social Impact	Affected Parties	Social Impact Rating (based on the current project and including proposed controls)	Comments
Product Haulage	Social Amenity and surroundings due to truck volumes and disruptions	Quarry near neighbours	High (A3)	Further mitigation required
		Paterson Village residents etc	High (A3)	Further mitigation required
		Other residents along the haul route to East Maitland	High (A3)	Further mitigation required
		Road users generally in Maitland and Dungog LGAs	Low (A1)	Acceptable It is difficult to see how road users off the haul route would be affected
		Road users along the proposed haul route	Moderate (A2)	Acceptable
		Road users Paterson Village	Moderate (A2)	Acceptable
		Pedestrians and cyclists along the haul route	High (A3)	Further mitigation required
		Local and Regional Road users along the proposed haul route	Low (A1)	Acceptable
Product Haulage	Social amenity and surroundings – truck noise	Residents in close proximity to the proposed primary haul route	High (A3)	Further mitigation required
		Paterson Village residents etc	High (A3)	Further mitigation required
		Station Street residents years 1-4	High (A3)	Further mitigation required
		Dungog Road Residents near access road years 1-4	Low (A1)	Acceptable It is difficult to see how truck movements some distance away could have a noise impact

Project Aspect	Potential Social Impact	Affected Parties	Social Impact Rating (based on the current project and including proposed controls)	Comments
		Station Street residents years 5+	Low (A1)	Acceptable It is difficult to see how truck movements some distance away could have a noise impact
		Dungog Road Residents near access road years 5+	High (A3)	Further mitigation required
		Other residents proximal to the quarry	Moderate (A2)	Acceptable
Onsite quarry operations	Social amenity and surroundings – quarry noise, train loading	Residents proximal to the quarry	High (A3)	Further mitigation required
		Residents within Station Street, Cory Street, Grace Avenue and along Dungog Road year 1-4	High (A3)	Further mitigation required
		3 Station Street residents year 5+	Extreme (A4)	Further mitigation required
		Residents within Station Street, Cory Street, Grace Avenue and along Dungog Road year 5+	High (A3)	Further mitigation required
Construction of new access road	Social amenity and surroundings –noise	Dungog Road residents proximal to new access road	Moderate (A2)	Acceptable
Onsite quarry operations blasting	Social amenity impacts due to blasting noise and vibrations	Residents proximal to the quarry	Moderate (A2)	Acceptable
		Wider Dungog LGA	Low (A1)	Acceptable

Project Aspect	Potential Social Impact	Affected Parties	Social Impact Rating (based on the current project and including proposed controls)	Comments
Product haulage	Social amenity impacts due to changes in air quality from truck movements	Residents proximal to the quarry and along the haul route	Low (A2)	Acceptable
On-site quarry operations (including blasting)	Social amenity impacts due to changes in air quality from onsite operational activities	Residents proximal to the quarry	Low (A2)	Acceptable
Construction of new access road	Surroundings and social amenity - dust	Dungog Road residents proximal to the new access road	Low (A2)	Acceptable
Product haulage	Sense of community – cohesion, character, sense of place, rural lifestyle due to truck movements and haulage	Residents/businesses of Paterson village	High (A3)	Further mitigation required
		Proximal quarry neighbours Localities and communities along the haul route	High (A3)	Further mitigation required
Onsite quarrying activities	Sense of community – cohesion, character, sense of place, rural lifestyle	Proximal quarry neighbours	High (A3)	Further mitigation required
Presence of the quarry	Presence of the quarry and its activities creating increased levels of stress and anxiety	Paterson residents and businesses	High (A3)	Further mitigation required

Project Aspect	Potential Social Impact	Affected Parties	Social Impact Rating (based on the current project and including proposed controls)	Comments
		Residents proximal to the quarry	High (A3)	Further mitigation required
		Residents along the haul route	High (A3)	Further mitigation required
		Broader community	Low (A1)	Acceptable
Presence of the quarry	Impacts on health and well being – exposure to emissions from truck movements/traffic	Residents proximal to the quarry Residents and businesses along the haul route	Moderate (A2)	Acceptable
	Impacts on health and well being – exposure to emissions from quarrying activities	Residents proximal to the quarry	Moderate (A2)	Acceptable
		Quarry employees and contractors	High (A3)	Further mitigation required
Presence of the quarry	Declining property values due to quarry operations and ongoing presence of trucks	Property owners proximal to the quarry	Moderate (A2)	Acceptable
		Property owners along the haul route	Moderate (A2)	Acceptable
		Broader regional LGA	Low (A1)	Acceptable
Presence of the quarry	Property damage due to blasting	Property owners proximal to quarry	Moderate (A2)	Acceptable The assessment of consequence should probably be minimal rather than minor as the body of the

Project Aspect	Potential Social Impact	Affected Parties	Social Impact Rating (based on the current project and including proposed controls)	Comments
				report suggests that predicted vibrations should not cause damage to buildings
		Road users along the haulage route	Moderate (A2)	Acceptable
Presence of the quarry	Economic livelihood – impacts on local businesses	Paterson businesses	High (A3)	Further mitigation required
		Businesses along the haul route	Moderate (A2)	Acceptable
Presence of the quarry	Economic livelihood and employment opportunities	Local/regional residents	Moderate (A2)	Acceptable (Positive impact)
		Local business/suppliers	Moderate (A2)	Acceptable (Positive impact)
		Regional business/suppliers/employees	High (A3)	Acceptable (Positive impact)
		Regional and NSW construction industry	High (A3)	Acceptable (Positive impact)
Project Assessment process	Engagement, communication and information provision Distrust of Daracon and process	Proximal residents/community members to the quarry and haul route	Moderate (A2)	Acceptable This assessment seems to be unduly sanguine as the history suggests that Daracon has relied on court cases to regularise the use of the quarry and stays on orders to maintain production, and

Project Aspect	Potential Social Impact	Affected Parties	Social Impact Rating (based on the current project and including proposed controls)	Comments
				at the same time has not progressed the obtaining of planning approval. "A4 Extreme" would be a more appropriate rating
		Broader community	Moderate (A2)	Acceptable
Presence of the operation	Ecological impacts – biodiversity and land management	Residents proximal to the quarry	Moderate (A2)	Acceptable
		Wider Dungog and Maitland LGAs	Moderate (A2)	Acceptable
Presence of operations	Water – Access to surface and ground water	Residents proximal to the quarry Paterson River visitors and users Bore users	Moderate (A2)	Acceptable
Presence of operations	Damage to historical heritage buildings and values	Paterson residents, users and businesses	Moderate (A2)	Acceptable
	Aboriginal cultural heritage and values	Aboriginal stakeholders	Moderate (A2)	Acceptable

Source: JSA 2021

7 Assessment of Economic Impacts

7.1 Introduction

The Economic Impact Assessment⁹ has two major flaws.

- The first is the failure to establish and assess the base case. The assessment of the base case, or the do nothing option, is fundamental to Cost Benefit Analysis. The net benefit of the project is the difference between the benefit in a world with the project less the benefit in a world without the project.^{10,11} As no base case has been assessed, this means that the EIA **does not comply** with the requirement of the EARs to determine “whether [the development] would result in a net benefit for the NSW community”.
- The second is the failure to properly identify and address transfers.¹²

These two flaws are intimately interwoven, but either approach (comparison with a base case or exclusion of transfers) leads to the same result.

There may also be errors in data or calculation, however in the light of the major flaws in the EIA, these have not been checked in any detail.

Based on the analysis below, addressing either of these flaws, the Net Benefit of the project to the State of NSW is -\$13.9 million (NPV), due to the introduction of an additional set of externalities from the operation of an additional quarry. This cost will be offset to a greater or lesser extent by increased producer and consumer surplus arising from any competitive advantages of the proposed quarry, but this has not been assessed in the EIA.

The Local Effects Analysis suffers from similar flaws but has not been reviewed in any detail.

7.2 Assessment of Net Benefit

The net present value of the project is summarised in table 13 of the EIA. That assessment does not include any consideration of loss of market share by existing quarry operators.

⁹ Ernst and Young (2021) *Economic impact assessment of Martins Creek Quarry*

¹⁰ NSW Government (2015) *Guidelines for the economic assessment of mining and coal seam gas proposals* page 7, “In a CBA, the costs and benefits of a project are compared to the costs and benefits ‘without’ the project. The without project case is termed the ‘base case’.”

¹¹ The Treasury (2017) *NSW Government Guide to Cost-Benefit Analysis* page 9, “CBA should compare the state of the world with the proposed project, program or policy against the state of the world without the proposal. The base case is the projection of costs and benefits ‘without’ the project or program.”

¹² The Treasury *op cit* page 62, “Transfer payments are financial transfers between groups that do not involve the use of economic resources. These payments should be excluded from a CBA because they have no impact on net benefits of the program, **as the benefits to one group are offset by costs to other groups** [emphasis added]. If the analysis, however, aims to show distributional impacts on various groups affected by the proposal, this could be included in the analysis and appropriately qualified so as to avoid double-counting.”

There are currently two operating hard rock quarries in the Dungog area in addition to the limited operations at Martins Creek. These are the Boral Quarry at Seaham and the Hanson Quarry at Brandy Hill. That means that in a world in which the Martins Creek Quarry does not exist or operates at reduced output, rock products can be obtained elsewhere, so that the base case can be assumed to be purchase from either Boral Quarry at Seaham or Hanson Quarry at Brandy Hill. If the expansion of the Martins Creek Quarry is approved, then purchasers will have three choices of supplier so that there will be additional competition.

If it is assumed that the Quarry Industry is perfectly competitive and that there are no competitive advantages to any particular quarry, then the direct benefits attributed to Martins Creek Quarry will be a cost to other nearby quarries as they lose market share and hence reduce production, with a similar impact on NSW workers and NSW suppliers. Similarly, taxes and the like paid by Martins Creek Quarry will no longer be paid by other quarries due to decreased revenue. Based on this set of assumptions, the benefit of the expansion of Martins Creek Quarry will be \$0 (NPV).

If we further assume that the Indirect Costs shown in Table 13 are a fixed cost (not changing with level of production), then the expansion of the quarry will result in an additional set of indirect costs being imposed on the NSW community in terms of externalities. Based on this assumption, the net benefit of development of Martins Creek Quarry will be -\$13.9 million (NPV), due to the imposition of a new set of environmental costs on the NSW community.

There are likely to be competitive advantages accruing to different quarries based on varied haul distance and haul modes to markets, efficiency of development and operation, quality of product and the like. These competitive advantages will manifest in a combination of lower prices and increased profit for the quarry. If it is assumed that the quarry industry is quite competitive then there should be little opportunity for profit above a normal profit, so that competitive advantage is likely to be seen in reduced prices for consumers. It should be a relatively straightforward assessment to determine the net benefit to NSW from reduced prices as a result of the expansion of Martins Creek Quarry, based on historical pricing and the pricing of competitors. This increase in consumer surplus would need to be of sufficient magnitude to offset the indirect costs (externalities) summarised in Table 13, for the project to deliver a net benefit to the State of NSW.

