JOINT REGIONAL PLANNING PANEL
(Northern)

JRPP No	2014NTH023
DA Number	DA2015/0130
Local Government Area	Richmond Valley Council
Proposed Development	Expansion of existing extractive industry from 35,715m^3 to a combined 490,000 tonnes (extraction and importation of material for blending) per annum from a total resource of 4 million tonnes for up to 25 years.
Street Address	499 Woodburn Evans Head Road, Doonbah
Applicant/Owner	C and J Uebergang c/o Ben Luffman GHD
Number of Submissions	Seven
Regional Development Criteria (Schedule 4A of the Act)	The development falls within Schedule 4A of the Act Clause 8(a) Particular Designated Development being development for the purposes of extractive industries, which meet the requirements for designated development under clause 19 of Schedule 3 to the Environmental Planning and Assessment Regulation 2000. Clause 19 of Schedule 3 provides an Extractive Industry that obtains or process for sale, or reuse, more than 30,000 cubic metres, or that disturb a surface area greater than two hectares are declared to be Designated Development.
List of All Relevant s79C(1)(a) Matters	• State Environmental Planning Policy No. 33 – Hazardous and Offensive Development • State Environmental Planning Policy No. 44 – Koala Habitat Protection • State Environmental Planning Policy No. 55 – Remediation of Land • State Environmental Planning Policy (Infrastructure) 2007 • State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 • State Environmental Planning Policy (Rural Lands) 2008 • State Environmental Planning Policy (State and Regional Development) 2011 • Richmond Valley Local Environmental Plan 2012 • Richmond Valley Development Control Plan 2012

List all documents submitted with this report for the panel's consideration	Application and Environmental Impact Statement dated November 2014 Submissions received during exhibition periods NSW Roads and Maritime Services comments 23 December 2014 NSW EPA General Terms of Approval 30 January 2015 NSW EPA further comments 28 July 2015 NSW Office of Environment & Heritage comments 20 January 2015 NSW Office of Water General Terms of Approval 29 January 2015 NSW Office of Water Comments on Submissions 24 June 2015 Richmond Valley Council Local Traffic Committee comments 30 January 2015 NSW Trade and Investment comments 18 December 2014 NSW Fisheries comments 22 December 2014 NSW Fisheries further comments 17 February 2015 Department of Planning and Environment comments 23 March 2015 Additional Information dated 30 April, 22 June, 23 June and 25 June 2015 NSW Office of Environment & Heritage further comments 20 May 2015 and 7 July 2015
Recommendation	That Development Application DA2015/0130 (JRPP reference No. 2014NTH023) be approved subject to conditions contained in Appendix A
Report by	Dylan Johnstone, Development Assessment Planner Richmond Valley Council

1. Executive Summary

1.1. Overview

Development Application DA2015/0130 (JRPP Reference No. 2014NTH023) seeks consent for the expansion of an existing sand extractive industry from 35,715m^3 per annum to a combined 490,000 tonnes (extraction and importation of material for blending) per annum from a total resource of 4 million tonnes for up to 25 years.

The site contains a valuable sand resource anticipated to be in demand for the construction of the Pacific Highway upgrade project between Woolgoolga and Ballina.

The quarry would be operated under a 'profit a prendre' (royalty) arrangement with Rixa (the current quarry operators) and the owner of the property (Cameron and Jenny Uebergang - Evans Head Sand Pty Ltd).

The extraction is proposed over four stages having a combined area of 18.3 hectares, to a depth of 15 metres and from a total resource of 4 million tonnes. Dredging, screening, washing, blending, stockpiling and transportation activities are proposed.

The application is classified as Designated Development pursuant to Schedule 3 of the Environmental Planning and Assessment Regulation and Integrated Development pursuant to Clause 91 of the Environmental Planning and Assessment Act 1979.

The application has been assessed in accordance with the requirements of the Environmental Planning and Assessment Act, 1979 and the relevant environmental planning instruments which are discussed in detail in this report. The application is recommended for approval, recommended conditions of consent are attached to this report.

1.2. Reason for consideration by Joint Regional Planning Panel

The development application has been referred to the Joint Regional Planning Panel pursuant to Clause 8(a) Schedule 4A of the Environmental Planning and Assessment Act, 1979. The development is classified as Designated Development being an Extractive Industry that obtains or process for sale more than 30,000 cubic metres per annum, that will disturb a surface area greater than two hectares, or that are located in an area of acid sulphate soil pursuant to Clause 19, Schedule 3 of the Environmental Planning and Assessment Regulation.

1.3. Location, History and Permissibility

The land to be developed is part of Lot 2 in Deposited Plan 1040274 499 Woodburn-Evans Head Road, Doonbah. The site covers an area of approximately 50 hectares and is located upon the coastal floodplain within the lower Richmond Valley.

The site has a long history of quarry activity with the Environmental Impact Statement indicating that quarry operations date back to 1961. In 1997, the recently operating quarry was granted approval to extract up to 35,715m^3 per annum pursuant to the former State Environmental Planning Policy No 37 - Continued Mines and Extractive Industries under Development consent DA128/1995. The existing quarry has now exhausted the resources available under this approval.

The site is zoned RU1 Primary Production under Richmond Valley Local Environmental Plan 2012. Extractive Industries are permitted with consent in the RU1 zone. The Importation of materials to blend with the extracted sand is permitted as being ancillary to the Extractive Industry.

1.4. Integrated Development

The application is identified as Integrated Development requiring a licence under the Protection of the Environment Operations Act 1997 and a licence under the Water Management Act 2000. General Terms of Approval have been granted by both Integrated Development authorities and are provided within Appendix B and C.

1.5. Public Exhibition and Notification

The application was exhibited and notified in accordance with the requirements for Designated Development. Extensive neighbour and Government Agency notification was undertaken.

The application was re-advertised and re-notified as the initial advertising and notification was not undertaken strictly in accordance with the Environmental Planning and Assessment Act and Regulation.

Seven public submissions were received during the exhibition periods. Comments from NSW Roads and Maritime Services, Office of Environment and Heritage, Department of Planning and Environment, Department of Primary Industries Fisheries, Richmond Valley Council Local Traffic Committee, and Trade and Investment Resources and Energy were received.

1.6. Recommendation

That development application DA2015/0130 (JRPP Reference No. 2014NTH023) be approved subject to the conditions of consent contained within Appendix A.

Appendix A	Draft proposed Conditions of Consent
Appendix B	General Terms of Approval NSW Environmental Protection Authority
Appendix C	General Terms of Approval NSW Office of Water
Appendix D	Plans

2. Doonbah Quarry Development Proposal

Development Application DA2015/0130 (JRPP Reference No. 2014NTH023) seeks consent for the expansion of an Extractive Industry and importation of materials for blending, upon Lot 2 DP 1040274 499 Woodburn Evans Head Road, Doonbah. The proposal involves the expansion both laterally and at depth to existing excavations.

The application involves the following key components and activities;

- Combined 490,000 tonnes (extraction and importation of material for blending) per annum;
- Excavation areas comprising four stages of extraction sites Stage 1 (7.9 ha), Stage 2 (2.5 ha), Stage 3 (2.6 ha) and Stage 4 (5.3 ha) having a combined total resource of 4 million tonnes;
- Dredging, screening, washing, blending, stockpiling and transportation activities are proposed.;
- Vegetation removal totalling 1.01 hectares,
- Operation for a maximum period of 25 years;
- Hours of operation being 7.00am to 6.00pm Monday to Friday and 8.00am to 1.00pm noon Saturdays. No work is proposed on Sundays or Public Holidays.
- The haulage route identified from the site access includes Woodburn-Evans Head Road and Alfred Street to the Pacific Highway.
- Transportation being a maximum of 140 truck movements per day inclusive of both incoming and outgoing

2.1. Location

The development site is located approximately 5 km East of Woodburn and approximately 3.5 km North West of Evans Head within the lower Richmond Valley (Figure 1).

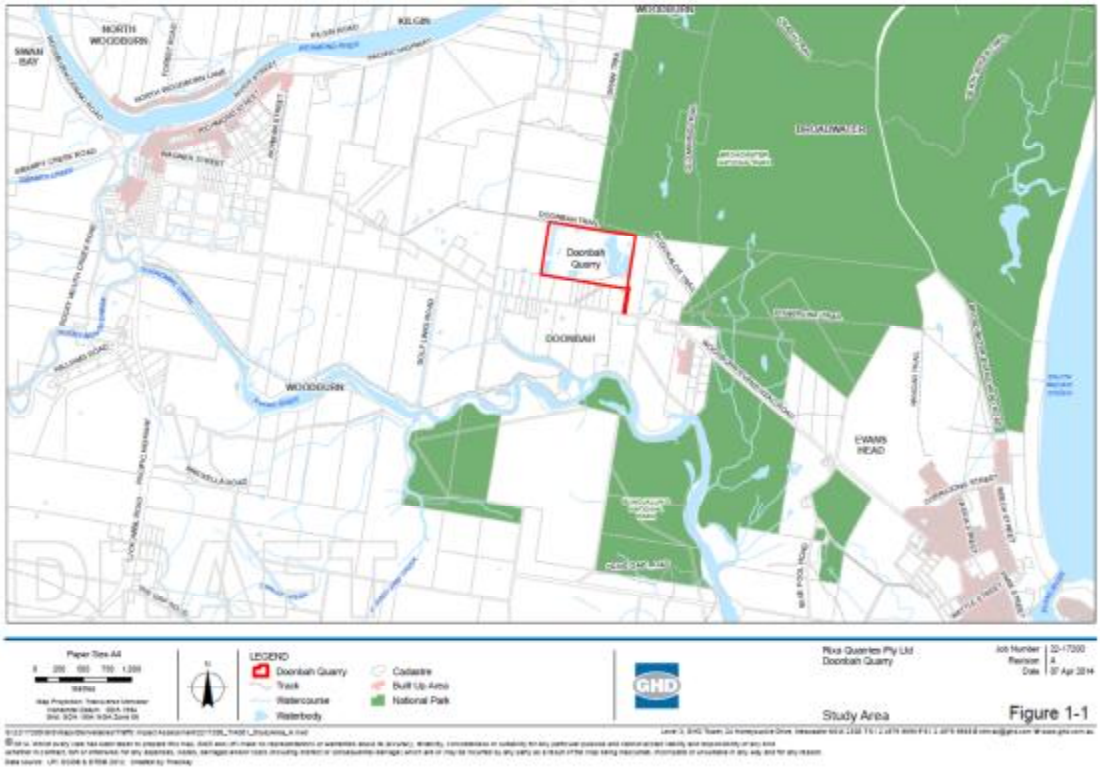

Figure 1: Locational map of the site *Source: EIS*

Lot 2 DP 1040274 occupies an area of 50 hectares (Figure 2). The site contains an existing quarry, a site office, several dams and internal roadways.

Figure 2: The site - Lot 2 DP 1040274 *Source: RVC GIS*

The site is located approximately 1 km North of the Evans River and is adjoined by the Broadwater National Park to the North East.

2.2. Quarry Site and recent operations

The quarry site is accessed from Woodburn-Evans Head Road. Internally a gravel surface road passes two dwellings that are not associated with the development. The existing extraction area is located approximately 400 metres from Woodburn-Evans Head Road along the internal access road.

The proposed quarry site comprises four staged extraction areas. Extraction activities have previously been approved and undertaken on the area identified as proposed Stage 1.

