



Our Ref: 3838/GA/20170227

27 February 2017

Howard Reed
Director Resource Assessments
Department of Planning and Environment

Dear Howard

Re: Environmental Assessment - Proposed Modification to DA 250-09-01 – Old Northern Road Quarry, Maroota

Dixon Sand (Penrith) Pty Ltd (Dixon Sand) operates the Old Northern Road Quarry, a sand extraction and processing operation, located at Old Northern Road, Maroota (refer to **Figure 1**). The quarry has been in operation since the early 1980s with Dixon Sand operating the quarry since 1992. The site covers approximately 58.4 hectares and includes Lot 29 DP752025, Lot 196 DP752025, Lot 1 DP547255 and Lot 2 DP547255.

The quarry operates in accordance with development consent 250-09-01 issued by the Land and Environment Court in 2004. DA 250-09-01 has been subsequently modified on four occasions, most recently in 2015 under Section 75W of the *Environmental Planning and Assessment Act 1979*. The development consent allows for the extraction and processing of up to 495,000 tonnes of quarry products per annum.

A recent Department of Planning and Environment audit of the Old Northern Road Quarry has identified several non-compliances at the quarry, some of which were administrative non-compliances associated with changes in accepted management practice. Audit recommendations from the Department of Planning and Environment include, where appropriate, modifying conditions of consent to address some of these non-compliances. In order to bring the consent into line with current standards and current practice at the quarry, Dixon Sand proposes a number of minor modifications to the conditions of consent.

In addition to the proposed minor modifications to consent conditions described above, Dixon Sand is also seeking an extension to the life of the consent. Extraction at the site is occurring at a rate slower than anticipated in the original approval and significant reserves approved for extraction will still be present on site at the expiration of the consent in May 2022. Dixon Sand is seeking an extension of the consent by a further 20 years from 2022. No other change to existing approved operations is proposed, including no change to production rates, product transport rates, disturbance area, extraction area, quarry plans or infrastructure.

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1.0 Planning Context

Under Clause 8J of the *Environmental Planning and Assessment Regulation 2000*, a development consent for State significant development which was granted under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) before 1 August 2005 can only be modified under section 75W of the Act.

Although Part 3A (and section 75W) was repealed on 11 October 2011, the approved operations of the Old Northern Road Quarry remain a 'transitional Part 3A project' under Schedule 6A of the EP&A Act. The proposed modification is therefore sought under section 75W of the EP&A Act, in accordance with the relevant savings provisions.

2.0 Proposed Modification to Conditions of Consent

Table 1 sets out the proposed modifications to conditions of consent for DA 250-09-01, and provides a brief justification for the proposed changes.

Table 1 – Proposed Modifications to Conditions of Consent DA 250-09-01

Condition	Proposed Change	Comment
GENERAL		
1.5 This consent provides approval for quarry operations on the site until 24 May 2022 and for the: a) Continued use of processing facilities, haul roads, water management, weighbridge, offices, and associated infrastructure on site; b) Transport of extracted sand and concrete product to the site, and sand product from the site; and c) Decommissioning of equipment, rehabilitation and revegetation of the site, for a period of twenty-five (25) years from the commencement of the development consent for the Haerses Roads quarry (DA 165-7-2005).	1.5 This consent provides approval for quarry operations on the site until 24 May 2042 and for the: a) Continued use of processing facilities, haul roads, water management, weighbridge, offices, and associated infrastructure on site; b) Transport of extracted sand and concrete product to the site, and sand product from the site; and c) Decommissioning of equipment, rehabilitation and revegetation of the site, for a period of two years following the cessation of quarrying or a period equivalent to the approved life of the Haerses Roads quarry (DA 165-7-2005) (whichever is the latter).	Extraction within the approved Old Northern Road quarry has occurred at a rate slower than anticipated in the original consent documentation. At the end of the current consent life (24 May 2022), there will be significant resource approved for extraction remaining on site (approximately 16.6 million tonnes). Dixon Sand is seeking an extension of the life of the existing consent by 20 years to 2042 to allow for the extraction of this approved resource. An assessment of the potential impact of existing approved truck movements on the road network in 2042 has been completed and is summarised in Section 4.1 .
1.7 Processing of extracted sandstone on the site shall not exceed 1750 tonnes per day.	Delete condition.	The ONR consent (DA 250-09-01) includes conditions limiting both annual production (Condition 1.5) and daily truck movements at the site (Condition 3.30). It also has conditions limiting the hours of operation. In the context of Conditions 1.5 and 3.30, Condition 1.7 limiting daily production is considered unnecessarily restrictive and not necessary to effectively manage the impacts of the operation.
1.9 Where practicable, the Applicant shall provide all draft documents and reports required to be submitted to the Secretary under this consent in an appropriate electronic format. ... to minimise resource consumption.	Delete condition.	The provision of hard copy documents is no longer standard practice and the Department requests that documents be provided in electronic format. Dixon Sand requests that this condition be deleted, noting that Condition 1.11 requires electronic access to relevant information on the Dixon Sand website.
ENVIRONMENTAL PERFORMANCE		
3.11 Any topsoil removed during operations must be stockpiled for use in the rehabilitation of the site. Topsoil should not be mixed with other overburden products. The topsoil stockpile location should have easy access and be protected from erosion. The topsoil	Delete condition.	Sand extraction has been occurring on the ONR quarry site for around 26 years. Current operations are approved under DA 250-09-01, issued in 2004. There are topsoil stockpiles present on site that were