We note that the assessment in Table 13 may be appropriate for example for a coal mine providing coal to the export market, as in this case income would come from outside NSW (so there are no transfers), although market share would need to be lost by other international suppliers, rather than other suppliers in NSW or by overseas subsidiaries of NSW based companies.

7.3 Inclusion of transfers

The various benefits listed in Table 13 are transfers and have no place in a Cost Benefit Analysis. As treasury states:

*Transfer payments are financial transfers between groups that do not involve the use of economic resources. These payments should be excluded from a CBA because they have no impact on net benefits of the program, **as the benefits to one group are offset by costs to other groups** [emphasis added]. If the analysis, however, aims to show distributional impacts on various groups affected*

*by the proposal, this could be included in the analysis and appropriately qualified so as to avoid double-counting.*¹³

The net producer surplus attributed to NSW is a transfer as the benefit to Martins Creek Quarry is offset by a loss of producer surplus to other quarries through reallocation of market share.

The net economic benefit to NSW workers at the quarry is offset by the loss of net economic benefit to NSW workers at other quarries who lose their jobs or overtime as a result of a shifting of market share.

The net economic benefit to NSW suppliers to the quarry is offset by the loss of net economic benefit to NSW suppliers to other quarries who have reduced income as a result of a shifting of market share. More likely however, the same suppliers will move some market share from one quarry to another and so be no worse off.

According to Treasury Guidelines:

*Taxes (and subsidies) are transfers which increase (reduce) the prices faced by producers and consumers. As a general rule the taxes and subsidies should be excluded from economic costs because they do not represent a resource cost. However, insofar as they are part of consumers' willingness to pay for something, they form part of willingness to pay valuations. Indirect taxes on inputs and taxes on profits (producer surplus) are usually excluded in a CBA.*¹⁴

On this basis, the benefits ascribed to royalties, payroll tax and Council rates; and to company income tax attributed to NSW; should be disregarded.

If transfers are excluded, the net benefit to the State of NSW is -\$13.9 million (NPV) in externalities. This would be offset to a greater or lesser extent by increases in consumer surplus or producer surplus where competitive advantages are passed on as either lower prices or higher profits. As discussed above, it is possible to calculate an estimate of the value of competitive advantages.

The conclusion with the exclusion of transfers is the same as that above if the assessment was reported against a base case.

¹³ The Treasury (2017) *NSW Government Guide to Cost-Benefit Analysis* page 62

¹⁴ The Treasury (2017) *NSW Government Guide to Cost-Benefit Analysis* page 59.

Attachment 3 - Peer Review of Noise Impact Assessment - The Acoustic Group, 10 September 2021



51.5216.R7:MSC

10 September 2021

Dungog Shire Council
PO Box 95
DUNOG NSW 2420

Attention: Ms J. Tupper

Dear Sirs

PEER REVIEW OF ACOUSTIC ASSESSMENT
PROPOSED MARTINS CREEK QUARRY EXTENSION PROJECT

Further to your request I have undertaken a review of the *Noise Impact Assessment, Martins Creek Quarry Extension – Revised Project* (dated May 2021) prepared by Umwelt (Australia) Pty Ltd.

The Umwelt document does not consider the project in accordance with the existing consent, the requirements of the Land and Environment Court or the Court of Appeal (in relation to the subject site) but seeks to provide noise limits on the basis of a selective interpretation of the EPA's *Noise Policy for Industry* (NPfI) with respect to an existing industrial development as described in Chapter 6 of the NPfI.

I consider the Noise Impact Assessment (NIA) to be inaccurate and misleading, noting that the document has not actually assessed the impact on residents as a result of the quarry operations and that residents have experienced a significant and unacceptable acoustic impact for many years as a result of illegal operations at the quarry.

In April 2016 I undertook a review of acoustic impacts arising from truck operations associated with the Martins Creek Quarry ("MCQ"), that had resulted in adverse acoustic impacts for people residing in dwellings along the transport route passing through the township of Paterson.

Dungog Shire Council had commenced Class 4 proceedings in the Land and Environment Court of NSW (Proceedings 11188 of 2015). I prepared a Statement of Evidence for those proceedings.

I have not been to quarry or the township of Paterson and for the purpose of the previous proceedings I relied upon documentation that had been provided to me, of which the primary documents for acoustic purposes was that prepared by Mr R Tumney of RCA Acoustics, the 1990 EIS, and the development consent issued for the quarry.

In addition to the issue of adverse noise from truck operations associated with the quarry, an Environmental Impact Statement was prepared by Buttai Gravel Pty Ltd in relation to an expansion of the Martins Creek Quarry (“the Expansion EIS”) that included an acoustic report prepared by RCA Acoustics dated August 2016 (being after the preparation of my Statement of Evidence for the Class 4 proceedings).

The Expansion EIS was submitted to the Department of Planning but failed to identify the relevant consents applicable to the quarry, as has the Umwelt NIA.

Having assisted the Council in the Land and Environment Court proceedings with respect to the operations proposed by the original EIS, and a review of the Expansion EIS I have knowledge in terms of the previous applications and what has occurred previously with respect to Council approval as to what was sought by the then new owners of the quarry.

Relevant facts that are missing from the Umwelt NIA are:

- The Expansion EIS acoustic report identified that the Martins Creek Quarry at the time of the application was managed and operated by Buttai Gravel Pty Ltd who took over operation from State Rail in 2012.
- The quarry was the subject of an Environmental Impact Statement (“the 1990 EIS”) prepared by DP James (dated July 1990), resulting in development consent number 171/90/79 issued by Dungog Council dated 7 March 1991 and a revised consent dated 21 June 1991.
- The Council has identified to the Court that complaints have been received in relation to disturbance impacts because of the current quarry operations generating an output greater than that set out in the 1990 EIS, upon which the Council contends the approval for current operation relates.
- The Council identified to the Court that there are no other EIS documents or acoustic assessments that identify an expansion of the quarry to the current output. Furthermore, the Council has no applications or more importantly any approvals to permit the quarry to occur at the level that was identified in the introduction of the Expansion EIS acoustic report, i.e. in the order of 800,000 to 900,000 tonnes of high-quality andesite rock.

- Of relevance to identification of the operating quarry is that the 1990 EIS identified that the estimated annual production of the quarry would be between 250,000 and 300,000 tonnes per year with 70% of the production being removed by rail with the balance (i.e. 30%) by road.
- The 1990 EIS identified that the existing quarry production would remain the same but that the area of extraction would be an adjacent parcel of land.
- The relatively small quarry operation approved by Council in the early 1990s was purchased by the Daracon Group in 2012.
- The Expansion EIS identified that the Daracon Group undertook significant capital expenditure in 2013 and 2014 to ensure that the quarry was being operated at optimal levels, to improve operations and to lower operating costs. Documentation before Council identifies the upgrading of the quarry included a crushing screen upgrade, two new wheel loaders and a new rigid dump truck having expenditure greater than \$3 million
- I was instructed (in 2017) that Council has no development application on their files for an intensification of the quarry use arising from the Daracon Group purchasing the quarry. Therefore, in assessing the subject application that is to provide tonnage in the order of 1½ million tonnes per year it is incorrect to base the application on an unapproved 800,000 to 900,000 tonnes per annum scenario but must be placed in the context of the original application which Council indicates was in the order of 250,000 to 350,000 tonnes per annum, with 30% of that tonnage being transported by road.

The first page of the Executive Summary of the NIA claims that the NIA has taken into account both the “historical operational aspects of Martins Creek Quarry” and the proposed expansion of the quarry operations.

In Section 1.1 of the NIA the project background refers to a development application for the Martins Creek Quarry extension project (2014), whilst in Section 1.2 under a heading of “Existing Approvals” there is no mention of the development consent that exists for the quarry.

Section 1.2 identified that from the Appeal an Order was issued that the quarry operator to be restrained from using the land otherwise than as a quarry primary purpose of winning railway ballasts or permitting the transport of gravel more than 30% of the quarry products derived from rock excavated from land by public road on an annual basis the out the approval of Dungog Shire Council.

Section 1.2 of the NIA identifies the Court of Appeal set aside a variation to the Environment Protection Licence 1378 (EPL) that sought to permit an increase in the maximum extraction of that the quarry from 500,000 tonnes per annum to 2,000,000 tonnes per annum.

Section 1.2 presents an opinion that the effect of the order was that the EPL restricts the extraction of more than 500,000 tonnes per annum of quarry product. Yet the NIA has failed to identify the restriction in output of the quarry that is set out on the existing condition of consent.

As such, the NIA has presented a misleading basis for the acoustic assessment by failing to identify the restrictions on the amount of material that may be extracted from the quarry and that there has been no subsequent approval by the Council for an increase in the extraction of material from the quarry to that set out in the current consent. The situation was raised in the Class 4 Proceeding which would be relevant to this application and is a necessary part of the “historical operation aspects of Martins Creek Quarry” cited on the first page of the Executive Summary of the NIA that appears to have been overlooked.

Section 1.2 of the NIA notes that the EPL under L4.1 requires in the absence of a noise limit that all operations and activities occurring on the premises must be conducted in a manner that does not cause offensive noise.

Section 5 of the Expansion EIS referred to existing noise levels (set out in Table 2) showing Rating Background Levels from unattended noise logging and found ambient background levels in the day, evening, and night-time period to be below 30 dB(A). For Dungog Road 33 dB(A) was identified for the daytime level, 23 dB(A) in the evening and 18 dB(A) at night.

The presence of such ambient noise levels indicates a quiet area in the absence of sound from the quarry. However, Table 3 in Section 5 of the Expansion EIS identified that in Station Street (identified as location C) the then operations gave rise to a quarry noise contribution of 55 dB(A). On the basis of the quarry site generating daytime noise levels in the order of 25 dB(A) above the default background level therefore results in an acoustic impact that would clearly be defined as generating offensive noise. Yet this fact of non-compliance with the EPL is missing from the "historical operational aspects of Martins Creek Quarry" identified to be addressed in the NIA.

Revised Project

Section 2 of the NIA presents a description of the revised project to indicate a proposal to extract and process up to 1.1 million tonnes per annum of hard rock material over 25 years

The proposed project involves a significant increase in the capacity of the development (1.1 million tonnes per annum) to that for which there is an existing consent (300,000 tonnes per annum).

The proposed transportation by truck of 500,000 tonnes per annum versus the existing consent (90,000 tonnes per annum – being 30% of the approved tonnage for quarried material) is a significant increase.

The 1990 EIS for the original quarry application stated that the average number of truck movements per day would be 24 truck movements per day. Section 2 of the NIA identifies a maximum of 140 loaded trucks (being 280 movements) per day that represents a significant increase for the current consent.