Development Consent DA128/1995 was granted by Richmond Valley Council on 19 February 1997. The consent permits a maximum extraction of 35,715m^3 per annum within defined extraction areas. Sand extraction at the quarry has currently ceased as the resources approved under DA128/1995 are now exhausted.

The current application seeks to expand production capacity to a combined 490,000 tonnes (extraction and importation of material for blending) per annum from a total resource of 4 million tonnes.

2.3. Proposed expansion of extraction and importation of materials for blending

The proposed development involves two associated principal activities being; the expansion of quarry output and importation of materials used for blending with extracted sand. Plans of the proposed quarry layout are shown in Figure 3.

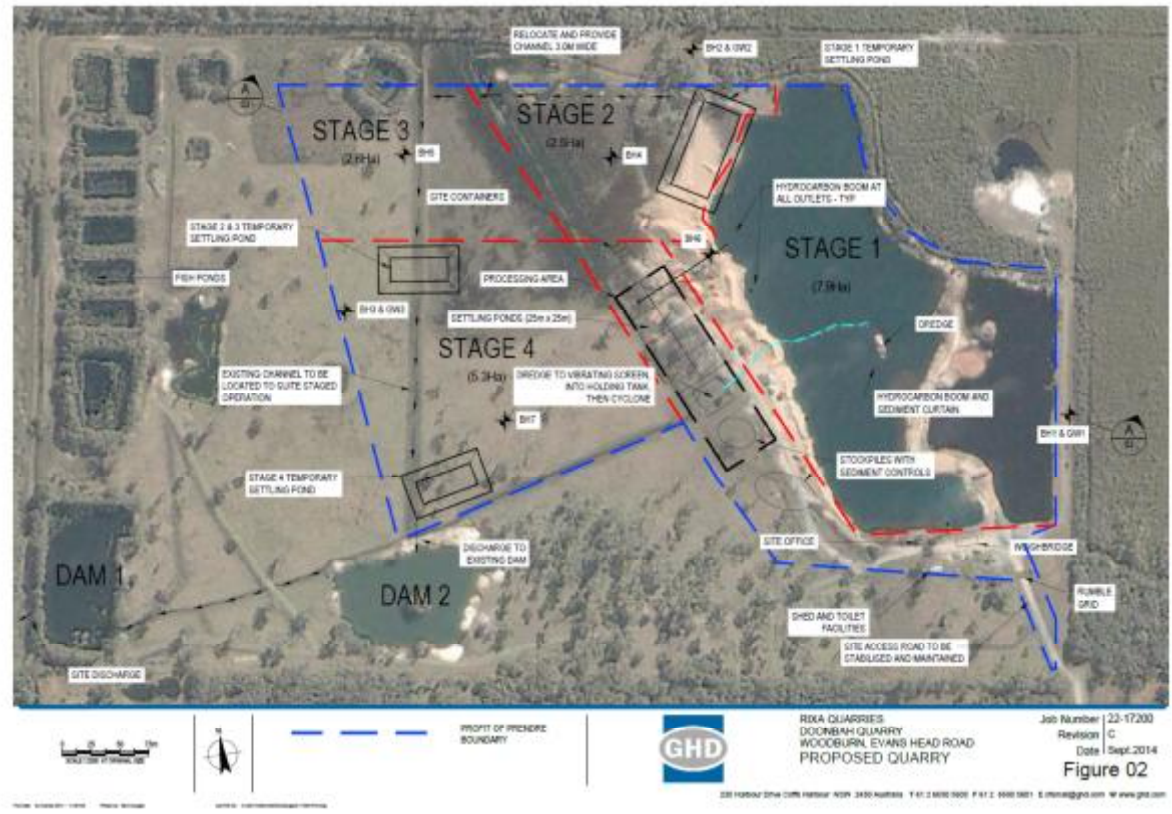

Figure 3: Proposed Quarry Plan *Source: EIS*

The resource is located within four staged areas Stage 1 (7.9 ha), Stage 2 (2.5 ha), Stage 3 (2.6 ha) and Stage 4 (5.3 ha) with extraction extending to a depth of 15m (-12m AHD).

The volume of the total resource is 4 million tonnes over a 25 year life span.

Consent is sought for a combined 490,000 tonnes (extraction and importation of material for blending) per annum from a total resource of 4 million tonnes over a 25 year period.

The quarry operation would be carried out in response to demand. In general, the extraction is proposed to move to the west of the existing extraction area and then south in four stages. Topsoil would be removed initially and the sand extracted using an excavator. Once the excavation fills with water, a dredge will be introduced to extract the sand to a depth of 15 metres (-12 metres AHD).

In order to meet client requirements, select material may be sourced from different locations within each of the identified stages at any time. However, a maximum of two stages would be operating at any one time.

Following the extraction of the raw material from the quarry and screening, additional material may be required for blending to satisfy client specifications. This material may need to be imported and could include rock, topsoil or landscaping products.

The quantity of this material would be dependent upon the material's end use and is difficult to predict. This material would be brought to the site via trucks returning from their delivery of quarried materials.

2.4. Operational Parameters

(a) Hours of Operation
The hours of operation are proposed at the following times.

Quarry operations and Transportation	Monday to Friday	7am – 6pm
	Saturday	8am – 1 pm

No operations are to occur on Sundays or Public Holidays.

A condition of consent is recommended to restrict transportation on Woodburn-Evans Head Road during the School bus drop off and pick up times.

(b) Transport Activities
Transport operations are an integral part of the development and have the potential to impact other road users and land uses located along the haulage route. Transport movements were a major concern raised in submissions with issues being noise, dust and emissions, and traffic safety. These are further discussed in Section 6

(c) Haulage Route
The haulage route is approximately 5km to the Pacific Highway intersection. Vehicles leaving the quarry travel along Woodburn-Evans Head Road and Alfred Street to the Pacific Highway. Vehicles will turn either right or left onto the Pacific Highway.

The route passes sensitive receivers being numerous rural dwellings, and the residential areas of Woodburn along Alfred Street and fronting the Pacific Highway. Vehicles will not travel through other residential streets within the Woodburn Village.

Some upgrading of the public road network is required and is discussed in detail within Section 6.3 and conditions of consent recommended to address traffic related matters.

(d) Truck Movements
Transportation of quarry products will be by truck and truck and dog trailer combinations. Truck and dog trailer combinations have a capacity of approximately 32 tonnes.

Volumes transported would be subject to demand for materials associated with the Pacific Highway Upgrade. The proponent has identified a maximum of 140 truck movements per day inclusive of all incoming and outgoing movements. This is

equivalent to approximately 2,250 tonnes per day or 70 truck and dog loads outgoing.

At this restricted rate the hourly traffic generation is 12.7 vehicle movements. As the quarry will operate only five hours on Saturdays it is recommended to further limit truck movements to a maximum of 64 on Saturdays.

3. Legislative Requirements under the Environmental Planning and Assessment Act 1979

3.1. Consent Authority

The JRPP is the consent authority for an application being an Extractive Industry that is Designated Development pursuant to Schedule 4A.

3.2. Designated Development

Section 77A provides for development to be declared to be designated development by the regulations. Schedule 3 of the EPA Regulation identifies Extractive Industries that obtain or process for sale more than 30,000 cubic metres per annum, or that will disturb a surface area greater than two hectares, or in an area of acid sulphate soil as designated development.

The proposed development triggers all three criteria.

3.3. Integrated Development Approvals

Section 91 identifies development that requires both consent and one or more approvals under certain legislation as Integrated Development. Before granting consent General Terms of Approval must be obtained and a consent must be consistent with those terms.

The proposed development requires the following approvals:

- An Environmental Protection Licence under Section 48 of Protection of the Environment Operations Act and
- A Controlled Activity Approval under section 91 of the Water Management Act 2000

Both agencies have provided their General Terms of Approval and they are included within the recommended consent conditions.

3.4. Public Participation

Section 79 identifies the public exhibition and notification requirements for Designated Development.

The Development Application was placed on Public Exhibition from 10 December to 23 January 2015 allowing additional time due to the holiday period. Written notification to land owners was undertaken and published notices appeared in a local newspaper on 10 December 2014 and 24 December 2014.

The Development Application was re-exhibited from 1 July to 31 July 2015 as the original application did not include all information required pursuant to the

Environmental Planning and Assessment Act 1979 and Regulation. Written re-notification to land owners was undertaken and published notices appeared in a local newspaper on 1 July and 15 July 2015.

3.5. Evaluation

Section 79C(1) details matters the consent authority is to take into consideration in determining an application. Consideration of the matters is provided below.

(i)The provisions of any environmental planning instrument

The relevant environmental planning instruments are addressed in Sections 4 and 5.

(ii) any proposed instrument that is or has been the subject of public consultation

No proposed instruments are relevant to the application

(iii) any development control plan

Richmond Valley Council Development Control Plan 2012 applies to the land. There are no specific requirements for Extractive Industries under the Development Control Plan. Part H Environmental Sensitivity and Hazards provides for consideration of flooding, bushfire, acid sulphate soils and natural resources, and these matters are considered throughout the EIS and this report.

Part I contains guidance on Noise Impacts, Heritage and Land use risk assessment matters, these are also adequately considered in the EIS and other sections of this report.

(iiia) any planning agreement or draft planning agreement

There are no planning agreements relating to the application.

(iv) the regulations

The proposed development is consistent with the regulations.

(v) any coastal zone management plan

No coastal zone management plan applies to the land.

(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

The likely impacts of the development are discussed in detail within Section 6

(c) the suitability of the site for the development,

The site is considered suitable for the purpose of an extractive industry.

(d) any submissions made in accordance with this Act or the regulations,

The application was notified and publicly exhibited with seven submissions being received. Issues raised in the submissions are considered in detail within Section 7.

(e) the public interest.

Doonbah quarry proposes to increase extraction primarily to supply material required for the Pacific Highway upgrade project. The site has a long history of quarrying activities and the development is permissible with consent in the zone and complies with the relevant Environmental Planning Instruments.

The application has been referred to relevant government agencies for comments and recommendations, and the development is not considered to be inconsistent with the public interest subject to operation in accordance with the Environmental Impact Statement, amending reports and recommended consent conditions.

4. Richmond Valley Council Local Environmental Plan 2012

4.1. Objectives of the zone

The site is zoned RU1 Primary Production, extractive industries are permissible with consent.

The zone objectives are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To ensure that development does not unreasonably increase the demand for public services or public facilities.

The development is considered consistent with the objectives as it does not impede primary production, cause fragmentation or increase public demands. It proposes mitigating measures to alleviate impacts and manage land use conflicts as detailed within the SEE, this report and as recommended consent conditions.

4.2. Development within the Coastal Zone

Clause 5.5 requires the consent authority to consider the suitability of the development in terms of protecting the coastal foreshore and coastal ecosystems.

The proposed development satisfies the aims and objectives of this Clause which are similar to those considerations pursuant to Clause 8 of State Environmental Planning Policy No. 71 – Coastal Protection and are addressed in Section 5.8 of this report.

4.3. Acid Sulfate Soils

Clause 6.1 requires the consent authority to ensure that development does not disturb, expose or drain acid sulfate soils (ASS) and cause environmental damage.

The land is mapped as containing ASS Class 3 and sampling undertaken by the applicant has confirmed the presence of ASS. An ASS Management Plan has been submitted with the application which satisfies the requirements of this Clause. The Management Plan is further discussed in Section 6.9 of this report.

4.4. Essential Services

Clause 6.2 requires the consent authority consider that essential services are available or that adequate arrangements have been made.

Water supply for operational needs is available from onsite detention dams. Facilities for workers will be required with portable toilets indicated as being provided to the site by a contractor.