Condition	Proposed Change	Comment
<p>stockpiles shall be sown with appropriate vegetation to stabilise the soil if they are to be stored for longer than six months. Topsoil stockpiles must have a maximum depth of 1.5 metres.</p>		<p>established in 1994, prior to the issue of DA 250-09-01, and that are greater than 3 metres in height. These stockpiles are vegetated and stable; therefore it is not considered that a beneficial environmental outcome would be achieved by reworking them to comply with Condition 3.11. The existence of these stockpiles was identified in the recent DPE audit as a compliance issue, however, it is noted that they predate the current consent.</p> <p>Topsoil stripping, stockpiling and rehabilitation for current approved operations is managed in accordance with an approved Rehabilitation and Landscape Plan, a component plan of the Site Environmental Management Plan (ERM 2005). The Rehabilitation and Landscape Plan recommends limiting the height of topsoil stockpiles to 3 metres and revegetating with cover crops.</p> <p>Dixon Sand consider the Rehabilitation and Landscape Plan an appropriate mechanism to manage topsoil stripping and stockpiling practices into the future as it allows for revision of procedures to reflect current best practice. In this context, Condition 3.11 is not considered necessary.</p>

Condition	Proposed Change	Comment														
<p>3.12 The Applicant shall complete rehabilitation and revegetation works of extracted strips to a point requiring only ongoing monitoring and management before commencement of works on the extraction strip following the next strip in the extraction sequence. Strips 5 and 6 shall be rehabilitated before the end of the period of approval for extraction under condition 1.5. In this regard, strips shall be rehabilitated in the following sequence:</p> <table><tr><th>Strip to be rehabilitated</th><th>Before Event</th></tr><tr><td>1</td><td>Commencement of operations on strip 3</td></tr><tr><td>2</td><td>Commencement of operations on strip 4</td></tr><tr><td>3</td><td>Commencement of operations on strip 5</td></tr><tr><td>4</td><td>Commencement of operations on strip 6</td></tr><tr><td>5</td><td>End of period of approval (condition 1.5)</td></tr><tr><td>6</td><td>End of period of approval (condition 1.5)</td></tr></table>	Strip to be rehabilitated	Before Event	1	Commencement of operations on strip 3	2	Commencement of operations on strip 4	3	Commencement of operations on strip 5	4	Commencement of operations on strip 6	5	End of period of approval (condition 1.5)	6	End of period of approval (condition 1.5)	<p>Delete condition, or replace with a condition that requires progressive rehabilitation and vegetation to be undertaken in accordance with the approved Rehabilitation and Landscape Plan (as required by Condition 6.3 e)</p>	<p>Dixon Sand is committed to the progressive rehabilitation of the ONR site, and rehabilitation is occurring as areas become available. The staging of rehabilitation at the site has changed slightly from that originally envisaged as more information has become available on the availability of material for rehabilitation and as part of the detailed extraction planning process.</p> <p>The current approved Rehabilitation and Landscape Plan, a component plan of the Site Environmental Management Plan (ERM 2005), includes a detailed schedule of works for the stripping, extraction and progressive rehabilitation of each extracted strip.</p> <p>The Rehabilitation and Landscape Plan is currently being reviewed in line with updated rehabilitation staging. Proposed staging to be presented for approval in the revised Rehabilitation and Landscape Plan is as follows:</p> <p>1) Early stages 2004 – 2015 :</p> <ul style="list-style-type: none">• completion of extraction and progressive rehabilitation on extracted areas on Lots 196 and 29• extraction in Strips 1, 2, and part of 3 on lot 1 and 2• commencement of revegetation on strip 1• commencement of native vegetation revegetation on Lot 29 and strip 1• setback, buffer zone and bund establishment and maintenance. <p>2) Mid stages 2015 – 2020:</p> <ul style="list-style-type: none">• completion of rehabilitation on extracted areas on Lots 196 and 29• completion of extraction on Strip 3 and commencement of extraction on strips 4, 5 and part of 6• completion of rehabilitation on strips 1 and 2• commencement of revegetation on strips 3 and 4
Strip to be rehabilitated	Before Event															
1	Commencement of operations on strip 3															
2	Commencement of operations on strip 4															
3	Commencement of operations on strip 5															
4	Commencement of operations on strip 6															
5	End of period of approval (condition 1.5)															
6	End of period of approval (condition 1.5)															