Noise Criteria

In terms of general EPA assessment procedures for industrial premises the starting point for evaluation of noise looks to the application of the intrusiveness noise criterion, being background +5 dB(A) at residential receivers and then consideration of the amenity noise level (being the total noise of industrial premises) applicable to various receiver locations. The project trigger levels for such situations are determined as the lower of the intrusiveness noise criterion or the amenity noise criterion.

The NIA identifies that the original SEARS 2014 criteria has been applied to the project (in that it is an expansion of the original project in 2014). On that basis the noise assessment should be utilising the *Industrial Noise Policy* (INP) as the base tool for assessing noise from the proposed development.

However, the NIA selected the use of the *Noise Policy for Industry* (NPfI) that replaced the INP in November 2017.

There are differences in terms of the application of EPA assessment criteria to existing industrial premises between the two documents that has not been identified in the NIA.

In the INP the amenity noise criteria are clearly identified at the top of Table 2.1 recommended noise levels from industrial noise sources. In the NPfI has to look to the notes following Table 2.2 to find that the amenity noise levels refer only to noise from industrial sources.

In both the INP and the NPfI there is consideration of a modification to the amenity noise target for the project in question to which one must take into account the existing amenity noise level.

Section 3.1 of the NIA does not identify the existing amenity noise level as a result of the sources (the quarry) under the existing situation and therefore has not identified the extent of breaches of the amenity noise targets.

The last paragraph on page 14 of the NIA under Section 3.1.2 is another example of misdirection in terms of setting noise criteria and ignoring the obligations of an acoustical consultant to protect the health and well-being of the community.

In Section 10 of the INP the application of the policy to existing industrial premises is presented as the concept of introducing noise reduction program(s) for sites that exceed project-specific noise levels, that in turn require the assessment of all feasible and reasonable control measures to achieving noise limits that are the subject of negotiation.

In essence the EPA generally applied a big stick to industrial premises that were wanting to expand their operations by requiring those premises to enter into a noise reduction program as part of the application for the expanded project.

In Section 6 of the NPfI there is approach for a requirement to implement a noise reduction program or environmental improvement program that can be triggered by actions such as:

- the site becoming the subject of serious, persistent noise complaints
- a proposal to upgrade or expand the site
- the site having no formal consent or licence conditions and management wishing to clarify the position
- the owner occupier choosing to initiate an environmental improvement program

In this regard on page 15 of the NIA there is an extract from Section 6 of the NPfI to identify that *where existing site operations exceed the project amenity noise level project amenity noise level may be adopted as the project noise trigger level to assess existing, and existing plus proposed site operations.*

Notwithstanding the NIA providing the above extract one finds in Table 3.1 project amenity noise levels based upon the use of the above extract but without identifying the extent and magnitude of existing noise to which the residents receive. Another omission of "historical operational aspects of Martins Creek Quarry" identified to be addressed in the NIA.

The nature of Martins Creek Village may not necessarily be afforded the benefit of being called a suburban area as presented in Table 3.2 of the NIA. The consequence of selecting a Suburban receiver land use category is to increase the project amenity noise level for those locations.

For the intrusiveness noise target in view of the remote location of the residential receivers there is clearly an expectation of a significantly lower background noise level when compared with the amenity criteria.

The intrusiveness noise levels are based on background noise levels presented in Table 3.4 in the NIA.

The results of ambient noise monitoring in proximity to the quarry identifies ambient background levels that are at or below the EPA's default minimum rating background levels and therefore clearly indicate a quiet rural area such that if the project intrusiveness noise level target were applied the development as proposed could not proceed.

The problem that exists in terms of determining the actual impact of existing and proposed operations is that the background noise is defined in the NPfl as:

The underlying level of noise present in ambient noise, generally excluding the noise source under investigation, when extraneous noise is removed. This is described using the L_{AF90} descriptor.

The NIA by not having identified the extent and magnitude of noise from the existing operations has therefore not identified whether the Rating Background Levels in Table 3.4 are simply the background levels that have been obtained or whether there has been a correction to remove noise from the existing operations so as to determine background noise levels.

As Table 3.4 identified ambient background levels lower than EPA's default background levels, then if one was conducting a noise impact assessment and identified that the impact the noise from the operation would create, it would be necessary to consider such noise versus the true ambient background level of the area, in addition to the requirement to assess noise from the operation is to not be offensive noise as required by the EPL.

The second paragraph on page 18 of the NIA states:

Based on the results of the noise modelling, the noise impact from the existing approved operations are identified as being a primary contributor to existing background noise levels at receivers in NAGS 1, 2, 3 and 4. These modelled noise levels from the existing approved operations exceed the project amenity noise level during daytime period for some receivers in this area and the project intrusive noise level at most residences, particular those in NAGs 1, 2 and 3.

In the above extract I have provided three different colours of highlights that must become a critical factor in terms of identifying the misleading nature of the NIA.

Despite the claim of providing “historical operational aspects of the Martin Creek Quarry”, the NIA has not identified what is the existing approved operations where the approval can only come from the Council. In the Class 4 matter before the Land and Environment Court it has been identified that the approved 1990 operations by reason of the limited and relatively small nature of that operations (both in terms of the quarry and trucking) did not give rise to significant impacts and was not a primary contributor to existing background levels.

The intensification of the development from 2012 to the current period of time are not approved operations. From the statement on page 18 of the NIA it follows that the illegal operations occurring on the site are giving rise to a significant noise impact to the extent of being a primary contributor to existing background levels at various receivers.

Page 18 of the NIA identifies noise from the site operations exceeding the project amenity noise level targets for some receivers, and by reference to Table 3.5 on page 20 of the NIA automatically identifies a significant breach of the intrusiveness noise target to the extent that one would expect on the existing operations to give rise to offensive noise by reason of interfering with the rest or repose of persons residing in a rural residential or a rural semi-residential area.

Section 3.5 refers to non-network rail line criteria and provides in Table 3.10 noise targets in terms of an amenity LAeq level and a pass by level (being a maximum level) extracted from the *Rail Infrastructure Noise Guidelines* ("RING").

Table 3.10 provided for residents a suburban classification. In the absence of rail activities and consideration of the acoustic environment with the site operations could require a change to rural classification.

The NIA refers to an existing rail siding and a proposed rail siding extension. Part of the existing rail siding and the entire section of proposed rail siding extension are located on the property.

Non-network Rail Spurs located on the subject property should be included in the intrusive and amenity noise targets. On the basis of the NIA adopting the NPfl then the addition of operations at night that produce maximum noise levels in accordance with Section 2.5 of NPfl would be less than the targets set out in Table 3.10.

Utilising the NPfl project specific noise levels therefore provide noise targets for rural areas whereas the NIA has ignored those locations with respect to any assessment of rolling stock or locomotives etc on the spur line that is located inside the boundaries of the subject development, i.e. a mixture of noise criteria for rail operations– off site and on site.

Under Section 1.4 of the RING the guideline applies to residential land affected by heavy rail projects (where have rail projects are related to dedicated rail corridors). The NIA does not identify if the current siding is in a dedicated rail corridor.

Section 1.4.5 of the RING states:

Non-network rail lines exclusively servicing one or more industrial sites, such as a spur line connecting a mine to a network line, are not common but are likely to be proposed more often in future. Because they are somewhat unique, they should be assessed as described in Appendix 3.

Table 6 in Appendix 3 (of RING) includes a classification for rural residences have LAeq noise levels 5 dB lower than for Suburban receivers.

Section 3.7 of the NIA identifies that VLAMP does not apply to modification of the existing development thereby leading to consideration of the matter of residual noise impacts noise levels above the project specific noise targets. Table 3.16 is extracted from the NPfI (Table 4.1). The NIA failed to include receiver-based treatments to mitigate residual noise impacts (Table 4.2 in the NPfI) which certainly would be a solution if the NIA had followed the title of the document and assessed the noise impact from the subject site to then identify the necessity for noise control measures.

Noise Predictions

The NIA relies upon the use of an outdated computer noise monitoring program, identified as ENM.

ENM was a DOS Based program used in the 1980s to which at that time it was endorsed by the EPA but to my knowledge has not been used by creditable acoustical consultants for many years.

The author of ENM (Dr Renzo Tonin) has for the last 20 years been using for matters before the Court different computer prediction models such as Soundplan, Cadna, and INoise (a recent free version of Predictor/Lima).

In relation to computer modelling there is an absolute reliance upon accurate input data. A number of appendices to the acoustic assessment provide extensive tables of noise sources and dB(A) levels, together with predicted outputs. However, that material cannot be checked or validated with respect to the predicted levels unless the resultant program inputs are provided and one can find an old computer with an operating system upon which ENM would operate.

With respect to the new proposal, the basis of operations of the quarry and road network, upon which it is claimed there are existing noise levels to identify the extent and magnitude of noise impacted by the current and proposed operations, has not been substantiated.

It is not uncommon in such matters before the Land & Environment Court for the computer model to be interrogated. Examples where a review of the computer model has found significant discrepancies that affect the acoustic predictions occurred in *CJ Corporation Pty Ltd v Canterbury Bankstown Council* [2020] NSWLEC 1431 and *UGL Rail Pty Ltd v Wilkinson Murry Pty Ltd* [2013] NSWSC 1959.

On my view of the acoustic assessment, a reasonable could form the view the NIA has been crafted specifically in terms of an obscure interpretation of Chapter 6 of the NPfI, has deliberately avoided identification of the existing conditions of consent and the disturbances that been identified by the community specifically in relation to the truck movements through Paterson.

In the Expansion EIS the material presented in relation to truck movements followed a similar approach of misrepresenting the factual situation and seeking to present base data that related to operations that were non-compliant with the original consent.

The current application has expanded upon the truck movement concept presented in the Expansion EIS and has not presented the base truck movements that would be required under the current development consent and Orders of the court.

The transport of quarried material from the site by road gives rise to acoustic impacts to the extent that there is proposed to have a new exit road from the quarry. However, the quarry trucks passing through Paterson have been identified by residents of Patterson to give rise to significant noise and vibration disturbance.

The NIA does not provide sufficient details in terms of road traffic operations with respect to the subject quarry and presents traffic data averaged over a number of years.

I am advised that following the various court matters and restrictions placed upon the operation of the quarry that the quarry was shut down for a period of time. Therefore, there is the possibility that some of the quarry traffic data includes periods in which the quarry was not operating.

As the Expansion EIS was not increasing rail movements then there was no assessment of those operations with respect to noise levels.

In the Land and Environment Court Class 4 proceedings it was identified that noise from the quarry operations gave rise to breaches of the development consent and the noise contours presented in the NIA for the Expansion EIS quantified the breaches of the existing consent.

Taking into account the 1990 EIS and the existing Council consent one could view the application as in effect a new development by reason of the significant changes and a substantial increase in the output of the quarry both in terms of rail and road movements (compared to the existing consent). On that basis the acoustic assessment should have considered the application as a new development thereby utilising the general criteria set out in the NPfl.