4.5. Earthworks

Clause 6.3 provides that earthworks for which consent is required will not detrimentally impact the environment, neighbouring uses, cultural or heritage items. The EIS addresses these matters and demonstrates the development will not have detrimental impacts subject to mitigation and ongoing management. Conditions of consent are proposed to ensure any imported material is uncontaminated and limited to quantities required only for blending with extracted sand.

4.6. Flood Planning

Clause 6.5 aims to minimise the flood risk to life and property, ensure that development is compatible with the land's flood hazard and to avoid significant adverse impacts on flood behaviour and the environment.

The development site is subject to the 1 in 100 year flood planning level however Council is satisfied that the proposal does not increase the flood risk to life and property and does not significantly impact existing flood behaviour and the environment.

4.7. Terrestrial Biodiversity

Clause 6.6 aims to protect terrestrial biodiversity by requiring the consent authority to consider likely impacts on ecological values, significant flora and fauna, habitat values, connectivity and any potential to diminish biodiversity.

The Flora and Fauna Assessment has been evaluated with assistance from the Office of Environment and Heritage. Identified impacts to terrestrial biodiversity are mitigated where possible however cannot be avoided.
To offset the impact a 3.48 hectare Biodiversity Offset is proposed across two separate areas. The mechanism to secure the offset is undetermined with OEH and Councils preference to either a Biobanking Agreement or a Conservation Agreement. It is recommended that further examination of the mechanism options is warranted and a condition of consent is proposed to restrict any clearing of vegetation on site until the mechanism is agreed.

Biodiversity impacts are discussed in detail within Section 6.4

4.8. Wetlands

Clause 6.10 aims to ensure that wetlands are preserved and protected from the impacts of development. Vegetation removal is proposed on an area of the site that is mapped as containing wetlands. As detailed above a vegetation offset area has been proposed and this area is determined to be suitable by Council in consultation with OEH. Consultation with Office of Water and Fisheries has also been undertaken to determine the significance of impacts on water resources and fish stocks. Office of Water has provided General Terms of Approval that will ensure the minimisation of impacts on water resources and Fisheries have not raised any objections to the proposal.

Council is satisfied that the development is designed, sited and will be managed to minimise any significant adverse environmental impact

5. State Environmental Planning Policies

5.1. State Environmental Planning Policy No 33 – Hazardous and Offensive Development

Requires consideration of various guidelines where the operations of industries or storages of dangerous goods are considered potentially hazardous or offensive. The development being an extractive industry falls outside the definition of an industry as provided under the SEPP.

The application proposes an above ground diesel storage tank with a 4000 litre capacity. Diesel is listed as a dangerous good pursuant to the Australian Dangerous Goods Code however the amount proposed to be stored does not require further assessment pursuant to the Department of Planning and Environment's SEPP33 guidelines. An Environmental Protection Licence will be required to be issued for the site.

5.2. State Environmental Planning Policy No 44 – Koala Protection

The Ecological Assessment included an assessment in accordance with SEPP44. The potential for Koalas to occur in the subject site was assessed during field surveys and potential impacts on the Koala have been considered. Evidence of koalas was observed within the property and potential koala habitat trees listed under Schedule 2 of SEPP44 are present within the subject site

Based upon the SEPP 44 definition, the site therefore contains 'potential koala habitat', however there was no evidence that the study area supports a local population of the Koala, including breeding females. Therefore, based upon the SEPP 44 definition, the site does not constitute 'core Koala habitat' and does not require a Koala Plan of Management.

5.3. State Environmental Planning Policy No 55 – Remediation of Land

Provides for consideration of whether land is contaminated and requires remediation of any contaminated land prior to being developed. The subject land is unlikely to be contaminated due to the historical use of the land for extractive industries and cattle grazing activities. The proposed importation of material for blending with extracted sand is to be certified as clean and will therefore not result in any contamination of the site.

5.4. State Environmental Planning Policy (Infrastructure) 2007

Clause 104 requires referral to the Road and Maritime Services for traffic generating development specified in Schedule 3. Extractive Industries are not listed in the Schedule however the application was referred to the Roads and Maritime Services pursuant to State Environmental Planning Policy (Mining, Petroleum and Extractive Industries) 2007.

5.5. State Environmental Planning Policy (Mining Petroleum Production and Extractive Industries) 2007

Extractive industries are permitted with consent in certain zones by the SEPP, and require consideration of a range of matters as detailed below.

Clause 12 Compatibility with other land uses

The site is surrounded by a number of rural allotments that, given their relatively small size, are typically suited for rural dwellings and not any large scale agricultural activity. The site is bounded by the Broadwater National Park to the North and a caravan park is located approximately one kilometre to the South East. The EIS has considered and implemented measures to avoid and minimise impacts upon adjoining land uses. Impacts related to transportation, being noise, dust and traffic safety are the most likely incompatibilities with other land uses and are discussed in detail in Sections 6 and 7.

Clause 13 Compatibility with mining, petroleum production or extractive industry

The land is not in the vicinity of an existing mine, petroleum production facility or extractive industry, or identified as being the location of State or regionally significant resources of minerals, petroleum or extractive materials.

Clause 14: Natural resource management and environmental management

Key natural resource and environmental issues must be addressed including:

- Impacts on groundwater - Referral to the Office of Water, Department of Primary Industries (Fisheries) and Environmental Protection Authority have been undertaken. General Terms of Approval have been issued and include measures to protect and monitor impacts on groundwater
- Impacts on biodiversity.- the proposal requires clearing of vegetation and will have biodiversity impacts. Referral to the Office of Environment and Heritage has been undertaken, and a Biodiversity Offset is proposed. Detailed consideration of impacts on biodiversity is further discussed in Section 6.4.
- Greenhouse gas emissions - Emissions are generated by on-site vehicles and transportation activities. Such emissions may be minimised by use of efficient plant and vehicles, and potential use of biodiesel where possible and feasible. Additionally the quarry is located in close proximity to where the materials are required, being the Pacific Highway Upgrade corridor, therefore transportation is reduced.

Clause 15: Resource recovery

The resource recovery rate is considered to be efficient. There is considered to be little if any waste material from the development as virtually all extracted materials have a market demand.

Clause 16: Transport

Requires consideration of conditions in respect of roads and traffic safety and referral of the application to the Roads and Maritime Services. Detailed consideration of transport and traffic impacts has been undertaken in consultation with the Roads and Maritime Services and the Local Traffic Committee. A Road Safety Audit was submitted with the application with recommendations of the audit to be reflected in conditions of consent where appropriate.

Conditions are recommended to undertake roadworks, limit haulage times including during school bus runs, restrict the number of trucks per day, implement a Transport Management Plan and Driver Code of Conduct and make a contribution towards road maintenance. Further discussion of transport impacts is made within Sections 6 and 7.

Clause 17: Rehabilitation

Requires ensuring rehabilitation of the land is considered and conditioned appropriately. The proposed rehabilitation aims to return the area of the quarry to its pre-quarrying condition after quarrying activities have ceased. A draft condition of consent has been prepared to require a detailed Rehabilitation Plan that addresses the entire area of the site including the proposed offset areas and consideration of rehabilitating the excavation and hard stand areas, and any other additional matters as determined by Richmond Valley Council.

5.6. State Environmental Planning Policy Rural Lands 2008

The policy sets out eight Rural Planning Principals to assist in the proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State. The subject land has some potential agricultural productivity such as for grazing or cropping, however given the history of quarry activities and the significance of the resource, the proposed use as an extractive industry is also a productive and related use of rural land. The quarry does not impede agricultural use of adjoining land and is designed, and is to be managed, to minimise land use conflict.

5.7. State Environmental Planning Policy (State and Regional Development) 2001

Clause 7 of Schedule 1 identifies that State significant development includes extractive industries that:

- extract more than 500,000 tonnes per year, or
- extracts from a total resource (the subject of the development application) of more than 5 million tonnes, or
- extracts from an environmentally sensitive area of State significance.

The expansion proposes a maximum of a combined 490,000 tonnes (extraction and importation of material for blending) over a 25 period and from a total resource of 4 million tonnes. The proposed development is not within an identified environmentally sensitive area and is therefore not State Significant.

5.8. State Environmental Planning Policy No 71 – Coastal Protection

Matters for consideration set out in Clause 8 are to be taken into account by a consent authority when it determines a development application to carry out development on land to which the SEPP applies.

Clause 8: Matters for consideration
The site is not located on the coastal foreshore and therefore has no impact upon the foreshore, coastal processes and hazards, or the scenic qualities of the coast. General Terms of Approval have been issued by the Office of Water and will be placed on any consent granted to ensure impacts of the proposed development on groundwater are minimised.

The site has a history of use as a quarry and while the proposal will increase the area and volume of extracted material, the relationship with the surrounding area would not change significantly.

The site contains an area mapped as a wildlife corridor pursuant to the Richmond Valley Local Environmental Plan 2012. However this area is not subject to disturbance under the proposal.

The application was referred to NSW Department of Primary Industries (Fisheries) for comment with regard to any potential impacts on fish and marine vegetation. Fisheries raised no objection to the proposal

The proposal requires clearing of vegetation and will have biodiversity impacts. Referral to the Office of Environment and Heritage has been undertaken, and a Biodiversity Offset is proposed.

The proposal would not create any conflict between land-based and water-based coastal activities.

A cultural heritage assessment was submitted with the application and the recommendations contained within the assessment must be adhered to in accordance with the draft conditions of consent to ensure measures are taken to protect aboriginal heritage and other items of archaeological or historic significance.

The Environmental Protection Authority has issued General Terms of Approval which, together with the proposed draft conditions of consent, will ensure that there are no cumulative impacts of the proposed development on the environment.

The development would be self-sufficient in energy and water usage. The operator proposes the use of energy efficient plant and vehicles, and a water source is located on the site via a series of dams that will ensure that water and energy usage by the proposed development is efficient.

6. The Likely Impacts of the Development

6.1. Noise

The EIS includes a Noise Impact Assessment addressing both onsite (operational) noise and noise generated by transportation activities. Additional comments in relation to the document have been submitted by the applicant in response to Councils requests for clarification of potential impacts on sensitive receivers.

Onsite operational noise has been assessed against the Industrial Noise Policy, while transport noise is assessed against the NSW Road Traffic Noise Guidelines.

Under Schedule 1 of the Protection of the Environment Operations Act extractive industries that extract, process or store more than 30,000 tonnes per year of material are required to be licensed by the NSW Environment Protection Authority (EPA).

An EPA licence regulates air, noise, water and waste impacts from an activity or operation. The current proposal to increase operations to a combined (extraction and importation of material for blending) 490,000 tonnes per annum requires a licence to be issued by the Environmental Protection Authority.

As a licenced premises all noise related activities within the 'profit a prendre' at the quarry including operation of plant and equipment will be regulated by the EPA. Importantly, noise generated between Woodburn-Evans Head Road and the profit a prendre boundary (i.e. along the internal access road) is not regulated by the EPA and therefore Council has conditioned the approval to ensure ongoing management and compliance. Also, the management of traffic noise generated by quarry trucks once they leave the site is the responsibility of Council and not the EPA.

<u>Operational Noise</u>

A noise assessment was undertaken by consultants GHD in November 2014 and included identifying sensitive receivers such as nearby residential premises (see Figure 4) and determining the existing noise environment by measuring the existing ambient noise level. The nearest sensitive receivers are approximately 300 metres from proposed extraction areas and 85 metres from the access road. The primary noise sources of the existing environment were found to comprise intermittent traffic on Woodburn – Evans Head Road and natural sources such as insect, bird and wind noise in trees / foliage. The background or ambient noise level at the closest affected residential premises determined as a result of monitoring is 36dB(A).