Condition	Proposed Change	Comment
		<ul style="list-style-type: none"> • completion of native vegetation corridor on strips 1 and 2 and commencement of strips 3 and 4 • maintenance of previous revegetation, setbacks, buffer zones and bunds. <p>3) Final stages 2020 – 2023:</p> <ul style="list-style-type: none"> • completion of extraction on strip 6 • completion of rehabilitation on strips 3 and 4 • completion of native vegetation corridor on strips 3 and 4 and commencement on strips 5 and 6 • creek restoration and revegetation works • final replenishment and maintenance works on all revegetated areas. <p>It is noted that this timing would change should this proposed modification be approved, and the Rehabilitation and Landscape Plan updated to reflect revised timing.</p> <p>Dixon Sand considers the Rehabilitation and Landscape Plan an appropriate mechanism to manage the scheduling of rehabilitation activities into the future as it allows for revision of scheduling to reflect current available information. In this context, Condition 3.12 is not considered necessary.</p>
<p>3.30 Truck movements at the site, including those provided for under this consent and DA 165-7-2005, shall not exceed:</p> <p>a) a total of 180 per day (i.e. inbound combined with outbound);</p> <p>b) 40 between the hours of 6.00am and 7.00am (inbound combined with outbound); and</p> <p>c) 118 laden per day, of which no more than 28 may be inbound.</p>	<p>3.30 Truck movements at the site, including those provided for under this consent and DA 165-7-2005, shall not exceed:</p> <p>a) a total of 180 per day (i.e. inbound combined with outbound);</p> <p>b) 40 between the hours of <u>5.45am</u> and 7.00am (inbound combined with outbound), <u>with no outbound movements occurring between 5.45am and 6.00am</u>; and</p> <p>c) 118 laden per day, of which no more than 28 may be inbound.</p>	<p>Condition 3.30 places a restriction on the number of inbound and outbound truck movements occurring between the hours of 6.00 am and 7.00 am. While not specifically restricting truck movements on site prior to 6.00 am, this condition creates some ambiguity with the later Condition 3.34 which discusses trucks not arriving on site prior to 5.45 am.</p> <p>ONR quarry has historically operated by allowing trucks to enter the site from 5.45 am; however trucks would not be allowed to leave the site until 6.00 am. This practice is reflected in the current approved Site Environmental Management Plan (ERM 2005).</p> <p>Dixon Sand understands that the intent of Condition 3.30 (b) is to limit the number of truck movements prior to 7.00 am.</p>

Condition	Proposed Change	Comment
<p>3.34 The Applicant shall advise its drivers and its clients not to arrive at the site prior to 5.45 am on any day. Certified (under company seal) weighbridge docket and a log book or equivalent computer records are to be kept to verify the arrival and departure times of vehicles. Copies of these records shall be summarized in the Annual Review.</p>	<p>Delete the words “(under company seal)” from condition.</p>	<p>The proposed change to condition 3.30 would not impact this, with the limit of 40 movements remaining in place. Dixon Sand therefore seek approval to modify condition 3.30 (b) to reflect current practice and approved management plans and to remove any confusion about a conflict with Condition 3.34.</p>
<p>3.42 Loading of trucks and truck movements at the site must only be carried out between 6am and 6pm Monday to Saturday, and at no time on Sundays and Public Holidays. All other activities at the premises must only be carried out between 7am and 6pm Monday to Saturday, and at no times on Sundays and Public Holidays.</p>	<p>3.42 Loading of trucks and inbound truck movements at the site must only be carried out between 5.45am and 6pm Monday to Saturday, and at no time on Sundays and Public Holidays. Outbound truck movements must only be carried out between 6am and 6pm Monday to Saturday, and at no time on Sundays and Public Holidays. All other activities at the premises must only be carried out between 7am and 6pm Monday to Saturday, and at no times on Sundays and Public Holidays.</p>	<p>The requirement to certify weighbridge dockets under company seal is considered obsolete and Dixon Sand request this condition be amended to reflect this.</p>
<p>3.49C By the end of June 2016, unless the Secretary agrees to extend this date, the Applicant shall lodge a Conservation Bond with the Department to ensure that the Biodiversity Management Plan is implemented. The sum of the bond shall be determined by: (a) Calculating the full cost of implementing the Biodiversity Management Plan (other than land acquisition costs); and (b) Employing a suitably qualified quantity surveyor to verify the calculated costs.</p>	<p>3.49C By the end of June 2016, unless the Secretary agrees to extend this date, the Applicant shall lodge a Conservation Bond with the Department to ensure that the Biodiversity Management Plan is implemented. The sum of the bond shall be determined by: (a) Calculating the full cost of implementing the Biodiversity Management Plan (other than land acquisition costs); and (b) Employing a suitably qualified person to verify the calculated costs.</p>	<p>As discussed in relation to Condition 3.30 above, this condition creates some ambiguity with Condition 3.34 which discusses trucks not arriving on site prior to 5.45 am, nor is it consistent with historical operations at the ONR site whereby trucks entered the site from 5.45 am and did not depart until 6.00 am.</p> <p>This practice is reflected in the current approved Site Environmental Management Plan (ERM 2005).</p> <p>Dixon Sand seeks approval to modify condition 3.42 to reflect current practice and approved management plans.</p>
<p>3.49C By the end of June 2016, unless the Secretary agrees to extend this date, the Applicant shall lodge a Conservation Bond with the Department to ensure that the Biodiversity Management Plan is implemented. The sum of the bond shall be determined by: (a) Calculating the full cost of implementing the Biodiversity Management Plan (other than land acquisition costs); and (b) Employing a suitably qualified quantity surveyor to verify the calculated costs.</p>	<p>3.49C By the end of June 2016, unless the Secretary agrees to extend this date, the Applicant shall lodge a Conservation Bond with the Department to ensure that the Biodiversity Management Plan is implemented. The sum of the bond shall be determined by: (a) Calculating the full cost of implementing the Biodiversity Management Plan (other than land acquisition costs); and (b) Employing a suitably qualified person to verify the calculated costs.</p>	<p>Dixon Sand has had difficulty in locating a suitably qualified quantity surveyor which experience in calculating conservation bonds. Dixon Sand has however identified suitably qualified ecologists with relevant skills and experience in calculating the costs of conservation bonds. Dixon Sand therefore seeks to amend the wording of this condition to allow for a suitably qualified person (such as an ecologist) to undertake this work.</p>