Section 5.1 of the NIA provides a series of tables and contours that show breaches of the nominated noise targets,

As noted above, the NIA did not assess the noise impact that residents will receive, nor qualified what would have occurred if the development was operating in accordance with its approved consent.

What is missing from the NIA (and is required) is:

- identification of the predicted noise levels of the approved operations (re-the 1990 EIS),
- the current/existing illegal operations, and
- a comparison of the proposed operations into the future.

The additional material should be in a series of noise contours and tables of noise contributions.

Such material would identify the nature of the approved operations versus the current operations, versus the predicted operations, to which the NIA could identify what noise impacts the community will experience.

Similarly, there are issues in relation to the predicted noise levels associated with traffic where the NIA has not identified the existing conditions of consent and utilises a basis of existing traffic conditions as a result of the quarry operations with the full understanding that the quarry is not operating in accordance with its consent.

This was critical issue in the Class 4 proceedings where the same approach was taken by RCA Acoustics who also conveniently forgot to consider the actual consent for the quarry and the significant intensification that occurred after the quarry was purchased by new owners and therefore resulted in excessive noise and illegal operations.

It is strange that having gone through the process of identifying the need to consider residual impacts that Section 7 of the NIA does not identify the number of houses for each of the area classifications, that under the NPfI should be subject to noise controls.

The second paragraph in Section 7 identifies that the assessment has purportedly evaluated the existing development but fails to identify the consent that applied to the development prior to the current operator's intensification on or after 2012.

By including noise from the existing operations, that identified in the NIA is exceeding the amenity noise targets and influencing the background levels then the assessment in Section 7.1 does not identify the true impact the proposed development because it is not expressed in terms of true ambient background level if the site was operating in accordance with its existing Council consent.

The note to Table 7.2 for the new access road suggests the material in Table 7.2 does not truly reflect the residual impact that would occur for an is prior to the construction and use of the new access road.

With the residual impacts in Table 4.1 of the NPfI being based on a breach of the intrusiveness noise target, and then being assessed against cumulative industrial noise level versus the recommended amenity noise level, the residual impacts would appear to have issues in that the actual amenity noise level for the area from the approved operations (or the illegal existing operations) with respect to addressing the residual impact on the noise controls are required to be implemented to existing residential properties now and not some unsubstantiated predicted levels at some time in the future.

Conclusions

The NIA has failed to consider noise from the operation of the quarry with respect to the real ambient background level or identify the true ambient environment if the quarry was not operating so as to then place in context the acoustic impact generated by the subject quarry.

The NIA has not presented the background level in the absence of the quarry operations.

By not identifying the current consent conditions and the noise limits that flow on from those conditions then the NIA has failed to take into account what the legitimate operations would give rise to noise impacts for comparison with the proposed operations which on the basis of the acoustic assessment give rises to substantial and significant adverse acoustic impacts.

In relation to the provision of a submission to the Department there is an issue of using the Department's SEARS for the original EIS, and the Department not updating the SEAS to reflect new EPA criteria.

The NIA has used an out of date computer assessment program and has not provided the necessary material to quantify/substantiate the output of the program.

The NIA has failed to undertake a model of the existing operations or the approved operations, so to present that material for comparison.

I am unable to interrogate the acoustic predictions.

Bearing in mind the NIA identifies excessive noise and non-compliance with the incorrect noise targets, and has not provided the true background noise levels, then even if the predictions were correct the extent and magnitude of excessive noise has not been established.

The NIA has not identified the impact that residents currently experience and will experience in the future without the benefit of noise controls that should have been implemented in relation to the existing operations.

From my review of the NIA, it would appear that the NIA presents misleading and inaccurate information and has not addressed/assessed the actual acoustic impact or taken on board the responsibility of acousticians to protect the health and well-being of the community.

Yours faithfully,

THE ACOUSTIC GROUP PTY LTD



STEVEN E. COOPER

Attachment 4 – Council Endorsed Submission, 30 July 2021



DUNGOG SHIRE COUNCIL

All Communications to be address to:

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Ref: SSDA1; 21/10667

30 July 2021

Department of Planning, Industry and Environment
Locked Bag 5022
PARRAMATTA NSW 2124

By email: james.mcdonough@dpie.nsw.gov.au

Dear Mr McDonough

RE: MARTINS CREEK QUARRY PROJECT SSD-6612

I refer to your correspondence dated 3 June 2021, inviting comments on the Amendment Report and Response to Submissions for the Martins Creek Quarry Project (SSD-6612). Council's submission was endorsed by the elected Council at an Extraordinary Meeting held on 28 July 2021.

Please find attached a copy of Council's submission for your consideration. If you wish to discuss this matter further, please contact my office on 02 4995 7777.

Yours faithfully



Gareth Curtis
GENERAL MANAGER



John Connors
MAYOR



DUNGOG SHIRE COUNCIL

SUBMISSION TO AMENDED STATE SIGNIFICANT DEVELOPMENT 6612 – MARTINS CREEK QUARRY PROJECT

JULY 2021

Thank you for the opportunity to provide feedback on the amended Martins Creek Quarry Project. Correspondence to Council from the Department of Planning Industry and Environment (DPIE) dated 3 June 2021 invited both comments on the Amendment Report and Response to Submissions, as well as advice on recommended conditions. Dungog Shire Council staff have reviewed the Amended Report and Response to Submissions as well as the accompanying appendices and a Councilor workshop has been held to discuss the content of the application. As a result, Dungog Shire Council is of the view that the amended application is deficient in addressing the environmental, social and road network impacts and has engaged consultants to further review the adequacy of the noise and social impact assessments that were submitted with the application.

The Martins Creek Quarry proposal is unique in terms of its history and its location. Key features that are fundamental to Council's consideration of the impacts of the proposal include:

- The close proximity of rural residential dwellings to the proposed active pit;
- A haulage route that traverses a 50 km/hr residential local road network;
- The utilisation of a single lane timber bridge as part of the primary haul route;
- A haulage route that traverses through an active village centre that is also a heritage conservation area; and
- The availability of a rail siding

Given the above, Council is of the view that the proposal to transport 500,000 tpa of quarry product via Haul Road 1 will have significant impacts on the residents and the communities in the vicinity of the quarry and along the haul route. On this basis, Council cannot support the proposal in its current form and therefore is not in a position to provide recommended conditions at this time. Once the applicant has satisfactorily addressed all relevant issues through a further Response to Submissions document, then Council would be in a better position to assist DPIE with relevant conditions of consent. This approach has been discussed with the assessing officer from DPIE, who has confirmed with his supervisor that Council will be given an opportunity to provide further comment on the proposal and provide draft conditions following a further Response to Submissions report for the amended application.

Background

The lodgment of the amended State Significant Development Application (SSDA) for the operation of a hard rock quarry at Martins Creek has been informed by the public and private

submissions to the original SSSA but also the outcomes of numerous legal proceedings regarding the Quarry.

The existing Martins Creek Quarry is operating pursuant to a 1991 development consent. This consent is specifically defined via the Court of Appeal judgements as a quarry primarily for the winning of Railway Ballast. It is accepted that the current approved Martins Creek Quarry operations is a distinct type of development as opposed to a general hard rock quarry and therefore by virtue of its products and operations has reduced impacts on the environment and the community.

The 1991 development consent limited the area of extraction on the subject land and also via condition 6, limited the amount of quarry product which could be transported by road to 30% of the total product. From 2004 to 2012 the quarry was operated outside the terms of this development consent and this continued after the applicants acquired the quarry and until declarations and orders were made in 2019 defining the consent and restraining the breach of it.

Whilst the excessive truck movements in this period cannot be relied on as creating a base level of impact, they are relevant to show the impact of that volume of traffic on the community. They create a benchmark from which the impact can be assessed by the community.

Similarly the noise and dust emissions from production in breach of the 1991 consent cannot be relied as a base background noise and dust emission level but they do inform the community of the impact from those levels of production within lots 5 and 6.

The amended application seeks to focus on the reduction in the development activities from the original SSSA proposal and suggests these concessions make the development acceptable from an environmental and community perspective. The focus of the environmental assessment must be on the impacts of the proposed amended development on the environment and the community.

Section 1.4.1 of the Amended Report and Response to Submissions outlines what Daracon view to be the key parameters of the approved development as determined through the Land and Environment Court and the Court of Appeal. Their parameters are listed within the amended application document as follows:

- extraction primarily for the purposes of winning railway ballast
- extraction of rock from Lot 5 DP 242210 (in Western Lands) and not from Lot 6 DP 242210
- extraction of up to 500,000 tpa (effectively limited by the activities authorised by the EPL licence)
- continuing use rights for the Eastern Lands for the processing of material extracted from the Western Lands
- tertiary processing on the Eastern Lands of up to 449,000 tpa
- no limit on the number of trucks subject, provided that not greatly more than 30% of material per annum is transported by truck
- no limit on proposed haul route on public roads.

Having regard for the above, and the proposed amended development, Council considers that the proposal now incorporates the following:

- The proposal is for a new development application for a hard rock quarry and is not a modification or expansion of the previously approved quarry. The target resource comprises a high quality hard igneous rock suitable for concrete, aggregate, asphalt and sealing aggregate, ballast, gabion, rock fill, rock armour, road pavements, drainage and bulk fill operations. The existing approval was for extraction primarily for the purposes of winning railway ballast.
- The proposed development would result in approximately 22 hectares of additional land disturbance.
- Increased extraction from 500,000 tpa to 1.1 million tpa. This is an increase of 600,000 tpa, more than doubling current extraction.
- Up to 500,000 tpa is proposed to be transported by road. Under the current approval, road transport was restricted to 'not greatly more than 30% of material per annum' which equated to no more than 150,000 tpa based on a maximum extraction of 500,000 tpa.

Council's comments regarding specific aspects of the proposal and the Amendment Report and Response to Submissions are provided below.

Voluntary Planning Agreement

Council is not in receipt of any draft voluntary planning agreement, or any proposed contributions or actions for inclusion in such an agreement, for its consideration.

Traffic Impact Assessment and Pavement Condition Analysis

As the relevant Roads Authority for part of the haul route, Council is particularly concerned about the impacts of the proposal on the local road network. Council has undertaken a detailed review of the proposal based on a total exportation of 1.1M tonnes per annum, inclusive of a road haulage component of 500,000t per annum and the information provided within Appendix C – Traffic Impact Assessment and Appendix L – Pavement Condition Analysis.