Figure 4: Location of Noise Sensitive Residential Receivers *Source: EIS*

Noise from the operation of plant and equipment at the proposed quarry was based on all machinery being used at once at full power. The consultant states that it is very unlikely this situation would occur and suggests that the predictions be conservative measurements.

Noise sources were identified as being an excavator, dredge (generator), screening plant, front-end loader, water pump, light vehicles, cyclone generator (100 kW) dredge, and cyclone pump (75 kW). Noise emissions for private haulage roads are also considered under the NSW Industrial Noise Policy criteria therefore transport on the private road is assessed as operational noise.

Operational noise will be generated by the operation of machinery associated with winning material. Background noise monitoring indicates the rating background levels are approximately 36dB(A) and in accordance with the intrusiveness criteria a project specific noise level of 41dB(A) $_{LAeq15\ minute}$ has been determined.

Modelling of the noise from the operation of machinery was undertaken to determine impacts on nearby residential premises. Results revealed that noise associated with haul trucks, the loader and screening plant are the dominant source at most receivers. Haul trucks are most dominant at three identified receivers and the operation of the dredge impacts receivers during stages 1 and 4 of operations but has a lesser impact in stages 2 and 3. For all stages, the noise impact of the quarry on surrounding receivers has been assessed at:

- Average daily production: approximately 350,000 tonnes per year, which is expected to generate about 50 truck and dog loads (100 movements) per day
- Peak daily production: 490,000 tonnes per year, which would require 70 truck and dog loads (140 truck movements) per day.

The predicted average and peak operational noise level modelling resulted in approximately half of the identified sensitive receivers experiencing 41-46dB(A). Modelling results are shown in the following figures 5 – 12.

Figure 5: Stage 1 Peak Daily Production *Source: EIS*

Figure 6: Stage 2 Peak Daily Production *Source: EIS*

Figure 7 Stage 3 Peak Daily Production *Source: EIS*

Figure 8 Stage 4 Peak Daily Production *Source: EIS*

Figure 9: Stage 1 Average Daily Production *Source: EIS*

Figure 10: Stage 2 Average Daily Production *Source: EIS*

Figure 11: Stage 3 Average Daily Production *Source: EIS*

Figure 12: Stage 4 Average Daily Production *Source: EIS*

The following noise mitigation measures are proposed to ensure compliance with the required criterion of 41dB(A):

- Ensure operations do not begin before 7 am or continue after 6 pm, including vehicles arriving on site and leaving the site
- Provide acoustic barriers along the internal access (refer to Figure 13)
- Provide mounding around plant and equipment that generate the highest level of noise (refer to Figure 13)
- Replace reverse beepers with broad-band beepers.
- Surfacing the internal access
- Equipment would be fitted with appropriate silencers and be in good working order.
- Machines found to produce excessive noise compared to industry best practice should be removed from site or stood down until repairs or modifications can be made.

The EPA has required a number of General Terms of Approval to ensure mitigation measures are implemented as they are the Regulatory Authority for operational noise from the quarry. As stated above the EPA regulates activities within the Profit a Prendre (PaP) area only. This encompasses all operational activities associated with winning and transporting material from the quarry site to the PaP boundary. Part of the private access road to the quarry from Woodburn Evans Head Road is outside the PaP and therefore noise mitigation measures required along this section will be regulated by Council not the EPA. Council has recommended conditions to ensure this section of the access is also addressed.

Figure 13: Noise mitigation peak production *Source: EIS*

The above noise mitigation measures have been predicted to achieve the project specific noise level of 41dB(A) $_{LAeq15\ minute}$ at all sensitive receivers (refer to Table 1).

Receiver	Criterion	Predicted noise levels L_{Aeq} dB(A)							
		Stage 1		Stage 2		Stage 3		Stage 4	
		Peak daily production	Average daily production	Peak daily production	Average daily production	Peak daily production	Average daily production	Peak daily production	Average daily production
R1	41	41	40	41	40	41	40	41	40
R2	41	41	41	41	40	41	40	41	40
R3	41	39	39	39	39	39	39	39	39
R4	41	41	41	41	41	41	41	41	41
R5	41	38	38	37	37	37	37	38	38
R6	41	38	38	38	37	38	37	38	39
R7	41	37	37	37	37	37	37	38	39
R8	41	40	40	39	39	39	39	41	41
R9	41	37	37	36	36	36	36	37	38
R10	41	37	37	37	37	37	37	37	37
R11	41	34	34	33	33	33	33	34	35
R12	41	39	38	39	38	39	38	39	38
R13	41	35	34	35	35	35	34	35	34

Table 1: Predicted mitigated operational noise levels *Source: EIS*

Transport Noise

The NSW Road Noise Policy outlines the assessment criteria for particular road categories. The principal haulage route comprises the unnamed quarry access road, Woodburn-Evans Head Road and Alfred Street to the Pacific Highway intersection.

The EIS states that truck and dog combinations have a capacity to haul approximately 32 tonnes and the proposal therefore is expected to generate an average of about 50 truck and dog loads which is 100 truck movements per day including return journeys. At its peak it is expected to involve about 70 truck and dog loads or 140 truck movements per day

The assessment criteria for a road being a principal haulage route is the rate applied to Arterial/sub-arterial roads. Therefore the daytime assessment criteria of 60dB(A) $_{LAeq(15\ hour)}$ applies to the haulage route.

The Noise Impact Assessment submitted with the application assessed existing and future levels of road traffic noise along Woodburn – Evans Head Road. Noise modelling of data was carried out to predict road traffic noise levels. Noise modelling undertaken demonstrates that future predicted noise level exceedances of the applicable criterion occur at three locations, being receivers R2, R3 and R6 (see Table 2): However in all three of these instances the current predicted noise level exceeds the criterion and the future predicted noise level represents an increase of only 1dB(A). The Road Noise Policy states that an increase of 2dB(A) represents a level which is considered barely perceptible to the average person therefore the road noise generated by the proposed expansion is not considered significant. Nevertheless, draft conditions of consent include the requirement to implement a Truck Management Plan, Driver Code of Conduct and Road Traffic Noise Management Plan.

- R2 – Lot 450 DP 755624 on the corner of the quarry access and Woodburn-Evans Head Road– 64 dB(A)
- R3 – Lot 449 DP 755624 485 Woodburn-Evans Head Road - 62 dB(A)
- R6 – Lot 446 DP 755624 455 Woodburn-Evans Head Road - 63 dB(A)

The consultant has identified that there is potential for “annoyance” to sensitive receivers from bumps and pot holes in the road that may cause short-term increase in noise during vehicle passbys. A recommendation by the noise consultants is that the Woodburn Evans Head Road be “resurfaced” in areas adjacent to noise receivers to reduce potential noise from trucks banging/bumping particularly when they are unloaded.

Council’s Senior Administration Engineer has identified that resurfacing will do little to reduce noise from banging and bumping but rather reconstruction of bad areas would need to be carried out to repair potholes and smooth out the surface where uneven. This is the purpose of Council S94 contributions and a condition has been recommended that the monies generated from these S94 will be spent on upgrading this section of road.

Receiver	Traffic noise criterion $L_{eq\ (15\ hour)}$	Current Predicted noise level $L_{eq\ (15\ hour)}$	Future Predicted noise level L_{eq} (15 hour)	Complies (yes/no)
R1	60	51	52	Yes
R2	60	63	64	Yes
R3	60	61	62	Yes
R4	60	47	48	Yes
R5	60	57	58	Yes
R6	60	62	63	Yes
R7	60	55	56	Yes
R8	60	49	50	Yes
R9	60	56	57	Yes
R10	60	54	55	Yes
R11	60	52	53	Yes
R12	60	53	54	Yes
R13	60	48	49	Yes

Table 2: Predicted existing and future road traffic noise levels, dB(A) *Source: EIS*

6.2. Traffic Safety

The development proposes to generate up to 140 truck movements per day inclusive of both incoming and outgoing trucks along the haul route. The haulage route passes through a rural area before entering the township of Woodburn and the intersection with the Pacific Highway.

Truck movements have the potential to impact on traffic safety along this route. A Traffic Impact Assessment and Road Safety Audit were submitted with the application and consultation with RMS and Local Traffic Committee has been undertaken

Conditions of consent are recommended to address Traffic Safety including;

- Truck movements are to be within the approved operating hours Monday-Friday 7am - 6pm and Saturdays 8am-1pm with no work on Sundays or Public Holidays.

- Restriction of trucks along Woodburn-Evans Head Road during the school bus drop off and pickups and the ability to extend this period if necessary to accommodate children walking to and from the bus stops.

- Total truck movements (incoming and outgoing) limited to 140 loads Monday-Friday and 64 loads Saturdays.

- Preparation of a Truck Management Plan and Driver Code of Conduct.

6.3. Road Upgrade and Maintenance

Road upgrades and ongoing maintenance are required to achieve a standard to ensure traffic safety and efficiency. Necessary road upgrades were identified in the

Traffic Impact Assessment and Road Safety Audit. Additionally in consultation with the Roads and Maritime Services the following conditions of consent are recommended to address Road Safety and Maintenance including;

- Construction of a basic left turn (BAL) at the intersection of Woodburn Evans Head Road and the quarry entrance road. The full intersection, including the widened shoulder shall be sealed with an AC/open graded hotmix.
- Hinged 'Trucks Turning' warning signs are to be permanently erected 80 metres each side of the quarry access intersection to warn traffic of heavy vehicle movements on and off Woodburn Evans Head Road.
- A Section 94 contribution amounting to $1.10 per tonne (rate as @ 10/7/2015) of material transported to and from the site.

6.4. Ecological and Biodiversity Impacts

Expansion of the quarry footprint requires the clearing of about 1.01 hectares of native vegetation. A detailed Flora and Fauna assessment is provided with the EIS. Assistance from the Office of Environment and Heritage (OEH) has been obtained in reviewing the Flora and Fauna assessment and consideration of the Biodiversity Offset.

The site contains five vegetation types based on the fine-scale vegetation mapping and flora sampling being coastal heath on sands of the North Coast, modified pink bloodwood – red mahogany open forest, paperbark swamp forest on coastal lowlands, exotic grassland and disturbed land / existing quarry. The site contains one Endangered Ecological Community (EEC) being Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions. The application proposes to remove approximately 1.01 hectares of this EEC.

Signs of one vulnerable fauna species (Koala) were observed in the southern open woodland part of the property (scratches and scat). The assessment concluded that the site does not contain core koala habitat in accordance with State Environmental Planning Policy No. 44 – Koala Habitat Protection. Another vulnerable species known to occur on the site is the Brush-tailed Phascogale.

Ecological impacts of the quarry expansion include loss of 1.01 hectares of native vegetation/habitat over the 25 year period, loss of 22 hollow bearing habitat trees, potential loss of forage, shelter and habitat for threatened species, potential injury or mortality to fauna due to site establishment and daily operation, disturbance from ongoing noise, and introduction of weed species.

A number of mitigation measures designed to reduce ecologic impacts are outlined in section 7 of the submitted Ecological Assessment. A draft consent condition is recommended to ensure implementation of all the recommendations within an Operational Plan of Management. Additionally site rehabilitation and a biodiversity offset have been proposed.