Condition	Proposed Change	Comment
ENVIRONMENTAL MONITORING AND AUDITING		
<p>4.11 The Applicant shall commission an independent person(s) to undertake an Environmental Audit of the entire quarry at the following stages of the development:</p> <p>a) Before commencement of operations on strips 2, 3, 4, 5, and 6;</p> <p>The Secretary may make the Environmental Audit Report available on the Department's internet site.</p>	<p>Replace Condition 4.11 with the current standard condition relating to Independent Environmental Auditing every three years.</p>	<p>Dixon Sand seeks to bring the consent into line with current standards for independent auditing every three years. This will simplify the compliance requirements for the quarry and provide certainty around the timing of the auditing process.</p>
<p>4.12 The Applicant shall provide a compliance report(s) to the Secretary detailing the implementation of the recommendations of the Environmental Audit Report (refer to condition 4.11). The compliance report(s) shall be submitted to the Secretary within such time, and at such frequency, as the Secretary may require. The Applicant shall make the compliance report(s) available for public inspection.</p>	<p>Replace Condition 4.12 with the current standard condition relating to submission of an audit report.</p>	<p>Dixon Sand seeks to bring the consent into line with current standards for independent auditing and reporting.</p>
COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT		
<p>5.1 Throughout the life of the development, the Applicant shall ensure that the following are available for community complaints:</p> <p>a) a telephone number on which complaints about the development may be registered;</p> <p>.....</p> <p>These details shall also be provided on the Applicant's internet site.</p>	<p>Delete condition</p>	<p>In accordance with Condition 1.11, Dixon Sand maintains a complaints register which is updated on a quarterly basis and is made available on the company's website. Telephone, postal and email contact details are available on the Dixon Sand website for community complaints.</p> <p>Dixon Sand also undertakes a review of complaints records annually and documents this in the company's Annual Review, in accordance with Condition 7.2 (b).</p>
<p>5.2 The Applicant shall record details of all complaints received through the means listed under condition 5.1 of this consent in a Complaints Register. The Register shall record, but not necessarily be limited to:</p> <p>a) The date and time, where relevant, of the complaint;</p> <p>The Applicant shall also make summaries of the Register, without details of the complainants, available for public inspection.</p>	<p>Delete condition</p>	<p>Conditions 1.11 and 7.2 represent the contemporary approach to managing and reporting on community complaints. Dixon Sands seeks the deletion of Condition 5.1 and 5.2 to simplify compliance requirements and reflect current standards.</p>

Condition	Proposed Change	Comment
<p>5.3 The Applicant shall establish a Community Consultative Committee (CCC) to oversee the environmental performance of the development. The Applicant shall ensure that one committee is established for the entire site which meets the requirements of both this consent and the existing consent for the site while that consent operates. This committee shall:</p> <p>a) Be comprised of:</p> <p>....</p> <p>c) Review and provide advice on the environmental performance of the development, including the Site Environmental Management Plan, monitoring results, audit reports, compliance reports, Annual Reviews or complaints.</p>	<p>Replace conditions 5.3 to 5.5 with the current standard condition relating to the operation of Community Consultative Committees in accordance with current guidelines.</p>	<p>Dixon Sand seeks to modify Conditions 5.3 to 5.5 to reflect the current guidelines for the operation of Community Consultative Committees.</p>
<p>5.4 Representatives from the Department may attend committee meetings. Representatives from relevant government agencies, the local community, the local Aboriginal community, or other individuals may be invited to attend meetings as required by the Chairperson.</p>		
<p>5.5 The Applicant shall, at its own expense:</p> <p>a) Ensure that 2 of its representatives attend all the Committee's meetings;</p> <p>....</p> <p>i) Forward a copy of the minutes of each Committee meeting verified by the independent chairperson, and any responses to the Committee's recommendations to the Secretary within 14 days of the Committee meeting.</p>		
<p>5.6 The Applicant shall ensure that the Committee has its first meeting prior to the submission of the Site Environmental Management Plan.</p>	<p>Delete condition.</p>	<p>The first Community Consultative Committee meeting was held on 16/11/2004 which pre-dates the Site Environmental Management Plan (ERM 2005). Condition obsolete.</p>