In summary, the following issues have not been adequately addressed through the application:

- Increased deterioration of Council's Road Networks - up to 100% of all Class 9 Heavy Vehicles on Dungog Road south of the quarry will be generated by this development;
- Reduction in current pavement design lives;
- Increases in pavement rehabilitation costs due to increased traffic loadings;
- Insufficient detail and apparent underestimation of costs for Capital Works at intersections as identified by the applicant;
- Sight distance may be an issue at the proposed intersection of the internal haul route with Dungog Road;
- Lack of information with respect to calculation of haul road contributions and inadequate haul road contributions;
- Several sections of the haul route (including Dungog Road and Gresford Road) have extremely poor surface conditions which will require immediate rehabilitation / reconstruction;
- Matters arising from the over-dimension access route (separate from the Haul Route) have not been identified nor discussed within the reports;

- Inadequate responses to a number of road access and safety concerns including:-
 - The intersection of Grace Avenue/Station Street/Rail Crossing - This intersection has been identified by both Council and the ARTC as requiring safety upgrades. Lack of available funding from the ARTC is the only reason works have not been undertaken. Whilst this intersection and crossing is projected to be abandoned within four (4) years as far as being part of the identified haul route is concerned, no consideration is given to interim measures;
 - The rehabilitation/reconstruction of Station Street which continues to be significantly impacted by the Martins Creek Quarry operations;
 - Paterson Rail Crossing - Congestion on the northern side of the crossing is already problematic with respect to the blind crest on the approach to the crossing. The need for advanced warning for a closed rail crossing has not been adequately addressed;
 - The narrow section of Duke Street and site distance issues at the Prince Street and Duke Street intersection;
 - Pedestrian Safety - Crossings of King and Duke Streets for pedestrian safety has not been adequately addressed;
 - Gostwyck Bridge Single Lane - Whilst the RMS have identified that the bridge can meet load standards, the alignment and lack of sight distance for traffic to “Give Way” is an ongoing concern;
 - Pavement Widths - Some sections of the identified haul routes have insufficient pavement widths for the design traffic loadings. Rehabilitation costs identified within the reports do not allow for required width increases;
 - Clear Zones - There is insufficient shoulder widths and clearzones on considerable lengths of the identified haul routes. Rehabilitation costs identified within the reports do not allow for required shoulder increases or clearzone creation;
 - Overtaking Areas - Whilst the reports identify the lack of suitable overtaking areas, no consideration is made to provide such;
 - Flood Free Access - The main haul route through Paterson has three (3) identified areas where flooding occurs. Alternate flood free access or quarry processes in times of flood have not been addressed;
- Increased whole of life cost for Haul Route 1 has not been sufficiently addressed due to:-
 - Insufficient detail being provided for the scenarios and treatment types and locations utilised to identify future works on Haul Route 1 over the next 25 years;
 - The exclusion of improvements relating to pavement width, sealing unsealed shoulders, drainage improvements, intersection improvements and geometry improvements as it has been assumed these would be done regardless of Quarry Traffic. This is not supported as traffic generated by the Quarry is a significant factor for these improvements;
 - The calculated increase in cost (\$0.017/t/km or \$110,367pa) is significantly less than the figure identified in Council’s Contributions Plan for Heavy Haulage Generated by Extractive Industries 2017 (\$0.054/t/km or \$344,250pa). It is therefore Council’s position that insufficient detail has been provided to support the predicted extra cost for maintenance and rehabilitation of Haul Route 1. If approved based on the documents provided, this will leave a predicted shortfall

in contributions of almost \$234,000 per annum which will need to be funded by Council's ratepayers and tax payers.

Council's detailed comments and assessment of the Traffic Impact Assessment and Pavement Condition Analysis are included as annexures to this submission.

However, it is Council's view that the community should not be subjected to increased impacts as a result of road haulage and therefore it is Council's position that road haulage associated with the future quarry operations should not exceed 150,000tpa. This is based on 500,000 tpa being the current maximum extraction permitted under the Environment Protection Licence and not more than 30% of that being hauled by road. Further, on the basis of a maximum haulage by road of 150,000 tpa, the maximum truck movements per day should be restricted to 60 (30 Loaded).

Planning Instruments and Strategies

Council understands that the Department will have due regard in their assessment to the relevant Environmental Planning Instruments, specifically Dungog LEP 2014 and its aims and objectives as well as other strategic planning documents that regulate and inform the future development of the Dungog LGA.

Noise Impact Assessment

The noise impacts both within the project area and generated offsite e.g. on the road network, are a major source of concern to Council and residents. Due to the critical nature of this aspect of the application Council has engaged a recognised Acoustic Consultant to review the Noise Impact Assessment (NIA) which forms part of the Amended Report and Response to Submissions. Council is particularly concerned as to how the NIA has determined background noise levels given the history of unlawful operations at the quarry. The outcome of the peer review will be forwarded to DPIE as soon as possible.

Air Quality Impact Assessment

Council's submission to the original proposal requested that the impacts of road dust and diesel emissions on the residents of Paterson (and other residential communities adjacent to transport routes) be addressed. It is noted in the response to submissions that these elements have been included in the Air Quality Impact Assessment.

The Air Quality Impact Assessment concludes that the Revised Project can proceed without causing adverse air quality impacts at private sensitive receptors, although the experience of a number of residents differs from this conclusion. As Council does not have specialist staff who can verify the assumptions used in the modelling nor the methodology of the Air Quality Impact Assessment, it is requested that DPIE ensure that the current Air Quality Impact Assessment is thoroughly reviewed and assessed by NSW Health and the NSW Environment Protection Authority having regard to both potential health and environmental impacts of the quarry.

Blasting

The information submitted with the application suggests that blasting at Martins Creek Quarry has demonstrated compliance with relevant assessment criteria and that the blast criteria can also be achieved for the proposed project. However, the lived experience for a number of residents is that blasting does cause detrimental impacts. These include excessive noise and vibration, which they believe has caused their dwellings and outbuildings to be structurally compromised. Should the development proceed, these impacts would need to be managed through compliance with the relevant blasting criteria and by establishing baseline information on the condition of buildings and structures on private property to enable claims of property damage to be investigated.

Groundwater Impact Assessment and Surface Water Impact Assessment

Council does not have the expertise to provide technical feedback in relation to groundwater impacts. Council requests that the Groundwater Impact Assessment be assessed by DPIE – Water and the Natural Resource Access Regulator (NRAR) having regard to the proposed amendments, current legislative requirements and the previous comments provided by NSW Department of Industry dated 24 November 2016 in response to the original SSDA.

In terms of surface water, Council understands that the discharge of waste waters will be controlled under an Environmental Protection License (EPL). Consideration should also be given to whether the proposed development would have any impact on the Lower Hunter Water Plan that is currently under review.

Biodiversity and Offset Assessments

The proposed development would result in the disturbance of an additional 21-22 ha (approximately) of native vegetation from within the Project Area. Dungog Council does not have an ecologist on staff to review the Biodiversity Assessment Report and therefore will rely on the Biodiversity and Conservation Division of the Environment, Energy and Science (EES) Group of DPIE to determine the adequacy of the assessment reports that have been submitted.

However, Council remains concerned that the proposed development has been identified as being likely to have a significant impact on the threatened Koala and Slaty Red Gum. Further, as detailed in Council's submission regarding the original project, the extent of native vegetation disturbance is only based on the areas outside of the existing operational quarry footprint (page 17 of the Biodiversity Assessment Report). Therefore, the cleared lands within Lot 6 DP244210 which is the result of previous unlawful quarry operations have not been considered in any biodiversity impacts.

In relation to the Koala, the report states that under State Environmental Planning Policy (Koala Habitat Protection) 2020, the site is likely to contain Core Koala Habitat as a resident population of the Koala is considered to be present. The report proceeds to recommend that should the project be approved, a Management Plan should be prepared to provide measures for the management of Koalas on site, in keeping with the intent of the SEPP. This recommendation does not appear to have been carried over into the Amended Development Application and Response to Submissions document, nor any of the specific mitigation measures for the proposal. Council is of the view that a plan of management (or equivalent)

for the protection of koala habitat should be prepared in accordance with the guidelines accompanying the SEPP.

In terms of impacts on other threatened species, it is noted that the Biodiversity Offset Strategy indicates the potential for biodiversity offset sites totalling 58.35 hectares to be established within the vicinity of the quarry. This would generate species credits for the following threatened species:

- Slaty Red Gum (*Eucalyptus glaucina*)
- Brush-tailed Phascogale (*Phascogale tapoatafa*)
- Koala (*Phascolarctos cinereus*)
- Southern Myotis (*Myotis macropus*)

Should the project go ahead, Council would encourage the use of local offset sites in the first instance to ensure that local biodiversity and habitat areas are retained within the Shire.

Visual Impact, Rehabilitation and Final Landform

Section 6.17 of the amended report addresses visual amenity, while Section 6.19 addresses the rehabilitation and final landform. Both of these utilise a series of cross sections in an attempt to illustrate the visual impact of the quarry during operations and following rehabilitation. The cross sections provided are ineffective and do not provide a clear representation of the visual impact of the proposal. A series of photomontages should be provided to assist in assessing the visual impact of the proposal and the proposed final landform.

Heritage Impact Statement

Council's submission to the original application noted insufficient consideration of physical works and increased truck movements within the Paterson Heritage Conservation Area as well as potential impacts on various heritage items along the haul route. It is noted that a revised Heritage Impact Statement has been prepared, which considers these issues.

Council remains concerned about the impacts of heavy truck movements through Paterson and the impact that this may have on the character of the Heritage Conservation area and its impact on residents, tourists and visitors.

Rail Logistics

As Council does not support any increased road haulage of quarry products, it is requested that the Rail Logistics Options Report be reviewed by a suitably qualified and independent professional to identify where there can be an increased use of rail in transporting quarry products.

Social Impact Assessment

The Social Impact Assessment prepared by Umwelt is an extensive technical document that is some 360 + pages. The applicant was required as part of the previous response to submissions document to undertake more community consultation to better inform the revised Social Impact Assessment. This assessment remains one if not the most controversial component of the application, Council still has significant concerns regarding the rankings and

findings within the revised SIA and require additional technical advice before providing informed commentary on this crucial aspect of the amended application.

Once a comprehensive review has been finalised comments relating to the revised SIA will be forwarded to the Department in tandem with the independent assessment of the Acoustic Report.

Economics Impact Assessment

The Report describes the financial merits of the Revised Project, including the benefits to Daracon and the community by way of increased economic activity (new jobs, direct and indirect expenditures).

The Report also quantifies the estimated benefits to the State and Commonwealth governments in terms of additional tax revenues, which are typical of such projects.

Daracon advises on page 14 of the Economic Impact Assessment that the Revised Project will incur no additional public infrastructure costs over the lifetime of the project. This declaration is very difficult to reconcile with the road deterioration results observed elsewhere in the Shire and State with similar scaled projects. The same applies to Daracon's statement that the Revised Project will incur no loss of surplus to other industries (to other sectors such as retail and tourism). This claim is unsupported and should therefore not be accepted.

Contrary to these assertions, Council considers there is a strong probability that the Revised Project would create significant direct and indirect costs to the Shire over its lifetime, and that the character of the Martins Creek and Paterson communities would be impacted, most likely affecting several sectors such as retail and hospitality/tourism.