The applicant has provided an Offset Plan (22 June 2015). The plan nominates a combined 3.48 ha offset across two areas. Assistance from OEH has been obtained in relation to the Biodiversity Offset. OEH have advised the proposed 3.48 hectare

offset area appears adequate and would likely meet the BioBanking Assessment Methodology.

The offset is required to establish appropriate buffers between the proposed offset areas and extraction areas to ensure that extraction activities do not undermine the integrity and value of vegetation within the offset areas. A rehabilitation plan is also required to be prepared and implemented to ensure ongoing management of the offset areas.

With regard to the legal mechanism for protection of the offset area, OEH's preferred option is the BioBanking Scheme. Alternatively, a Conservation Agreement pursuant to the National Parks and Wildlife Act 1974 may be utilised. A draft condition of consent will ensure that an appropriate and legally binding mechanism is implemented by the proponent to ensure the protection of the offset area to the satisfaction of Richmond Valley Council in liaison with OEH.

6.5. Site Rehabilitation

The proposed rehabilitation aims to return the area of the quarry, excluding the excavation and hard stand areas, to its pre-quarrying condition after quarrying activities have ceased. The proposed approach to the rehabilitation of the area includes:

- Spreading and shaping the topsoil stripped from the site prior to the quarry operations commencing to form a minimum 100mm deep layer on those areas available for rehabilitation
- Hydromulching or hand seeding and mulching with a mix of pasture grasses and sterile cover crop.
- Maintaining sediment and erosion controls until the site is stable.

To ensure the rehabilitation is completed, the profit a prendre contains a detailed arrangement by which the quarry operator is required to deposit a contribution per tonne of material won and hauled into an account which is to be used for the costs relevant to rehabilitation.

A draft condition of consent has been prepared to require a detailed Rehabilitation Plan that addresses the entire area of the site including the proposed offset areas and consideration of rehabilitating the excavation and hard stand areas, and any other additional matters as determined by Richmond Valley Council.

6.6. Cultural Heritage

A Cultural Heritage Assessment considering both historic (non-indigenous) and Aboriginal cultural heritage is included in the EIS. A desktop study and field inspection revealed that no indigenous cultural heritage sites or relics were identified within the proposed expansion area. Additionally, no areas have been identified that are considered to potentially contain subsurface deposits of significant Aboriginal heritage.

Despite the fact that no sites or relics were identified nor any potential subsurface deposits, the assessment makes recommendations which the proponent must adhere to as per the draft conditions of consent.

The Office of Environment and Heritage have reviewed the Cultural Heritage Assessment and encourage consent conditions to reflect the intention of the recommendations. They further recommend that Council ensure all management measures comply with Part 6 of the National Parks and Wildlife Act 1974.

6.7 Groundwater

The EIS analysed the impacts on groundwater of 10 potential situations. Modelling showed that varying the water level by 0.5 m had little impact on the level of drawdown in the pit. Increasing the recharge from rainfall slightly decreased the drawdown in the pit.

It is likely that the proposed sand extraction will result in a lowering of groundwater pH in the vicinity of the pit lakes due to exposure of the potential acid sulphate soils to the atmosphere. Based on monitored impacts from the existing sand extraction, it is likely that the reduction in groundwater pH will be limited to a distance of approximately 100 m from the pit lakes.

Under the NSW Aquifer Interference Policy the Level 1 minimal impact considerations for Highly Productive Coastal Sands Water Sources specify that the allowable predicted impact must be less than a 2 m water table decline cumulatively at any water supply work. The predicted drawdown at the pit is less than 2 metres and therefore the predicted impacts of this work will fall within this criterion. It is predicted that under average evaporation conditions, the works are likely to have no impact (in terms of level or quality) on existing bores.

Under the NSW Aquifer Interference Policy the Level 1 minimal impact considerations for Highly Productive Coastal Sands Water Sources specify that the allowable predicted impact must be less than or equal to 10% cumulative variation in the water table, allowing for typical climatic ‘post-water sharing plan’ variations, at a distance of 40 m from any high priority groundwater dependent ecosystem or high priority culturally significant site listed in the schedule of the relevant WSP.

The likely typical climatic variations for coastal sand aquifers are estimated to be in the order of 2 m based on review of NSW Office of Water bores adjacent to the site. Based on the results of the search of the Groundwater Dependant Ecosystem Atlas the closest identified potential GDE lies approximately 250 metres from the Project Application Area boundary. This is likely to be within the radius of influence. The profile of the drawdown is unknown but the maximum drawdown under average evaporation conditions will be 0.36 m. Therefore, it is likely that the drawdown 40 m from the closest GDE will be approximately equal to or less than 10% of cumulative variation in the water table.

The application was referred to NSW Office of Water and the EPA as Integrated Development. Office of Water has provided General Terms of Approval that will form part of any consent granted and will ensure the proponent does not adversely impact groundwater resources in accordance with a water licence. The EPA has provided

General Terms of Approval that includes groundwater monitoring to ensure the ongoing protection of groundwater resources.

6.8 Dust

The Air Quality Impact Assessment included in the EIS identified that the individual processes that generate significant amounts of particulate matter (dust) are:

- Sand quarrying e.g. excavation.
- Material processing and handling e.g. screening and loading.
- Vehicle induced dust emissions on haul road.
- Wind erosion of exposed unstable soil surfaces and localised stockpiles.

The assessment expected that a reasonable representation of the ambient 24-hour emissions concentration levels would be in the order of 10 - 20 ug/m^3 – the upper bound being what is typically encountered in much larger urbanised environments. An ambient concentration of 15 ug/m^3 has been adopted as the background level.

The modelling predicted that when the quarry is operating at the maximum extraction rate, the generated particulate matter would exceed the incremental criterion of 35ug/m^3 at two sensitive receivers being R2 and R4 even with all suppression controls implemented (Table 3).

Receiver	Cumulative criterion	Adopted background	Adopted incremental impact criterion	Peak production rate		Average production rate	
				No controls	With controls	No controls	With controls
R1	50	15	35	**101**	33	**72**	24
R2				**97**	**62**	**69**	**44**
R3				**43**	31	30	22
R4				**57**	**42**	**40**	30
R5				27	20	20	15
R6				26	17	19	12
R7				27	16	19	12
R8				**35**	24	25	17
R9				23	16	17	12
R10				15	11	10	8
R11				17	10	12	7
R12				**98**	32	**70**	23
R13				35	16	25	11

* Bold numbers indicate an exceedance of the incremental impact criterion of 35 µg/m^3.

Table 3: Predicted 24 hour Incremental Emissions Concentrations *Source: EIS*

The assessment concluded that the proposal would operate at peak production only on occasion, and when it does, it is unlikely that this event would be coupled with the adverse meteorological conditions (5 out of 365 days) required to cause maximum off-site dust impact. Therefore, assuming dust control measures are implemented, the worst-case scenarios of dust generation can be managed to the requirements of the approved methods.

General measures that will be implemented as part of the existing dust control management plan include:

- Rehabilitated areas will be revegetated as early as possible after completion.
- Newly stripped topsoil stockpiles will be immediately watered and revegetated with a grass cover or similar.
- Haul truck routes will be watered as required, particularly during peak periods of vehicle movements and extended dry spells.

Additional dust management measures are provided below in Table 4.

Emission Source	Proposed Management
Dust generated from transport activities on-site and off-site	Use of water sprays/trucks and sprays to wet down access roads. Clean sealed roads at access and egress points regularly to minimise the re-suspension of dust on sealed roads. Continue to control on-site traffic by designating specific routes for haulage and access and limiting vehicle speeds to below 25 km/hr. All trucks hauling material should be covered before exiting the site and should maintain a reasonable amount of vertical space between the top of the load and top of the trailer.
Dust generated from loading, unloading and storage/stockpiling of material on-site	Use water sprays to minimise truck dust emissions. Ensure materials are appropriately stored and contained to prevent releases to the atmosphere (e.g. wind fences, water sprays).
Dust from wind erosion	Aim to minimise the size of storage piles where possible and re-vegetate inactive storage piles to assist in reducing wind erosion emissions. Limit cleared areas of land and clear only when necessary to reduce fugitive dust emissions. Re-vegetate cleared areas of land that are no longer used.
Reactive dust management	On days of peak production, coincidental adverse weather has potential to cause off-site impact. Visual monitoring of movement of dust plumes will indicate if downwind receptors have an elevated risk of over-exposure to dust. Additional watering or adjustments to operational activity, including temporary cessation of production during the gustiest wind conditions, can be used to limit short-term excessive dust load beyond the site boundary.

Table 4: General Management of Dust Emissions *Source: EIS*

The application was referred to the EPA as the quarry expansion requires an Environmental Protection Licence to operate. EPA have provided General Terms of Approval, including requirements to minimise emissions of dust from the area located within the profit a prendre boundary, which will form part of any consent granted. Council proposes a draft condition to seal the access between Woodburn Evans Head Road and the profit a prendre boundary to further minimise dust emissions.

6.9 Acid Sulfate Soils

The site is mapped as Acid Sulfate Soil (ASS) Class 3 under the Richmond Valley Local Environmental Plan 2012. Therefore the EIS was required to include an Acid Sulfate Soils Assessment which identified that eight of the nine samples taken had net acidities greater than the criteria specified in the Acid Sulfate Soils Management Authority (ASSMAC) Guidelines.

Given these findings the applicant prepared and submitted an Acid Sulfate Soil Management Plan (ASSMP). The following management practices are proposed:

- Potential Acid Sulfate Soil (PASS) management will need to be managed by appropriately qualified and trained personnel
- Clean surface water is to be directed around exposed PASS, where possible and run-off from stockpiles and exposed surfaces is to be contained, treated and assessed prior to discharge.
- Scheduling and managing excavation to minimise exposure of ASS/PASS.
- Maintaining a high level of water in the excavation pit to prevent exposure of PASS.
- Detailed records of any ASS treatment are to be kept on site.
- Mixing lime to the excavated sand as soon as possible after excavation (eg following processing via the cyclone)
- Applying lime to the exposed surfaces of the excavation (i.e. the exposed walls of the lake) following rain
- Lime will be applied to leachate/run-off water via application in drainage lines prior to entering the settlement pond. This method could be used in conjunction with treatment in the settlement pond to reduce dosage requirements (in the settlement pond) and reduce potential mobilisation of metals or other potential environmental impacts. However caution should be used in application in drainage lines to avoid overshooting the pH range.
- A suitable mixing technique adequate for the volumes and quality of water to be treated is to be implemented for treatment of the settlement pond. The hydrated lime or other neutralising agent must be thoroughly mixed with the water to be treated, and preferably completely dissolved in a smaller aliquot of water prior to addition to the total volume. Further mixing may be encouraged by agitation of the water.
- Monitoring is required to assess the effectiveness and reliability of the ASS treatment measures and any residual impacts after these measures are implemented. As the excavated soil is to be analysed to confirm it meets clients' specifications, the most effective monitoring of the soil pH will be during this process. Water pH will be monitored prior to discharge from the settlement pond. The monitoring program is to verify that the proposed mitigation strategies are effective in minimising negative environmental impacts due to acid generation. The Quarry Manager will be responsible for the management and co-ordination of the monitoring program. This will include the training of responsible staff in the undertaking of soil and water monitoring, audits and inspections of operational activities, calibration of monitoring equipment and recording all results of monitoring.