Condition	Proposed Change	Comment
ENVIRONMENTAL MANAGEMENT		
6.3 e) Xi. Details of all backfilling works, including source of materials and the grades and stability of all batters. Batter design should be in accordance with the provisions of DCP No 500 – Extractive Industries, and certification is to be provided by appropriately qualified engineers regarding the stability of all designed batters;	Delete condition	DCP 500 no longer exists and all relevant backfilling works were completed and batters established in the 1990s. No further works relevant to this condition will be undertaken on site. This condition and the requirement to include this information in the Rehabilitation and Landscape Plan is therefore considered obsolete.

3.0 Consultation

Dixon Sand consulted with the Department of Planning and Environment in October 2016 in relation to the proposed approach to this environmental assessment for the proposed minor modification. The Department advised that it was generally satisfied with the proposed approach to the assessment and requested additional information is provided in relation to the following aspects:

- An assessment of traffic impacts which takes into account background traffic growth over the next 20 years
- Identification of any new receivers established since the approval of the quarry and potential impacts on these.

In addition to the ongoing consultation Dixon Sand has had with property owners surrounding the Old Northern Road Quarry, a letter was distributed to surrounding landholders in February 2017 providing details of the proposed modification and contact details for Dixon Sand to discuss the proposed modification or environmental assessment results in further detail.

4.0 Environmental Assessment

The proposed modification involves a number of minor modifications to existing consent conditions to reflect current standards and practice at the quarry, and an extension to the life of the quarry. No other change to existing approved operations is proposed, including no change to production rates, product transport rates, disturbance area, quarry plans or infrastructure. There is therefore limited potential for the proposed modification to change the existing approved impacts of the quarry.

A preliminary environmental risk analysis was undertaken for the proposed modification to identify the key issues that required further assessment as part of the environmental assessment process. This preliminary environmental risk analysis was provided to the Department of Planning and Environment in a letter dated 7 October 2016.

Based on the outcomes of the preliminary environmental risk analysis and consultation with the Department of Planning and Environment, the key issues requiring assessment in relation to the minor modification are limited to:

- Aspects that may be influenced by the extension to the quarry life, specifically traffic growth over time; and
- A review of additional sensitive receivers that were not present or assessed as part of previous approvals.

These key assessment issues are discussed in further detail in **Section 4.1** and **4.2**, with an assessment of other environmental issues provided in **Section 4.3**.

4.1 Traffic

The proposed modification involves a clarification of the conditions which limit the time at which inbound trucks are able to access the site. This change is sought to clarify ambiguity in the consent and to align all relevant conditions with current operational practice and the hours stipulated in the approved Site Environmental Management Plan (ERM 2005). The proposed modification does not seek to change the total number of traffic movements associated with the quarry, nor does it seek to change the time at which laden trucks can exit the site. The traffic impacts of the proposed modification are therefore considered to be consistent with those of the approved development.

The proposed modification does however seek to extend the life of the consent for a further 20 years; therefore the growth in background traffic levels over the period of the proposed extension is relevant. An assessment of the cumulative impact of the maximum approved traffic generation of the Old Northern Road Quarry and the growth in background traffic levels on Old Northern Road over the proposed 20 year extension life has been completed by SECA Solutions. The assessment is provided as **Attachment 1** and concludes the impacts of truck movements associated with Old Northern Road Quarry on the local road network in 2042 will remain within acceptable limits.

4.2 Review of Sensitive Receivers

A review of the sensitive receivers assessed as part of the Environmental Impact Statement (EIS) (ERM 2001) for the Old Northern Road Quarry (DA 250-09-01) has resulted in the identification of one additional residence within proximity to the site. This residence was constructed sometime between 2007 and 2010, following approval of DA 250-09-01 in 2004, however was present at the time of approval of the two most recent modifications of DA 250-09-01 in 2012 (MOD 3) and 2015 (MOD 4). The new residence is shown as R6 on **Figure 2**.

DA 250-09-01 establishes air quality and noise criteria for residences surrounding the project area in conditions 3.3 and 3.39. These existing criteria are outlined below and are relevant to the additional receiver R6.