While the Revised Project may offer some economic benefits in terms of employment opportunities for local residents and regional suppliers (fuel, fleet maintenance costs, other purchases) these are limited, Council is concerned that the costs associated with its operation may be significant, not only from a financial basis for Council but from a social and economic perspective for affected residents and local businesses.

Conclusion

Council requests that the matters outlined in the submission are taken into consideration and addressed during the preparation of the response to submissions report by the applicant and the subsequent assessment of the application by DPIE. Should DPIE form the view that it is in a position to refer the application to the Independent Planning Commission (IPC) with a recommendation for approval, then Council respectfully requests that DPIE engage further with Dungog Shire Council prior to finalising any conditions of consent. This further consultation is necessary to ensure all aspects of the final development recommended for determination adequately address the concerns of the local community and establish a consent regime which mitigates/ameliorates any negative environmental, social and financial impacts.

Annexure A- Review of Traffic Impact Assessment

DUNGOG SHIRE COUNCIL

**REVIEW OF TRAFFIC IMPACT ASSESSMENT
(SECA SOLUTIONS – MAY 2021)**

FOR

**MARTINS CREEK QUARRY UPDATED PROJECT
MARTINS CREEK NSW**

SUMMARY

It is the opinion of the writer that there are a number of issues with respect to the Traffic Impact Assessment that have not been adequately addressed. These include:-

- Road Safety issues including:-
 - The Station Street/Grace Avenue/Rail Crossing intersection;
 - The lack of site distance and congestion associated with the Paterson Rail Crossing;
 - The single lane Gostwyck Bridge approaches, site distance and traffic management;
 - Flood prone sections (3) of the identified Haul Route;
 - Passive transport (walking/cycling)
- Parking and traffic conflict in Paterson;
- Current roadwork requirements and ongoing rehabilitation works;
- Some statements and assumptions are erroneous with respect to Council's position regarding current and proposed works for the proposed haul routes;

Report Commentary:-

The EIS is supported by a Traffic and Access Assessment prepared by SECA Solution Pty Ltd. Information from this assessment that is relevant to the Dungog LGA relates primarily to the proposed Haulage Route 1. It is proposed that up to 500,000 tonnes of extracted material will be removed from the site via road haulage.

The maximum daily truck movements have been identified as 280 (140 Loaded) for up to 50 days per annum with the residual movements being restricted to 200 (100 Loaded) for remainder of year. It is further noted that there will be no transport on Saturday, Sunday or Public Holidays. This does not, however, does not necessarily take into account the expected haulage of other resources (flyash, quarry equipment, etc) into the quarry.

The report further identifies that the maximum hourly truck movements will be 40 (20 laden) and it is expected that market demands will require the majority of product to leave the quarry early in the day for delivery ie between 7.00am – 9.00am. Truck movements would be expected to then drop off significantly after 11.00am and further again after 3.00pm. It is noted that the morning peak times will conflict with commuter traffic and school buses.

1. Introduction

The report utilises the following proposed criteria:-

Total Maximum Annual Extraction	1.1 million tonnes
Maximum annual export by Road	500,000 tonnes
Maximum Daily Truck Movements	280 (140 Loaded) for up to 50 days 200 (100 Loaded) for remainder of year
No transport on Saturday, Sunday or Public Holiday	

2. Existing Traffic Conditions

The report identifies the major haul route as being MR101 through from Grace Avenue to Bolwarra. The report has the following issues identified:-

- Lack of consideration given to sight distance for laden trucks coming on to Gostwyck Bridge (single lane timber bridge);
- Highlights the need for vehicle entering the King/Duke Street intersection in Paterson *“to slow down and large vehicles e.g. semi-trailer or truck and dog combination are required to use all of the provided road pavement width to complete the turn within their lane”*.
- Highlights the lack of shoulders and formed verges along the haulage route;
- Highlights the possible conflict due to the number accesses to private rural holdings;
- Highlights that there are no overtaking lanes provided along the route;
- Only limited reference is made to the haulage of over-dimension vehicles along MR301 and MR101. These include over width and overmass vehicles which cannot access via Gostwyck Bridge. At present these movements are occurring at a rate of more than one per month;

Currently Planned Roadworks

Roadworks – It is stated that *“there are no planned road upgrades within the general vicinity of the Quarry site or along Haul Route 1”*. This is not correct. What was discussed was Council’s 4 year Delivery Program which did not identify works in the short term. I note, however, that there are considerable sections of the Haul Route that do require rehabilitation/reconstruction works. These include Station Street (which will continue to be utilised by the quarry for at least 4 years), Gresford Road, King Street adjacent to the rail crossing, Maitland Road between Prince and Albert Street and rehabilitation of a section of Tocal Road.

Flood Prone Land

Flood Prone Land – It is stated that *“Daily traffic movements will vary due to market demands as well as weather conditions. It is expected that during heavy rain events or flood events, road haulage will slow down or, depending on the severity of the event, cease”*. This has certainly not been Council’s experience. Post the devastating 2015 floods, the quarry operated and transported considerable amounts of ballast along flooded roads around Paterson – some whilst the roads were still submerged. Whilst Council understands that emergency works are sometimes required, the lasting detrimental effects to the pavement and reduction in serviceable pavement lives needs to be considered.

Pedestrian and Cycling Facilities

Pedestrian and Cycling Facilities – I don’t believe the report gives enough consideration to the need for wider pavements south of the quarry to accommodate cyclists in the rural areas. For Road Reconstruction south of Martins Creek, it has been Council’s practice for at least the past 10 years to rebuild the roads to a 9m width being 2x3.5m lanes and 2x1.0m sealed shoulders.

Traffic Flows

- The report identifies tube counters being installed in the week beginning 28th April 2018 over 21 days. This is an improvement on the initial report which utilised data collected over only 7 days. The report does, however, provide very little detail of actual heavy vehicle movements other than in certain table 2.5.6. This table identifies overall increases in heavy vehicle movements based on quarry production compared to the overall number of heavy vehicles from Class 3 and above. The quarry traffic (Classes 9 & 10) have a much larger impact based on Equivalent Standard Axles (ESA's) than the average of the heavy vehicle movements.
- There is no traffic data for Station Street nor Grace Avenue. It is understood that this section of roadway will continue to be utilised as the primary access/egress for four (4) years. Load limits beyond the Quarry on Grace Avenue and in Station Street in its entirety would dictate that the >90% of all heavy vehicle movements in this area are quarry related. Station Street and Grace Avenue therefore require further analysis as the report does not take into consideration the heavy vehicle component of these roads especially along Station Street which is a very narrow street with no footpath, or kerb and gutter and in an extremely poor condition. The overwhelming bulk of traffic utilising this road is quarry related traffic;
- Table 2-2 identifies only overall vehicle movements and not the predominance of heavy vehicle traffic generated by the quarry especially along Dungog Road;
- The report makes several references to traffic volumes on the haul routes as being not related to the traffic operations associated with the Martins Creek Quarry. This is an unbalanced view of the data which identifies all traffic movements including light vehicles which have an almost nil effect on pavement design and/or fatigue.

Road Safety

The report identifies a number of safety concerns which have not been adequately addressed. These include:-

- Station Street/Grace Avenue intersection conflict with rail crossing. The report identifies that the *"ARTC has prepared plan for upgrade but no timeframe for works"*. This is contradicted later in the report (p52) which states that *"the railway crossing on Grace Avenue has been reviewed by ARTC and they have no plans to upgrade this crossing"*. In actual fact, this intersection was identified by the ARTC in 2012 as a safety concern. The ARTC expended significant funds on survey, design and estimating for the proposed rail crossing upgrade which included boom gates, etc. The reason the works did not proceed is that the ARTC had significantly underestimated the cost of the works and therefore requested Council fund the shortfall. As Council did not have any funds allocated for the works, the project was not undertaken. Based on road condition and safety, consideration should be given to ensuring construction of the new access road and intersection with Dungog Road be a requirement prior to any increased operation of the quarry approved by this application;
- One-way bridge operation on Dungog Road at Gostwyck Bridge. The report has identified that the *"RMS has stated that the current bridge can continue to operate as one-way"*. Council's issue is not with the capacity of the bridge (which is the RMS concern) but the lack of sight distance to the north and the increased potential for road accidents as a result of increased heavy vehicle movements;
- Bus Routes and Associated Facilities. The report identifies that there are local school bus routes in operation along the haul route but *there are no bus stops within the general locality of the subject site"*. There are, however, a number areas along the haul route where school buses pick-up and drop-off children at individual residences. These drop-off areas are not

necessarily clear of the through traffic lanes. Increased heavy vehicle movements will create increased safety concerns for these drop-off points. There are also issues with drop off points within the township of Paterson (Duke Street) without any defined crossing points;

- On-street Parking Provision - Whilst the issue of on-street parking adjacent to the site has been identified, the report does not fully consider the on-street parking issue and access to off-street parking within the Paterson Business Area as a result of the proposed intersection modification works at King and Duke Street;
- Vehicle Speeds - It is acknowledged that Daracon has put in processes to ensure their truck drivers obey speed limits. What is not identified is the speed some pinch points (ie King/Duke Street intersection in Paterson) are taken at resulting in Heavy Vehicles partially crossing to the incorrect side of the road to complete the manoeuvre

3. Proposed Development

- Only limited reference is made to the haulage of over-dimension vehicles along MR301 and MR101. These include over width and overmass vehicles which cannot access via Gostwyck Bridge. At present these movements are occurring at a rate of more than one per month;
- The report correctly identifies that visibility to the right for drivers exiting Station Street is impacted upon by the vertical alignment of the road over the rail crossing. The report then states that the visibility has been assessed as greater than 100m in both directions. This seems contradictory and may be based on *“the raised seating position for drivers of trucks”* which should not be considered under the standards;
- The level crossings in Martins Creek and Paterson are continually referred to as only causing minor traffic delays as *“there are just 5 trains per day per direction in this location”*. The rail crossings are, in fact, on the main northern rail line and as such service 5 local commuter trains (10 movements), 6 XPT services (6 movements) and numerous coal and freight services;
- Limited reference is made to the lack of sight distance on the northern side of the Paterson level crossing nor the conflict that may occur due to queueing vehicles at that location.