7. Issues Raised in Submissions

7.1. Air Quality Impacts from dust and vehicle/plant emissions

Comment: Increased extractive activity and heavy vehicle traffic have the potential to increase dust and emissions generated from the site and thus the impacts on adjoining residences. Mitigation measures include sealing of the quarry access and use of water trucks to reduce dust, and minimise the size of material stockpiles and vegetate inactive stockpiles to reduce erosion impacts. This will result in improved air

quality and alleviate dust nuisance issues. Vehicle emission standards are prescribed by the Australian Government Department of Infrastructure and Regional Development, and individual Smoky Vehicles can be reported to the Environmental Protection Authority for further action.

7.2. Noise and vibration from extractive activities and transport operations

Comment: Increased extractive activity and heavy vehicle traffic have the potential to generate noise impacts along the internal access and haulage route. The NSW Industrial Noise Policy provides target levels and an assessment framework for noise generating activities occurring on the site. The project specific criterion requires operations to be no more than 5dB above the background level (established at 36dB(A)). The EPA are the regulatory authority for onsite noise generation (within the profit a prendre boundary) and they have provided General Terms of Approval to ensure the criterion of 41dB(A) is not exceeded. Council proposes draft conditions to ensure the construction of acoustic barriers along the quarry access and sealing of the access so that the criterion is achieved for the entire site. The NSW Road Traffic Noise Guideline provides target levels for developments generating additional traffic. The relevant criteria prescribes a daytime target level of 60dB(A) at residential receivers. No night time transportation is proposed or permitted as part of the development. Predicted road noise levels exceed the criterion of 60dB(A) at three receivers however these levels represent only a 1dB(A) increase compared to existing noise levels and is considered insignificant in accordance with the Road Noise Policy.

With regard to vibration, the EIS states that vibration from mobile machinery and haul trucks is typically negligible at distances of 30-50 metres. Given there are no sensitive receivers within this distance, and the majority of operations are on a soft surface (sand) or water, vibration generated from quarry operations are expected to be negligible.

The Noise Impact Assessment submitted with the application predicts that onsite operational noise (subject to mitigation measures) meets the specified targets. The mitigation measures identified are:

- Ensure operations do not begin before 7 am or continue after 6 pm, including vehicles arriving on site and leaving the site
- Provide acoustic barriers along the internal access
- Provide mounding around plant and equipment that generate the highest level of noise
- Replace reverse beepers with broad-band beepers.
- Surfacing the internal access
- Equipment would be fitted with appropriate silencers and be in good working order.
- Machines found to produce excessive noise compared to industry best practice should be removed from site or stood down until repairs or modifications can be made.

7.3. Road Safety and Traffic Impacts

Comment: The development proposes to generate up to 140 truck movements per day inclusive of both incoming and outgoing trucks along the haul route. The haulage

route passes through a rural area before entering the township of Woodburn and the intersection with the Pacific Highway. Truck movements have the potential to impact on traffic safety along this route.

A Traffic Impact Assessment and formal Road Safety Audit were submitted with the application and consultation with the RTA and Local Traffic Committee has been undertaken. Conditions of consent are recommended to address Road Safety including;

- Truck movements are to be within the approved operating hours Monday-Friday 7am - 6pm and Saturdays 8am-1pm with no work on Sundays or Public Holidays.
- Restriction of trucks along the haulage route during the school bus drop off and pick ups and the ability to extend this period if necessary to accommodate children walking to and from the bus stops.
- Total truck movements (incoming and outgoing) limited to 140 movements Monday-Friday and 64 movements Saturdays.
- Preparation of a Truck Management Plan and Driver Code of Conduct.
- A Section 94 contribution amounting to $1.10 per tonne (rate as @ 10/7/2015) of material transported to and from the site.
- Construction of a basic left turn (BAL) at the intersection of Woodburn Evans Head Road and the quarry entrance road. The full intersection, including the widened shoulder shall be sealed with an AC/open graded hotmix.
- Hinged 'Trucks Turning' warning signs are to be permanently erected 80 metres each side of the quarry access intersection to warn traffic of heavy vehicle movements on and off Woodburn Evans Head Road.

7.4. Groundwater Impacts

Comment: The application was referred to NSW Office of Water and the EPA as Integrated Development. Office of Water has provided General Terms of Approval that will form part of any consent granted and will ensure the proponent does not adversely impact groundwater resources in accordance with a water licence. The EPA has provided General Terms of Approval that includes groundwater monitoring to ensure the ongoing protection of groundwater resources.

7.5. Ecological Impacts

Comment: The EIS included an Ecology Assessment that considered the impacts of the development on flora and fauna. Assistance from the Office of Environment and Heritage (OEH) has been obtained in reviewing the Flora and Fauna assessment.

The proposal requires the removal of 1.01 hectares of vegetation identified as an Endangered Ecological Community (EEC) being Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions. The proponent has identified a 3.48 hectare offset area to replace this community with like for like vegetation. In consultation with OEH, Council is satisfied that the draft conditions of consent ensure that the offset area minimises the impacts on this community.

The application was referred to NSW Fisheries for comment particularly with regard to any impacts on the endangered Oxleyan Pygmy Perch which is known to, or likely to, occur on the site. Fisheries raised no objections to the proposed development.

A number of mitigation measures designed to reduce ecologic impacts are outlined in section 7 of the submitted Ecological Assessment. A draft consent condition is recommended to ensure implementation of all the recommendations detailed within an Operational Plan of Management.

7.6 Visual Impacts

Comment: The expansion of the quarry will incorporate a number of measures that will contribute to minimising its visual impact. Mounding proposed for mitigation of plant noise, together with existing vegetation, will contribute to screening the development from adjoining land. Management of the expansion will also minimise the size of material stockpiles and vegetate inactive stockpiles to reduce visual impacts. Draft conditions of consent will ensure that acoustic barriers required for noise mitigation are constructed of materials and colours that will complement the existing natural environment and will ensure that vegetative screening is provided to soften the visual impact of these barriers.

7.7 Acid Sulfate Soils

Comment: The applicant has submitted a comprehensive Acid Sulfate Soil Management Plan that demonstrates appropriate management of acid sulphate soils. Monitoring will also be undertaken during the life of the quarry to confirm the management practices are effective.

7.8 Water Supply

Comment: The proposed expanded quarry is located approximately 550 metres, at its nearest extraction area, from an area mapped as “Rous Ground Water Extraction Catchment” under the Richmond Valley Local Environmental Plan (LEP) 2012. The LEP does not require further assessment as the proposal does not encroach upon the mapped area however the EIS and all public submissions were referred to the Office of Water. Office of Water is satisfied that the General Terms of Approval provided to Council ensure that there are no negative impacts on the Rous catchment.

7.9 Surface Water

Comment: The applicant has made additional comment on the impacts on surface water in response to submissions.

Concerns are raised regarding the elevated concentrations of Aluminium, Copper and Zinc from the single water quality sample collected from the existing pit. The submission explains that this is likely to be associated with the prevailing low pH levels and the mobilisation of naturally occurring metals under these acidic conditions. The groundwater recharge and flow paths in the Woodburn Sand Aquifer using modelling and geochemical approaches (SCU, 2014) indicates the area is characterised by low pH. The SCU (2014) report also explains that “these pH values are higher than often observed in shallow acid sulphate soil groundwater in other NSW floodplains (usually in the range of 3-4; de Weys et al., 2011; Johnston et al.,

2004)". The low pH and the associated elevated heavy metal concentrations are therefore likely to be naturally occurring.

In addition the operation is unlikely to discharge offsite, other than during floods, and if it does, the water would need to comply with the requirements of an Environmental Protection Licence issued by the EPA.

7.10 Soil Subsidence

Comment: The proposed expansion area is located approximately 110 metres, at its nearest extraction area, from an adjoining residential boundary. The issue of soil subsidence has been considered by the applicant's Geotechnical Engineers. The applicant advised that based on the current site conditions, the sand appears to be relatively stable with minimal slumping evident. It is therefore considered that significant slumping/soil subsidence is unlikely. In the worst case scenario, the slumping would cause a horizontal extension of the excavation equal to its depth i.e. 15m. The proposed excavation has at least 20m buffer to the nearest property boundary and therefore any slumping would not impact adjacent neighbours.

7.11 Socio Economic Impacts

Comment: The applicant acknowledges that there may be some impact to local residents but with the implementation of appropriate mitigation measures, these impacts would be within acceptable limits. The majority of these impacts are related to the quarry operating at its capacity which would be rare and only for a relatively short timeframe.

The EIS identifies positive socio economic impacts being: a valuable resource to the upgrade of the Pacific Highway which is shown to significantly reduce travel times, crashes and fatalities; and the provision of direct and indirect employment.

7.12 Consultation

Comment: The applicant acknowledges that not many people attended the two community events held but both were advertised widely. The neighbouring residents were informed of the events and over 500 notices were delivered to residents of Evans Head and Woodburn. On both occasions there were also advertisements placed in the local paper, Northern Star and on the local radio station.
One week before the information days, the proponent placed notices at the following locations: Mid-Richmond Neighbourhood Centre, Evans Head News Agent, Ritchies Community Notice Board, Evans Head Community Notice Board, Evans Head Butcher, Evans Head RSL Club, Yates Takeaway, Richmond Valley Council, Evans Head Doctors Surgery, Chill Café, Bakery, Spar, Pot Belly Pies, Beside ATM, Video Store, Chemist, Bottlemart, First National, Doonbah River View Service Station, Beach side bargains and several other community notice boards in the main streets of Woodburn and Evans Head.

The EIS was exhibited from 10 December 2014 to 23 January 2015. The timing of this was not ideal which is why Council extended the typical advertising period of 30 days to allow for the holiday period. The EIS was incorrectly advertised initially as some information required by the Environmental Planning and Assessment Act 1997 and Regulation was missing. The EIS was advertised in the correct format for a 30 day period from 1 July to 31 July 2015.

7.13 Flooding

Comment: Clause 6.5 of the Richmond Valley Local Environmental Plan 2012 requires that an application aims to minimise the flood risk to life and property, ensure that development is compatible with the land's flood hazard and to avoid significant adverse impacts on flood behaviour and the environment.

The development site is subject to the 1 in 100 year flood planning level however Council is satisfied that the proposal does not increase the flood risk to life and property and does not significantly impact existing flood behaviour and the environment.

8. Conclusion and Recommendations

The Doonbah quarry is identified as a locally significant resource and the increased extraction is primarily required to meet anticipated demand associated with the Pacific Highway upgrade between Woolgoolga and Ballina. The Environmental Impact Statement and additional information submitted has addressed the relevant legislation, planning instruments and considered the likely impacts of the development.

Consultation with the public and relevant State Government agencies has been undertaken. The recommendations and issues raised have been addressed and form part of the recommended conditions of consent where applicable.

It is considered the proposed development complies with legislative requirements, avoids adverse impacts where possible and mitigates against such impacts where feasible.

It is recommended that Development Application DA2015/0130 (JRPP reference No. 2014NTH023 be approved subject to conditions contained in the Draft Schedule.

Appendix A – Proposed Consent Conditions

Appendix A is attached as a separate document.

Appendix B – General Terms of Approval issued by the Environmental Protection Authority

Protection of the Environment Operations Act 1997

General Terms of Approval - Issued

Notice No: 1527092

Attachment A - General Terms of Approval for Doonbah Quarry non-mandatory conditions

Administrative conditions

A1. Information supplied to the EPA

A1.1 Except as expressly provided by these general terms of approval, works and activities must be carried out in accordance with the proposal contained in:

- The Development Application No. 2015.130 submitted to Richmond Valley Council; and,
- The environmental impact statement *Proposed Sand Quarry Expansion at Lot 2 DP 1040274 Doonbah Environmental Impact Statement* (EIS) dated November 2014 relating to the development.