- 3.3 *The Applicant shall ensure that dust emissions from the development do not cause exceedances of the following ambient air quality standards/goals at affected residences and Maroota Public School:*

Table 1 Particulate Matter Criteria

Pollutant	Standard/Goal	Agency
Total Suspended Particulate Matter (TSP)	90ug/m3 (annual mean)	NH & MRC
Particulate Matter < 10um (PM10)	30ug/m3 (annual mean)	NSW EPA
Particulate Matter < 10um (PM10)	50ug/m3 (24 hr average)	NSW EPA

Table 2 NSW EPA Amenity Based Criteria for Dust Fallout

Pollutant	Averaging Period	Maximum Increase in Deposited Dust Level	Maximum Total Deposited Dust Level
Deposited Dust	Annual	2 g/m2/month	4 g/m2/month <i>Note: dust is assessed as insoluble solids as defined by AS 3580.10.1-1991 (AM-19)</i>

- 3.39 *Noise from the premises must not exceed:*
- An LAeq(15 minute) noise emission criterion of 44 dB(A) between 7am and 6pm Monday to Saturday; and
 - An LAeq(15 minute) noise emission criterion of 37 dB(A) between 6am and 7am Monday to Saturday
- at any residence not owned by the Applicant.*

The noise and air quality assessments undertaken for the 2001 EIS considered potential impacts at five sensitive residential receivers (R1 to R5) and at Maroota Public School. These receivers are shown on **Figure 2**. All five of the residential receivers (R1 to R5) and Maroota Public School are located in closer proximity to quarrying activities than R6.

The 2001 EIS found that with the implementation of operational noise control measures, predicted noise levels were below the relevant criteria at all receivers except R1. Dixon Sand has since established a private agreement with R1. Dixon Sand undertakes compliance noise monitoring at sensitive receiver locations on a six-monthly basis in accordance with condition 4.5 of the consent. The results of this monitoring to date confirm that the Old Northern Road Quarry is compliant with the relevant noise criteria at sensitive receiver locations surrounding the site. In order to confirm compliance with the noise criteria outlined in condition 3.39 of the consent of R6, Dixon Sand proposes to include R6 in its regular compliance noise monitoring program, subject to the agreement of the owner.

In relation to potential air quality impacts, the 2001 EIS found that predicted concentrations were below the relevant criteria for all pollutants and averaging times modelled. Predicted 24 hour PM₁₀ concentrations in excess of the criteria were limited to locations within 50 metres of the boundary of Lot 196. R6 is located approximately 340 meters from the boundary of Lot 196 and is therefore not expected to experience 24 hour PM₁₀ concentrations in excess of the criteria. Air quality monitoring is currently undertaken in accordance with conditions of DA 250-09-01 and EPL 3916 and results to date indicate general compliance with the relevant criteria, with some exceedances over the years which were attributed primarily to adjacent agricultural activities, local and regional bushfires and hazard reduction burns, and regional weather events such as dust storms and low pressure cells resulting in windy conditions.

In summary, the one additional receiver (R6) identified surrounding the Old Northern Road Quarry is located further from quarrying activities than the receivers assessed as part of the 2001 EIS. Modelling predictions indicate compliance with relevant air quality and noise criteria at all the assessed receivers with the exception of the closest residence, R1 for noise. Monitoring indicates general compliance with air quality criteria at surrounding receivers, with exceedances generally not attributable to the operations of Old Northern Road Quarry. Quarry related noise has also found to be within the consent noise limits at surrounding sensitive receivers. In order to confirm compliance with the consent noise limits at R6, it is proposed to undertake compliance monitoring at R6 in accordance with existing conditions of consent. Air quality monitoring will continue to be undertaken in accordance with existing conditions of consent and EPL 3916, the results of which will be reviewed in the context of all sensitive receivers, including R6.

4.3 Other Issues

An assessment of other potential environmental impacts associated with the proposed modifications has been undertaken and the findings summarised in **Table 2**.

Table 2 – Review of Other Potential Environmental Impacts

Aspect	Review of Potential Impacts
Land resources	<p>No change.</p> <p>The proposed modifications will not result in any change to the existing approved disturbance footprint; therefore there will be no change to existing approved impacts on land resources.</p>

Aspect	Review of Potential Impacts
Water	<p>No change, with the exception of existing approved impacts occurring over a longer duration.</p> <p>The proposed modifications will not result in any change to the existing approved disturbance footprint, quarry plan (including extraction depth), or water management system. Therefore, the modification will not result in any change to the existing approved impacts on surface or groundwater resources, with the exception of an extension of the duration of impact.</p>
Air quality	<p>No change, with the exception of existing approved impacts occurring over a longer duration.</p> <p>The proposed modifications will not result in any change to the existing approved disturbance footprint, equipment, infrastructure or production rate, therefore no change to existing approved impacts on air quality except for the duration of impact.</p>
Noise	<p>Impacts are consistent with existing approved impacts.</p> <p>The arrival of trucks at the site from 5.45 am is currently approved by Condition 3.34. The proposed modifications would clarify this and allow for the loading of trucks on site from 5.45 am, consistent with current practice and the existing approved Site Environmental Management Plan.</p> <p>In accordance with the NSW Industrial Noise Policy, early morning operations can be assessed in accordance with either the night time period criterion that operates from 10 pm to 7 am, or a 'shoulder' period criterion that operates between 5 am and 7 am. Regardless of which criterion is applied, the assessment criterion for operations occurring at 5.45 am will be the same as that for operations at 6 am. As no change is proposed to the nature of the noise generating activity, just the time at which it occurs, and as these activities will occur within the same noise assessment period, it is considered that the noise impacts of the proposed modification are consistent with that of approved operations.</p>
Biodiversity	<p>No change.</p> <p>The proposed modifications will not result in any change to the existing approved disturbance footprint, therefore no change to existing approved impacts on biodiversity.</p>
Heritage	<p>No change.</p> <p>The proposed modifications will not result in any change to the existing approved disturbance footprint, therefore no change to existing approved impacts on heritage.</p>
Visual	<p>No change, with the exception of existing approved impacts occurring over a longer duration.</p> <p>The proposed modifications will not result in any change to the existing</p>