4. Transportation Analysis

- It is understood that the exported product will utilise imported materials (such as flyash) and then blended on site for exportation. The traffic generation does not appear to have been taken into account on the overall heavy vehicle movements generated by the proposed development;
- Heavy Vehicle Flows - The report identifies in Table 2-14 a summary of the heavy vehicle flows along the transport route. Based on this data, the following table indicates the overall increases in heavy vehicles on the various haul roads south of Martins Creek Quarry and the effect quarry production has on traffic volumes:-

Output	Basis	Laden Truck Movements per annum*	Unladen Truck Movements per annum*	Total Heavy Vehicle Movements per annum*
90,000	30% 300,000t	2,769	2,769	5,538
134,700	30% 490,000t	4,145	4,145	8,289
150,000	30% 500,000t	4,615	4,615	9,231
500,000	Proposal	15,385	15,385	30,769

Based on 32.5t Loads

Output	Basis	Laden Truck Movements per annum*	Unladen Truck Movements per annum*	Total Heavy Vehicle Movements per annum*
90,000	30% 300,000t	3,191	3,191	6,383
134,700	30% 490,000t	4,776	4,776	9,553
150,000	30% 500,000t	5,319	5,319	10,638
500,000	Proposal	17,730	17,730	35,460

Based on 81% @ 32.5t and 19% @ 11.66t

- The following tables identify the amount of Class 4 (3 axle truck) and Class 9 (6 axle articulated) vehicles on the various sections of Haul Route 1 as a result of Martins Creek Quarry operations in April/May 2018 based on the data in the SMEC Analysis (May 2021) as provided by the proponent.
- Assumptions are made that the average number of truck movements generated by the Martins Creek Quarry (section 3.4) are based on 5 days of haulage not a 7 day average. A reduced figure is therefore utilised based on this assumption.
- It is also assumed that this average can be extrapolated for the whole of year thus representing an approximate exportation of 500,000t per annum by road.

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 4 Vehicles - All	AADT Class 4 Vehicles - Martins Creek Quarry	AADT Class 4 Vehicles - NON Martins Creek Quarry	% of Class 4 Vehicles attributable to Martins Creek Quarry
Dungog Road	760	12	13	-1	100%
Gresford Road	1756	16	13	3	81%
Total Road	2395	17	13	4	76%

Class 4 Rigid Truck Movements – Proposed 500,000t/annum

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 9 Vehicles - All	AADT Class 9 Vehicles - Martins Creek Quarry	AADT Class 9 Vehicles - NON Martins Creek Quarry	% of Class 9 Vehicles attributable to Martins Creek Quarry
Dungog Road	760	48	48	0	100%
Gresford Road	1756	65	48	17	74%
Total Road	2395	51	48	3	94%

Class 9 – 6 Axle Articulated Truck Movements – Proposed 500,000t/annum

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 3 and above - All	AADT Class 3 and above - Martins Creek Quarry	AADT Class 3 and above - NON Martins Creek Quarry	% of all Heavy Vehicles attributable to Martins Creek Quarry
Dungog Road	760	99	61	38	62%
Gresford Road	1756	174	61	113	35%
Total Road	2395	160	61	99	38%

All Heavy Vehicle Movements (Class 3 and above) – Proposed 500,000t/annum

Again, based on the figures provided, the above tables show between 35% and 62% of all heavy vehicle movements on Haul Route 1 are attributable to the Martins Creek Quarry.

Further analysis of this data is provided in Council’s response to the Appendix L – SMEC Analysis Report.

5. Improvement Analysis

Section 5.1 of the Seca report suggests *“The Revised Project represents a reduction in the volume of quarry related trucks compared to historic operations and the Original Project as per the 2016 EIS.”*. Council does not agree with this statement. As above, the historic traffic volumes generated by the quarry occurred without valid development consent. Existing traffic generation for the quarry is limited under the existing approved limited operations under the Court of Appeal judgment delivered on 20 June 2019, being a maximum 134,700 tonnes per annum transported by road. Comparison to the 2016 proposal is also irrelevant as these volumes were never approved. The proposed development will significantly increase heavy vehicle movements on Council’s road network and the impacts of these vehicle movements must be addressed by the proponent.

The applicant has identified four (4) sites where they are proposing to undertake works being:-

- New Site Access Road and Dungog Road intersection – “by the end of year 4”
- Dungog Road and Gresford Road intersection CHR / AUL improvements – “within 12 months of the s138 Roads Act approval from Dungog Shire Council.”
- King Street and Duke Street intersection improvements (within the village of Paterson) to better cater for heavy vehicle movements – “within 12 months of the s138 Roads Act approval from Dungog Shire Council.”
- Gostwyck Bridge approach upgrade works – “within 12 months of the s138 Roads Act approval from Dungog Shire Council.”

The above does not provide any tangible timeframe for the construction of these works. As above, Council considers that these road works are necessary to cater for the proposed

development and should be constructed prior to any increased operation of the quarry approved by this application, at full cost to the applicant.

In addition to the above, a number of issues have been identified within the report without satisfactory response. These include:-

- Station Street/Grace Avenue intersection conflict with rail crossing. The report identifies that the *“ARTC has previously proposed an upgrade no timeframe for works”*. In actual fact, this intersection was identified by the ARTC in 2012 as a safety concern. The ARTC expended significant funds on survey, design and estimating for the proposed rail crossing upgrade which included boom gates, etc. The reason the works did not proceed is that the ARTC had significantly underestimated the cost of the works and therefore requested Council fund the shortfall. As Council did not have any funds allocated for the works, the project was not undertaken. This intersection will continue to be utilised by the proposed development for a further four (4) years at an increased heavy haulage movement rate;
- One-way bridge operation on Dungog Road at Gostwyck Bridge. The report has identified that the *“RMS has stated that the current bridge can continue to operate as one-way”*. The bridge is unlikely to be replaced as it is heritage listed. Again, Council’s issue is not with the capacity of the bridge (which is the RMS concern) but the lack of sight distance to the north and the increased potential for road accidents as a result of increased heavy vehicle movements.
- Lack of road shoulders - not addressed.
- Existing Pavement Issues - not addressed.
- Prince Street/Duke Street Intersection - The poor road alignment (horizontal and vertical) and narrow pavement widths have not been addressed.

6. Summary

It is agreed that the identified upgrade works should be undertaken as a condition of consent for the proposed development. The upgrades being determined on the level of transport that is taken from the quarry by road. These would include:-

Option 1: Preferred Option – Application, if approved, based on:-

- 1.1M tonnes total annual production;
- No more than 150,000t exported by road/annum.

Minimum Conditions to be Applied:-

- *Maximum haulage by road of 150,000 tonnes per annum;*
- *Maximum truck movements per day be restricted to restricted to 60 (30 Loaded);*
- *Road Haulage Contributions be based on Dungog Shire Councils Contributions Plan for Heavy Haulage Generated by Extractive Industries 2017 @ \$0.054c/t/km;*
- *The following Road Works are required to be constructed to the satisfaction of Dungog Shire Council:-*
 - *Rehabilitation of the full length of Station Street in Martins Creek due to its use for up to four years as the primary haulage route;*
 - *Safety Improvements to the Station Street/Grace Avenue Rail Crossing as identified by the ARTC;*

- *Due to sight distance issues and increased truck and train movements, advanced warning flashing lights for the Paterson Railway Level Crossing are to be installed on both Gresford Road and Duke Street;*
- *In conjunction with TfNSW and Dungog Shire Council, identify and construct suitable crossing points for pedestrians in both King and Duke Streets in Paterson.*

Option 2: Not Supported Option – Application, if approved, based on:-

- 1.1M tonnes total annual production;
- 500,000t exported by road/annum.

Minimum Conditions to be Applied:-

- *Maximum haulage by road of 500,000 tonnes per annum;*
- *Maximum truck movements per day be restricted to 280 (140 Loaded) for up to 50 days per annum with the residual movements being restricted to 200 (100 Loaded) for remainder of year.*
- *Road Haulage Contributions be based on Dungog Shire Councils Contributions Plan for Heavy Haulage Generated by Extractive Industries 2017 @ \$0.054c/t/km;*
- *The following Road Works are required to be constructed to the satisfaction of Dungog Shire Council and trafficable prior to any increase in Road Haulage:-*
 - *New Site Access Road including the Dungog Road intersection;*
 - *Dungog Road and Gresford Road intersection CHR / AUL improvements;*
 - *King Street and Duke Street intersection improvements (within the village of Paterson) to better cater for heavy vehicle movements;*
 - *Gostwyck Bridge duplication and associated approach upgrade works.*
- *The following Road Works are required to be constructed to the satisfaction of Dungog Shire Council within 12 months of the completion of the new Site Access Road:-*
 - *Rehabilitation of the full length of Station Street in Martins Creek due to its use for up to four years as the primary haulage route;*
 - *Safety Improvements to the Station Street/Grace Avenue Rail Crossing as identified by the ARTC;*
 - *Due to sight distance issues and increased truck and train movements, advanced warning flashing lights for the Paterson Railway Level Crossing are to be installed on both Gresford Road and Duke Street;*
 - *In conjunction with TfNSW and Dungog Shire Council, identify and construct suitable crossing points for pedestrians in both King and Duke Streets in Paterson.*

Council considers that these road works are necessary to cater for the proposed development and should be constructed prior to any increased operation of the quarry being approved by this application, at full cost to the applicant.

Council does have concerns with respect to road capacity and safety and has:-

- Identified a number of key safety concerns which are mentioned throughout the report;
- Identified within both its Delivery Programme and Operational Plans, works along MR101 subject to funding availability;
- Identified and received funding for three (3) separate Black Spot projects along the proposed haul routes in recent years;

- Undertaken pavement widening and upgrade works at the Maitland LGA Boundary. These works also included widening of the pavement, guardrail installation, the used of a painted median and a reduction in the speed limit to address safety and speeding concerns at this location;

The Traffic Impact Assessment also fails to take into consideration the issue of the major haul route being flood prone in at least three (3) separate locations within the Dungog LGA. These areas have all been cut on average once per annum over the past 10 years. During the catastrophic April 2015 event, Martins Creek Quarry was called upon to provide rail ballast for emergency railway maintenance. This resulted in the quarry utilising the haul routes whilst they were still inundated by flood waters. This has had a longer term detrimental effect on these roads and alternate flood free access needs to be considered as part of this process.

DUNGOG SHIRE COUNCIL

REVIEW OF MARTINS CREEK HAUL ROUTES

**ANALYSIS OF FUTURE PAVEMENT MAINTENANCE REQUIREMENTS RESULTING FROM A
PROPOSED INCREASE IN QUARRY TRUCK TRAFFIC**

(SMEC AUSTRALIA - MAY 2021)

FOR

**MARTINS CREEK QUARRY UPDATED PROJECT
MARTINS CREEK NSW**

SUMMARY

1. Whilst it is understood that modelling has been undertaken utilising SMEC's Pavement Management System which utilises International Standards, condition ratings are only "indicators" of pavement condition.
2. There is insufficient evidence within the report (ie. Works Programmes, rehabilitation requirements and methodologies, reseal frequencies, existing pavement characteristics, etc) to either quantify or justify the predictions as regards 25 year funding requirements for both current and predicted traffic;
3. There are assumptions being made with respect to pavement material qualities, geotechnical issues, etc;
4. The report does not give consideration to extra works required for pavement widening for increased pavement life and traffic safety;
5. Due to the report being based on maintaining "road pavements at their current condition level" for the next 25 years. There is no consideration made for service level increases or improvements that would be expected to pavement conditions especially in the village of Paterson and narrow sections of Dungog Road and Gresford Road;
6. The projected annual funding increase of \$110,367pa (\$0.017/t/km) is significantly less than the figure identified in Council's Contributions Plan for Heavy Haulage Generated by Extractive Industries 2017 being \$344,250pa (\$0.054/t/km)and, as such, does not adequately address the overall effect of Heavy Vehicle movements generated by the proposal.