A2. Fit and Proper Person

A2.1 The applicant must, in the opinion of the EPA, be a fit and proper person to hold a licence under the Protection of the Environment Operations Act 1997, having regard to the matters in s.83 of that Act.

Discharges to Air and Water and Applications to Land

P1.1 The following utilisation areas referred to in the table below are identified in the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, for the purposes of the monitoring and/or setting of limits for any application of solids or liquids to the utilisation area.

Water and Land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
Monitoring/Discharge Point 1	Water	N/A	Overflow point of temporary settling pond
Monitoring/Discharge Point 2	Water	N/A	Inflow into the excavation lake from the settling ponds processing/storing
Discharge Point 3	N/A	Water	South-west corner of the profit a prendre area (the premise) where water runs off-site
Groundwater 1	Water	N/A	Bore (GW1) to the East of the excavation lakes
Groundwater 2	Water	N/A	Bore (GW2) north of the Stage 1 Temporary Settling Pond
Groundwater 3	Water	N/A	Bore (GW3) South-West of the Stage 2 Temporary Settling Pond inside the profit a pendre boundary
Groundwater 4	Water	N/A	Proposed bore, down hydraulic

Page 3

			gradient from site

P1.2 All location descriptions in the table above have been taken from the labels in *Rixa Quarries Pty Ltd Proposed Sand Quarry Expansion at Lot 2 DP 1040274, Doonbah Environmental Impact Statement* by GHD dated November 2014 in Figure 01 Appendices A - Quarry Plans.

Limit conditions

L1. Pollution of waters

L.1.1 Except as may be expressly provided by a licence under the Protection of the Environment Operations Act 1997 in relation of the development, section 120 of the Protection of the Environment Operations Act 1997 must be complied with in and in connection with the carrying out of the development.

L2. Concentration limits

L2.1 For each discharge point or utilisation area specified in the table/s below, the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentrations limits specified for that pollutant in the table.

L2.2 Where a pH quality limit is specified in the Table, the specified percentage of samples must be within the specified ranges.

L2.3 To avoid any doubt, this condition does not authorise the discharge or emission of any other pollutants.

L2.4 Water and/or Land Concentration Limits

Monitoing/Discharge Point 3 **Surface Water**

Pollutant	Units of Measurement	100% concentration limit
Total Suspended Solids	mg/L	50
pH	pH units	6.5-8.5
Oil and Grease	mg/L	10

L2.5 The concentration limits in the above table do not apply to any discharge from the sediment basin (at Point 1) solely arising from rainfall measured at the premises exceeding 82.5 mm in total falling over any consecutive five day period.

L2.6 If the applicant uses turbidity (NTU) in place of total suspended solids (TSS) to determine compliance with the EPA's general terms of approval, or a licence issued under the Protection of the Environment Operations Act 1997, the applicant must develop a statistical correlation which identifies the relationship between NTU and TSS for water quality in the sediment basin/s in order to determine the NTU equivalent of 50 mg/L TSS prior to its use.

L2.7 If the applicant uses turbidity (NTU) in place of total suspended solids (TSS) to determine compliance with the EPA's general terms of approval, or a licence issued under the Protection of the Environment Operations Act 1997, the applicant must provide the EPA with a copy of the statistical correlation assessment methodology and results before using NTU in place of TSS.

L2.8 If the applicant uses turbidity (NTU) in place of total suspended solids (TSS) to determine compliance with the EPA's general terms of approval, or a licence issued under the Protection of the Environment Operations Act 1997, the applicant must develop and implement a method to enable the ongoing verification of the relationship between NTU and TSS.

L2.9 If the applicant uses turbidity (NTU) in place of total suspended solids (TSS) to determine compliance with the EPA's general terms of approval, or a licence issued under the Protection of the Environment Operations Act 1997, the applicant must provide the EPA with any amendments the applicant makes to the statistical correlation as a result of the ongoing verification required by Condition L2.8 before using the revised statistical correlation.

L3. Waste

L3.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997.

L4. Noise limits

L4.1 Noise from the premises must not exceed an LAeq(15 minute) noise emission criterion of 41 dB(A), except as expressly provided by these general terms of approval:

L4.2 Noise from the premises is to be measured at the most affected residential receiver who has not given written permission for an exceedance of condition L4.1 to determine compliance with this condition.

L4.3 The noise limits set out in condition L4.1 apply under all meteorological conditions except for the following:

- Wind Speeds greater than 3 metres/second at 10 metres above ground level; or
- Temperature inversion conditions up to 3 degrees C/100m and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- Temperature inversion conditions greater than 3 degrees C/100m.

L5. Blasting

L5.1 No blasting operation are permitted at the premises.

L6. Hours of operation

L6.1 Activities covered by the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, must only be carried out between the hours of 7:00 am and 6:00 pm Monday to Friday, and 8:00 am and 1:00 pm Saturday, and at no time on Sundays and Public Holidays.

L6.2 This condition does not apply to the delivery of material outside the hours of operation permitted by condition L6.1 if that delivery is required by police or other authorities for safety reasons; and/or the operation or personnel or equipment are endangered. In such circumstances, prior notification must be provided to the EPA and affected residents as soon as possible, or within a reasonable period in the case of emergency.

L6.3 The hours of operation specified in condition L6.1 may be varied with written consent if the EPA is satisfied that the amenity of the residents in the locality will not be adversely affected.

L6.4 Heavy vehicles (including excavators, dredges, haul trucks, front end loader and water carts) and machinery (including screening plant, water pump, cyclone, generator, cyclone pump and water pump) cannot be started, maintained, arrive or leave the site or operated outside of operating hours as detailed in L6.1 and at no time on Sundays and Public Holidays.

Operating conditions

O1. Dust

O1.1 Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.

O2. Processes and management

O2.1 Sediment basins shall be treated, if required, to reduce the Total Suspended Solids level to the concentration limit of 50 mg/L provided by the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, before being released to the environment. Treatment can be with gypsum or any other material that has been approved by the EPA.

O2.2 The applicant must maximise the diversion of run-on waters from lands upslope and around the site whilst land disturbance activities are being undertaken.

O2.3 The applicant must maximise the diversion of stormwater runoff containing suspended solids to sediment basins installed on the premises.

O2.4 Where sediment basins are necessary, all sediment basins and associated drainage must be installed and commissioned prior to the commencement of any clearing or grubbing works within the catchment area of the sediment basin that may cause sediment to leave the site.

O2.5 The applicant must ensure the design storage capacity of the sediment basins installed on the premises is reinstated within 5 days of the cessation of a rainfall event that causes runoff to occur on or from the premises.

O2.6 The applicant must ensure that sampling point(s) for water discharged from the sediment basin(s) are provided and maintained in an appropriate condition to permit:

a) the clear identification of each sediment basin and discharge point;
b) the collection of representative samples of the water discharged from the sediment basin(s); and
c) access to sampling point(s) at all times by an authorised officer of the EPA.

O2.7 Each sedimentation basin must have a marker (the "sediment basin marker") that identifies the upper level of the sediment storage zone.

O2.8 Whenever the level of liquid and other material in any sedimentation basin exceeds the level indicated by the sedimentation basin marker, the licensee must take all practical measures as soon as possible to reduce the level of liquid and other material in the sedimentation basin.

O2.9 All liquid chemicals, fuels and oils must be stored in tanks or containers inside suitable bund(s). Bund(s) are to be designed, constructed and maintained in accordance with AS1940-2004 Storage and Handling of Flammable and Combustible Liquids.

O2.10 Any water re-entering the excavation lake from processing/storage needs to be neutralised to a pH between 6.5 and 8.5 before being discharged.

O2.11 There can be no de-watering/draining of the excavation lake.

O2.12 All material that is excavated from below 4 metres of the original land surface, must be excavated from under the surface of the lake for the purpose of risk minimisation with regard to acid sulphate soils.

O2.13 The licensee can accept imported material on site for the purpose of blending. This can only include rock, topsoil or landscaping products. The amount imported onto the premises must be weighed and recorded. As this imported material will be stored on the premises, it's volume (tonnage) will count towards the 'scale' of the activity i.e. <490,000 tonnes.

O2.14 Excavation activity must maintain at least a 10 metre buffer within the proposed excavation extent until the full depth of the quarry is reached and stable.

Monitoring and recording conditions

M1. Monitoring records

M1.1 The results of any monitoring required to be conducted by the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, in relation to the development or in order to comply with the load calculation protocol must be recorded and retained as set out in conditions M1.2 and M1.3.

M1.2 All records required to be kept by the licence must be:

a) in a legible form, or in a form that can readily be reduced to a legible form;

b) kept for at least 4 years after the monitoring or event to which they relate took place; and

c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected: the date(s) on which the sample was taken;

a) the time(s) at which the sample was collected;

b) the point at which the sample was taken; and

c) the name of the person who collected the sample.

M2. Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/ discharge point or utilisation area specified below (by a point number) the applicant must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The applicant must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

Water and Land - Monitoring/Discharge Point 1, 2

Pollutant	Units of Measurement	Frequency
Total Suspended Solids	mg/L	Special Frequency 1
pH	pH units	Special Frequency 1
Oil and Grease	mg/L	Special Frequency 1

< *Special Frequency 1* means sampling any discharge, whether controlled or otherwise, which has not occurred from rainfall exceeding 82.5mm over any consecutive five day period.

Goundwater - Monitoring Point 1, 2, 3, 4

Pollutant	Units of Measurement	Frequency
Water Level	meters (AHD)	Quarterly
pH	pH units	Quarterly
Oil and Grease	mg/L	Quarterly

M3. Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary of the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4. Environmental monitoring

M4.1 The applicant is required to install and maintain a rainfall depth measuring device.

M4.2 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day.

Note: The rainfall monitoring data collected in compliance with Condition M4.2 can be used to determine compliance with L2.4.

M5. Other monitoring and recording condition

M5.1 For the purposes of monitoring for compliance with the noise limit conditions of the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, (condition L4) noise emitted from the premises must be measured or computed at 30 metres from the nearest residential dwelling/s over a period of 15 minutes using the "FAST" response on the sound level meter. A modifying factor correction must be applied for tonal, impulsive, or intermittent noise in accordance with the document NSW Industrial Noise Policy (NSW EPA, January 2000).

M5.2 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

Reporting conditions

R1.1 The applicant must provide an annual return to the EPA in relation to the development as required by any licence under the Protection of the Environment Operations Act 1997 in relation to the development. In the return the applicant must report on the annual monitoring undertaken (where the activity results in pollutant discharges), provide a summary of complaints relating to the development, report on compliance with licence conditions and provide a

calculation of licence fees (administrative fees and, where relevant, load based fees) that are payable. If load based fees apply to the activity the applicant will be required to submit load-based fee calculation worksheets with the return.

Special Conditions

E1. Noise management

E1.1 The proponent must prepare and implement an Operational Noise Management Plan that covers all quarry extraction, processing and transport operations. The plan must include but not be limited to:

a) Ongoing assessment of feasible and reasonable noise mitigation measures that will be applied at the premises to consistently achieve the noise limits prescribed in **Condition L4.1**;
b) A system that allows for periodic assessment of Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) to minimise noise impacts over the life of the proposal;
c) Measures to monitor noise performance and respond to complaints;
d) Measures for community consultation including site contact details;
e) Noise monitoring, and reporting procedures.

DUE DATE: This management plan is to be submitted to the EPA prior to the commencement of quarrying activities under this approval/licence.