Aspect	Review of Potential Impacts
	approved disturbance footprint, quarry plan, rehabilitation plan, equipment or structures on site, therefore no change to existing approved visual impacts of the quarry are expected except for the duration of impact.
Socio-economic	<p>The proposed modification will maintain the employment of quarry staff and associated flow-on employment and expenditure over an additional 20 year period, resulting in a positive economic impact for the local community. The proposed modification will also provide for the ongoing supply of an important source of processed sand to the Sydney construction market, in particular white bricklayers sand, which is difficult to source from other suppliers.</p> <p>Proposed changes to community engagement conditions will align quarry practices with current guidelines and expectations in relation to community engagement. This is seen as a positive outcome for the quarry and the community.</p>
Rehabilitation	<p>No change, with the exception of existing approved rehabilitation strategy being implemented over a longer duration reflecting the slower than anticipated extraction rate.</p> <p>Dixon Sand does not propose any change to its existing approved rehabilitation strategy, as set out in the approved Rehabilitation and Landscape Plan. The proposed changes to rehabilitation conditions are intended to avoid duplication and potential conflict between the consent and Rehabilitation and Landscape Plan, and confirm the Rehabilitation and Landscape Plan as the appropriate mechanism for managing rehabilitation activities into the future.</p>

5.0 Draft Statement of Commitments

- In order to confirm compliance with existing noise criteria for Old Northern Road Quarry, Dixon Sand proposes to include receiver R6 (identified on **Figure 2**) in its existing compliance noise monitoring program going forward.
- Air quality monitoring will continue to be undertaken in accordance with existing conditions of consent and EPL 3916, the results of which will be reviewed in the context of all sensitive receivers, including R6.

6.0 Conclusion

Dixon Sand is proposing some minor modifications to the conditions of consent for DA 250-09-01 in order to bring the consent into line with current standards and current practice at the quarry. In addition, Dixon Sand is seeking to extend the life of the consent by a further 20 years from 2022 to allow for the extraction of significant reserves approved for extraction that will still be present on site at the expiration of the consent in 2022. No other change to existing approved operations is proposed, including no change to production rates, product transport rates, disturbance area, quarry plans or infrastructure.

An assessment of the potential environmental impacts of the proposed modifications indicates that they are consistent with the existing approved impacts of the quarry. One additional residence has been identified that was not present at the time of the 2001 EIS. This residence is located further from quarrying activities than the receivers assessed as part of the 2001 EIS. Noise and air quality monitoring indicates that compliance at the assessed receivers is being achieved. In order to confirm compliance at the additional receiver, Dixon Sand proposes to include the additional receiver in its compliance noise monitoring program going forward.

If you require any further information in relation to the proposed modification, please do not hesitate to contact David Dixon of Dixon Sand on 0414 330 490 or Gabrielle Allan of Umwelt Environmental Consultants on (02) 4950 5322.

Yours sincerely

A handwritten signature in black ink, appearing to be 'GA', with a long horizontal flourish extending to the right.

Gabrielle Allan
Principal Environmental Consultant

Enc. Attachment 1 – SECA Solutions Traffic Assessment



Image Source: Google Earth/DigitalGlobe (May/2016)
Data Source: LPI (2009)

0 1.0 2.0 2.5 km
1:50 000

Legend

- Old Northern Road Quarry
- National Park
- State Conservation Area

FIGURE 1
Locality Plan



Image Source: Google Earth (Oct 2016)
Data Source: LPI (2016)

0 100 250 500m
1:10 000

Legend

- ▬ Old Northern Road Quarry
- ▬ Extraction Limits
- ▬ Limit of Maroota Tertiary Sands Groundwater Source
- Previously Assessed Residence
- New Residence not Previously Assessed

FIGURE 2

Old Northern Road Quarry



ATTACHMENT 1
SECA Solutions Traffic Assessment

20 February 2017

P0760 Umwelt Dixon Sand Quarry Extension Letter

Umwelt (Australia) Pty Ltd
75 York Street
Teralba NSW 2284

Attn: Gabrielle Allan

Dear Gabrielle,

Proposed Dixon Sand Old Northern Road Quarry Modification, Maroota, NSW

Review of traffic impacts

Further to our recent meeting, we have reviewed the previous traffic assessment previously completed by Better Transport Futures (BTF) dated March 2007 and have discussed the project in depth with yourself to obtain an understanding of the project requirements. We have also read the comments provided by NSW Planning and Environment and have previously completed a number of site visits in this location as part of a number of projects within the vicinity of the subject site.