Commentary:-

Background

The premise of this commentary is the submission of the applicant equating to 140 loaded trucks per day (280 movements) and the following:-

- Product haulage from the Martins Creek Quarry along Haulage Route 1 of 500,000 tonnes per annum;
- A maximum of 140 laden (280 movements) per day, 5 days per week for up to 50 days per annum;
- A maximum of 100 laden (200 movements) per day, 5 days per week for the residual of the year;
- Payloads of 32.5 tonnes;
- Dungog Shire Road length of 12.75km;
- Equivalent Standard Axle Loads (ESA) - Laden Truck/Dogs 6.8 ESA's and Rigid Trucks 3.07 ESA's;
- A proportion of 81% for Truck & Dog movements and 19% for Rigid Truck movements;

Notes:-

- It is noted that in actual practice (as detailed on p18 of the report) payloads of up to 34.14t for Truck and Dog laden movement (7.3 ESA's) and 14.9t for Rigid Trucks (3.6 ESA's) can be expected;
- The assumption that the percentage of movements for an increased freight task of almost 3.5 times the maximum current approved exportation does not, in the writer's opinion, appear

to be what would be expected by such an increase. Expectations would be that increased production would generate more truck and dog movements for road base type products;

- The modelling has not taken into account Unladen Trucks (ie 1.1 ESA's) or a further 19,503 total ESA's per annum. This alone represents a misrepresentation of over 15%;
- The modelling also does not take into account product being delivered to the quarry (eg flyash) or other Heavy Vehicle movements for the delivery of plant and equipment;

Modelling Scenarios

Heavy Vehicle Flows - The report identifies in Table 3-1 a summary of the heavy vehicle flows along the transport route. Based on this data, the following table indicates the overall increases in heavy vehicles on the various haul roads south of Martins Creek Quarry and the effect quarry production has on traffic volumes:-

Output	Basis	Laden Truck Movements per annum*	Unladen Truck Movements per annum*	Total Heavy Vehicle Movements per annum*
90,000	30% 300,000t	2,769	2,769	5,538
134,700	30% 490,000t	4,145	4,145	8,289
150,000	30% 500,000t	4,615	4,615	9,231
500,000	Proposal	15,385	15,385	30,769

Based on 32.5t Loads

Output	Basis	Laden Truck Movements per annum*	Unladen Truck Movements per annum*	Total Heavy Vehicle Movements per annum*
90,000	30% 300,000t	3,191	3,191	6,383
134,700	30% 490,000t	4,776	4,776	9,553
150,000	30% 500,000t	5,319	5,319	10,638
500,000	Proposal	17,730	17,730	35,460

Based on 81% @ 32.5t and 19% @ 11.66t

- The following tables identify the amount of Class 4 (3 axle truck) and Class 9 (6 axle articulated) vehicles on the various sections of Haul Route 1 as a result of Martins Creek Quarry operations in April/May 2018 based on the data in the SMEC Analysis (May 2021);
- Assumptions are made that the average number of truck movements generated by the Martins Creek Quarry (section 3.4) are based on 5 days of haulage not a 7 day average. A reduced figure is therefore utilised based on this assumption.

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 4 Vehicles - All	AADT Class 4 Vehicles - Martins Creek Quarry	AADT Class 4 Vehicles - NON Martins Creek Quarry	% of Class 4 Vehicles attributable to Martins Creek Quarry
Dungog Road	760	12	13	-1	100%
Gresford Road	1756	16	13	3	81%
Total Road	2395	17	13	4	76%

Class 4 Rigid Truck Movements

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 9 Vehicles - All	AADT Class 9 Vehicles - Martins Creek Quarry	AADT Class 9 Vehicles - NON Martins Creek Quarry	% of Class 9 Vehicles attributable to Martins Creek Quarry
Dungog Road	760	48	48	0	100%
Gresford Road	1756	65	48	17	74%
Total Road	2395	51	48	3	94%

Class 9 – 6 Axle Articulated Truck Movements

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 3 and above - All	AADT Class 3 and above - Martins Creek Quarry	AADT Class 3 and above - NON Martins Creek Quarry	% of all Heavy Vehicles attributable to Martins Creek Quarry
Dungog Road	760	99	61	38	62%
Gresford Road	1756	174	61	113	35%
Total Road	2395	160	61	99	38%

All Heavy Vehicle Movements (Class 3 and above)

The above tables indicate that between 35% and 62% of all heavy vehicle movements on Haul Route 1 are attributable to the Martins Creek Quarry. It should be noted that:-

- The above tables are based on production outputs from April/May 2018;
- The average daily production outputs being 67.7 Truck & Dogs and 18.7 Rigid Trucks. Interpolation of average loads would indicate a daily output of 2,384t or an annual output of approximately 620,000t per annum.

Based on the current proposal, this would revert to:-

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 4 Vehicles - All	AADT Class 4 Vehicles - Martins Creek Quarry	AADT Class 4 Vehicles - NON Martins Creek Quarry	% of Class 4 Vehicles attributable to Martins Creek Quarry
Dungog Road	760	9	9	0	100%
Gresford Road	1756	12	9	3	75%
Total Road	2395	13	9	4	69%

Class 4 Rigid Truck Movements

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 4 Vehicles - All	AADT Class 4 Vehicles - Martins Creek Quarry	AADT Class 4 Vehicles - NON Martins Creek Quarry	% of Class 4 Vehicles attributable to Martins Creek Quarry
Dungog Road	760	9	9	0	100%
Gresford Road	1756	12	9	3	75%
Total Road	2395	13	9	4	69%

Class 9 – 6 Axle Articulated Truck Movements

Location	AADT - All Vehicles - Southbound Traffic Only	AADT Class 3 and above - All	AADT Class 3 and above - Martins Creek Quarry	AADT Class 3 and above - NON Martins Creek Quarry	% of all Heavy Vehicles attributable to Martins Creek Quarry
Dungog Road	760	90	52	38	58%
Gresford Road	1756	165	52	113	32%
Total Road	2395	151	52	99	34%

All Heavy Vehicle Movements (Class 3 and above)

The above tables indicate that **between 32% and 58% of all heavy vehicle movements on the Haul Route 1 will be attributable to the Martins Creek Quarry** proposed operations. Further noting that no figures have been provided for Station Street or Grace Avenue in Martins Creek which will continue to be utilised by the Quarry for four (4) years.

Modelling Analysis & Treatments

There are significant estimates and assumptions being made with regards to the pavement details within Dungog Shire Council. These include, but are not limited to:-

- Existing pavement depths;
- The CBR of the existing pavements;
- The quality of existing pavements for stabilisation;
- Treatment options that can be utilised; and
- The report identifies that improvements relating to pavement width, sealing unsealed shoulders, drainage improvements, intersection improvements and geometry improvements are not included as it is assumed these would be done regardless of Quarry Traffic. I believe this assumption is flawed as significant increases in Heavy Vehicle movements associated with the quarry would certainly modify Council position with respect to pavement and sealed shoulder widths. This is the basis for Council's practice to rebuild/rehabilitate the road network south of Martins Creek Quarry to 9.0m (2 x 3.5m lanes and 2 x 1.0m shoulders) where the road north of the Quarry is only constructed to 8.0m (2 x 3.5m lanes and 2 x 0.5m shoulders).

Clarifications are also required for:-

- The "Level of Service" and design life was utilised for the calculations for pavement rehabilitation?;
- The sections of Dungog Road and Gresford Road where pavement widths are less than satisfactory. "As is" modelling would not take into account shoulder widening considerations to ensure predicted pavement lives for rehabilitation are achieved?;
- What considerations were made for the Urban section of Paterson as regards widths and processes for rehabilitation?;
- It is assumed figures in Table 6.5 are averaged and "peak" costs for rehabilitation are spread over a number of years. For example, Council has allocated \$797,000 for one 900m long section of Gresford Road alone. Where does this magnitude of figure show in the table?;
- There is no actual Works Programme provided in the report for a reader to quantify the assumptions made;

It is noted that Maitland Council's Unit Rates for treatment have been utilised (Section 6.3) for both Council's calculations. Further, the report also notes that Maitland Roads tend to be in better condition and have stronger pavements as compared to the Dungog Roads;

- In addition to the above, what factors have been applied to the unit rates from Maitland Council to compensate for the probability of increased pavement thicknesses works required to rehabilitate these poorer pavements?;
- What is the methodology utilised by Maitland as regards the rehabilitation calculation (flexible pavements, overlay depths, stabilisations, seal types, etc)?

Road Contributions

It is noted, based on the identified SMEC Modelling Scenario, that an annual increase in funding of \$110,367 per annum is required.

As noted above, there is insufficient information to accurately assess the treatment scenarios and schedule of works identified in the modelling results and justification for this resulting analysis. Specifically, the scenario **excludes** improvements relating to pavement width, sealing unsealed shoulders, drainage improvements, intersection improvements and geometry improvements are not included as it is assumed by the proponent these would be done regardless of Quarry Traffic.

As shown in the previous Heavy Vehicle movement tables, 32% to 58% of all heavy vehicles and 69-100% of all larger (Class 4 and Class 9) Heavy Vehicles are directly attributable to the Martins Creek Quarry. This level of Heavy Vehicle traffic causes significant concerns for existing pavement lives and is the governing factor for pavement design. In addition, the safety aspects of such an increase in Heavy vehicle movements cannot be ignored. I would therefore suggest that widening and sealing of shoulders for improved pavement lives and safety is significantly attributable directly to the traffic generated by Martins Creek Quarry.

It is therefore Council's position that the identified increase in funding requirements for resurfacing and rehabilitation of \$110,367 per annum is significantly lower than the actual costs directly attributable to the traffic generation. Reference is made to Council's adopted Contributions Plan for Heavy Haulage Generated by Extractive Industries 2017. This document specifically identifies the cost for rehabilitation of the Rural Sub-Arterial Road Network based on the ESA's utilised for design. As such, this can then be extrapolated to identify a total cost per tonne per km for heavy vehicle haulage. This results in the following figures:-

- Heavy Vehicle Costs for 500,000t against No Quarry = \$110,367pa = \$0.017/t/km
- Council's identified Costs (Heavy Haulage Plan) = \$0.054/t/km
- Differential = \$0.037/t/km

It is therefore Council's position that the proposal falls well short of actual costs attributable to the Heavy Vehicle traffic movements generated by the Martins Creek Quarry and that Council's adopted Heavy Haulage Plan should be utilised for the calculation of these contributions. Further, the identified improvement works that have been put forward by the proponent should be treated as a condition of consent and not factored into the ongoing increased pavement rehabilitation and maintenance cost associated with the Martins Creek Quarry.