Dixon Sand (Penrith) Pty Ltd (Dixon Sand) operates the Old Northern Road Quarry, a sand extraction and processing operation, located at Old Northern Road, Maroota. The quarry has been in operation since the early 1980s with Dixon Sand operating the site since 1992.

The quarry operates in accordance with development consent 250-09-01 which allows for the extraction and processing of up to 495,000 tonnes of quarry products per annum and up to 180 truck movements per day.

Extraction at the site is occurring at a rate slower than anticipated in the original approval and significant reserves approved for extraction will still be present on site at the expiration of the consent in May 2022. Dixon Sand is therefore seeking an extension of the consent by a further 20 years from 2022. No other change to existing approved operations is proposed, including no change to production rates, product transport rates, disturbance area, quarry plans or infrastructure.

Current situation

The project site is located off Old Northern Road to the north of Maroota with a single vehicle access direct off Old Northern Road. This site access has been previously assessed for safety and capacity and this access allows for a safe and appropriate access to the subject site, with a left turn deceleration lane provided as well as shoulder widening for the southbound traffic movement to ensure road safety is maximised in this location. It is noted that the vast majority of trucks associated with the subject site require a left turn in movement off Old Northern Road and the reverse right turn out movement. There is very limited demand for the right turn into the site off Old Northern Road or the left turn out movement.

The previous assessment completed by BTF included traffic data that was collected as part of the project. For the morning peak period the 2-way traffic flow was 168 vehicles (with 38 trucks or 22%) generally associated with



quarry operations in the area. The corresponding afternoon peak period flow was 165 vehicles, of which 33 were trucks (20%) again associated with quarry operations in the area. Based on the RMS Guide to Traffic Generating Developments this would indicate that the level of service was B for road users.

Based on the peak hour flows typically representing around 10% of the daily flows, this would indicate that the daily traffic flows in 2007 were in the order of 1,660 per day.

As part of another project work in 2014, Seca Solution collected traffic data on Old Northern Road just to the north of Wisemans Ferry Road to the south of the site during the afternoon peak period (4th December 2014). These surveys showed that the 2-way flow in the afternoon peak period on Old Northern Road were 216 vehicles, indicating a daily traffic flow in the order of 2,100 per day. This would indicate that daily traffic flows have increased by around 440 vehicles per day, representing an increase of 26% over 7 years or 3.7% per annum. A portion of this can be attributed to the approval in 2008 for the subject site to increase the daily truck numbers from 120 per day to 180 per day. It is noted that the truck movements associated with the project site were observed and noted as part of this survey.

Allowing for an annual growth rate of 3% per annum, this would indicate that the current daily volume of Old Northern Road could be in the order of 2,226 vehicles per day.

Site operations

The subject site has an approved haulage rate of 180 truck per day, which allows for inbound and outbound truck movements with the daily total 2-way flow not to exceed the 180 per day. The project seeks to maintain this daily limit with no increases.

All truck access will remain via the existing site access direct onto Old Northern Road with the vast majority of trucks turning right out of the site access and the reverse left turn in, with very limited demand to the north of the site on Old Northern Road.

Impact of operations to 2042

The quarry operations are looking to continue to operate for 20 years beyond the approval life of the existing consent, which is 2022. This will permit the quarry to continue to operate to the future design year of 2042 with no change to the existing extraction areas, production or product transport rates proposed.

Whilst the data for the traffic flows above between 2007 and 2014 show an annual increase of around 3% or more, normal traffic growth provided by the Roads and Maritime Services (RMS) give annual traffic growth typically at 2%. In a rural area, such as Maroota, the value of 2% per annum would be considered high due to limited development occurring in this area.

To allow for a robust assessment of the potential daily traffic flows in 2042, an annual increase of 2.5% per annum has been used. Based on the current daily traffic flows being 2,226, which includes truck movements associated with the subject site, this could give future flows in 2042 of 3,700 vehicles per day. Based on peak hour flows of 10% of the daily flows, this would indicate that the peak hour flows along Old Northern Road could be in the order of 370 vehicles per hour, which include the truck movements associated with the project site.

The RMS Guide to Traffic Generating Developments provides advice on the capacity and level of service for rural roads such as Old Northern Road (Table 4.5 of the guide). Based on Old Northern Road being a rolling road alignment and 15-20% heavy vehicle content this indicates that the level of service in the future design year of 2042 could be LoS C. This level of service is based on the projected background traffic growth of 2.5% per annum which is the major portion of the traffic volume in this area. The development traffic will remain consistent with its current level. The level of service of C is created mainly by the increasing background traffic flows and not by the on-going use of the subject site. Level of service C is defined as "this service level is also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level". It can thus be seen that the impact of the trucks in the future design year of 2042 will remain within acceptable limits.

Overall it is concluded that the on-going use of the site as a quarry operation with the 180 truck movements per day maximum can continue to occur in a safe and appropriate manner with an acceptable impact upon the local road network to the future design year of 2042.

Please feel free to contact me on 4032 7979, should you have any queries.

Yours sincerely



Sean Morgan

Director