E.1.2 .All noise mitigation measures that relate to works and or actions within the Profit a Prendre and recommended in Section 5 of the report titled “Appendix E - Noise Impact Assessment” prepared by GHD dated November 2014 must be implemented and complied with. To this extent the relevant measures recommended in sections 5.1.1, 5.1.2, 5.2, 5.3 and 5.4 of the GHD report shall be implemented. A report from a suitably qualified acoustic engineer detailing that all recommendations have been implemented must be submitted to and approved by the EPA prior to issue of the Environment Protection Licence.

E1.3 A noise compliance assessment shall be undertaken within three months of the issue of the Environment Protection Licence. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and shall assess compliance with noise limits presented in **Condition L4.1.** The assessment must recommend further noise mitigation works/strategies where necessary.

E2. Acid Sulphate Soil Management Plan

E2.1 The applicant must prepare an Acid Sulphate Soil Management Plan as recommended in Appendices C - Acid Sulphate Soil Assessment in Doonbah Quarry's Soil and Water Management Plan completed by GHD dated November 2014. This Acid Sulphate Soil Management Plan must be in accordance with *Acid Sulphate Soil Manual* by the NSW Acid Sulphate Soil Management Advisory Committee August 1998.

E3. Sealing of the quarry access road

E3.1 The applicant must seal the access road north from the profit a prendre boundary to the weighbridge to control: noise and dust pollution; stabilise the road; and, reduce tracking of material onto public roads. This must be completed before the Environment Protection Licence is issued.

E4. Sediment basin sizing

E4.1 The temporary settling ponds designed to treat any water leaving the excavation lake must be sized according to *Landcom - Soils and Construction, Volume 1, 4th Edition, March 2004* "Blue Book". Sizing calculations for these basins must be based on a 82.5mm 5 day rainfall event and must be sent to the EPA prior to issue of the Environment Protection Licence.

Protection of the Environment Operations Act 1997

General Terms of Approval - Issued

Notice No: 1527092

E5. Groundwater monitoring

E5.1 The groundwater monitoring bore proposed on the western boundary, in Doonbah Quarry's Soil and Water Management Plan completed by GHD dated November 2014, must be installed and monitored as soon as possible. This must be completed prior to the issue of the Environment Protection Licence.

E6. Environmental management plan

E6.1 The proponent must prepare and implement and Environmental Management Plan. The plan must be as per the EIS (including Chapter 6 of the EIS).

E7. Waste management plan

E7.1 The proponent must prepare and implement a Waste Management Plan. The plan must be as per the EIS (including Chapter 5 of the EIS).

Attachment B – Mandatory conditions for all EPA licences

Operating conditions

Activities must be carried out in a competent manner

Licensed activities must be carried out in a competent manner.

This includes:

- the processing, handling, movement and storage of materials and substances used to carry out the activity; and,
- the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

Maintenance of plant and equipment

All plant and equipment installed at the premises or used in connection with the licensed activity:

- must be maintained in a proper and efficient condition; and,
- must be operated in a proper and efficient manner.

Monitoring and recording conditions

Recording of pollution complaints

The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

The record must include details of the following:

- the date and time of the complaint;
- the method by which the complaint was made;
- any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- the nature of the complaint;
- the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- if no action was taken by the licensee, the reasons why no action was taken.

The record of a complaint must be kept for at least 4 years after the complaint was made.

The record must be produced to any authorised officer of the EPA who asks to see them.

Telephone complaints line

The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

This condition does not apply until 3 months after this condition takes effect.

Reporting conditions

Annual Return documents

What documents must an Annual Return contain?

The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

- a Statement of Compliance; and,
- a Monitoring and Complaints Summary.

A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

Period covered by Annual Return

An Annual Return must be prepared in respect of each reporting, except as provided below

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Where this licence is transferred from the licensee to a new licensee,

- the transferring licensee must prepare an annual return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- the new licensee must prepare an annual return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an annual return in respect of the period commencing on the first day of the reporting period and ending on

- in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- in relation to the revocation of the licence – the date from which notice revoking the licence operates.

Deadline for Annual Return

The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

Licensee must retain copy of Annual Return

The licensee must retain a copy of the annual return supplied to the EPA for a period of at least 4 years after the annual return was due to be supplied to the EPA.

Certifying of Statement of Compliance and Signing of Monitoring and Complaints Summary

Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

(a) the licence holder; or

(b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

A person who has been given written approval to certify a Statement of Compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review this licence.

Notification of environmental harm

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act

Notifications must be made by telephoning the EPA's Pollution Line service on 131 555.

The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Written report

Where an authorised officer of the EPA suspects on reasonable grounds that:

a) where this licence applies to premises, an event has occurred at the premises; or

b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

The request may require a report which includes any or all of the following information:

- the cause, time and duration of the event;
- the type, volume and concentration of every pollutant discharged as a result of the event;
- the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; and
- the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- details of any measure taken or proposed to be taken to prevent or mitigate against a recurrance of such an event;
- any other relevant matters.

The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

General Terms of Approval - Issued

Notice No: 1527092

General conditions

Copy of licence kept at the premises or on the vehicle or mobile plant

A copy of this licence must be kept at the premises or on the vehicle or mobile plant to which the licence applies.

The licence must be produced to any authorised officer of the EPA who asks to see it.

The licence must be available for inspection by any employee or agent of the licensee working at the premises or operating the vehicle or mobile plant.

Appendix C – General Terms of Approval issued by the Department of Primary Industries Office of Water

NSW Office of Water

GENERAL TERMS OF APPROVAL FOR A LICENSE UNDER THE WATER ACT 1912 FOR DEVELOPMENT APPLICATION NUMBER__DA_2015.130

General Conditions (all approvals)

The purposes of these conditions are to:

- Define certain terms used in other conditions
- Specify the need to obtain a license, permit or authority before commencing any works
- Specify that, in most cases an approval will only be issued to the occupier of the lands where the works are to be located (as required by the Water Act)
- Require existing approvals to be cancelled or let lapse when a license is issued (if applicable)
- Require the safe construction and operation of all works
- Require the use of appropriate soil conservation measures
- Limit vegetation destruction or removal to the minimum necessary
- Require the separate authorisation of clearing under the NVC Act
- Allow conditions to be imposed for management of fuel (petroleum)

In the following conditions relating to an approval under the Water Act 1912;
'the department' means the department administering the Water Act 1912;
'approval' means a license, permit, authority or approval under that Act;
'river' has the same meaning as in Section 5 of the Water Act 1912;
'work' means any structure, earthwork, plant or equipment authorised under the approval to be granted, as defined in Section 5 and 105 of the Water Act 1912;
controlled work' means any earthwork, embankment or levee as defined in Section 165 of the Water Act 1912

Before commencing any works or using any existing works for the purpose of industrial (sand & gravel extraction) an approval under Part V of the Water Act 1912 must be obtained from the department. The application for the approval must contain sufficient information to show that the development is capable of meeting the objectives and outcomes specified in these conditions.

An approval will only be granted to the occupier of the lands where the works are located, unless otherwise allowed under the Water Act 1912.

When the department grants an approval, it may require any existing approvals held by the applicant relating to the land subject to this consent to be surrendered or let lapse.

All works subject to an approval shall be constructed, maintained and operated so as to ensure public safety and prevent possible damage to any public or private property.

All works involving soil or vegetation disturbance shall be undertaken with adequate measures to prevent soil erosion and the entry or sediments into any river, lake, waterbody, wetland or groundwater system.

The destruction of trees or native vegetation shall be restricted to the minimum necessary to complete the works.

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170912

All vegetation clearing must be authorised under the Native Vegetation Conservation Act 1997, if applicable.

The approval to be granted may specify any precautions considered necessary to prevent the pollution of surface water or groundwater by petroleum products or other hazardous materials used in the construction or operation of the works.

A license fee calculated in accordance with the Water Act 1912 must be paid before a license can be granted.

Conditions of water use (including irrigation)

The purpose of these conditions are to:

- Allow the department to obtain an accurate measure of water use where necessary
- Specify the purpose(s) for which the water may be used

If and when required by the department, suitable devices must be installed to accurately measure the quality of water extraction or diverted by the works.

All water measuring equipment must be adequately maintained. It must be tested as and when required by the department to ensure its accuracy.

The water extracted under the approval to be granted shall be used for the purpose of industrial (sand & gravel extraction)and for no other purpose. A proposed change in purpose will require a replacement license to be issued.

Conditions for bores and wells

See also 'general conditions' and 'conditions for water use'

The purpose of these conditions are to:

- Set a limited period bore construction
- Require the bore to be properly completed and sealed
- Require certain information to be provided on completion of the work, including a location plan
- Allow NOW access for inspection and testing
- Specify procedures if saline or polluted water found
- Specify a volumetric allocation for the works purpose
- Allow NOW to alter the allocation at any time

Works for construction of bore must be completed with such period as specified by the department.

Within two months after the works are completed the department must be provided with an accurate plan of the location of the works and notified of the results of any pumping tests, water analysis and other details as are specified in the approval.

Any water extracted by the works must not be discharged into any watercourse or groundwater if it would pollute that water.

The department has the right to vary the volumetric allocation or the rate at which the allocation is taken in order to prevent the overuse of an aquifer.

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(1) The licensee must allow authorised officers of the NSW office of Water, and its authorised agents reasonable access to the works with vehicles and equipment at any time for the purposes of:

- Inspecting the said work
- Taking samples of any water or material in the work and testing the samples.

(2) The licensee shall within 2 weeks of being notified install to the satisfaction of the NSW Office of Water in respect of location, type and construction an appliance(s) to measure the quantity of water extracted from the works. The appliance(s) to consist of either a measuring weir or weirs with automatic recorder, or meter or meter(s) of measurement as may be approved by the NSW Office of Water. The appliance(s) shall be maintained in good working order and condition. A record of all water extracted from the works shall be kept and supplied to the NSW Office of Water upon request. The licensee when requested must supply a test certificate as to the accuracy of the appliance(s) furnished either by the manufacturer or by some person duly qualified.

(3) The authorised work shall not be used for the discharge of polluted water into a river or lake otherwise than in accordance with the conditions of a licence granted under the protection of the environment operations act 1997. A copy of the licence to discharge is to be provided to the NSW Office of Water.

(4) The term of this licence shall be five (5) years.

(5) The volume of groundwater authorised from the work by this licence shall not exceed 300 megalitres per water year.

(6) The authorised work shall not be used for the discharge of water unless the ph of the water is between 6.5 and 8.5, or the water has been treated to bring the ph to a level between 6.5 and 8.5 prior to discharge, or the water is discharged through the council's sewerage treatment system.

(7) The licensee shall test the ph of any water extracted from the work prior to the commencement of any discharge and at least twice daily thereafter and record the date, time and result of each test in the site log. A copy of the records of the ph testing is to be returned with the form 'ag'.

(8) A modified Groundwater Management Plan must be developed for the site including a comprehensive monitoring bore network, a comprehensive list of analytes, and proposed threshold values for parameters with contingency and reporting measures outlined for threshold breaches.

(9) An acid sulphate soil management plan to the satisfaction of the NSW Office of Water must be developed for the site in accordance with the ASSMAC guidelines which includes management of impacts on both soils and the pit water. The need for procedures such as mechanical removal of ASS fines and lime dosing should be considered.

(10) The works shall be managed in accordance with the approved Acid Sulfate Soil Management Plan.

(11)A Security Deposit will be required for remediation of the site for events that may cause adverse environmental impacts occurring from operation of the quarry including groundwater quality impacts within the groundwater excavation at the site.

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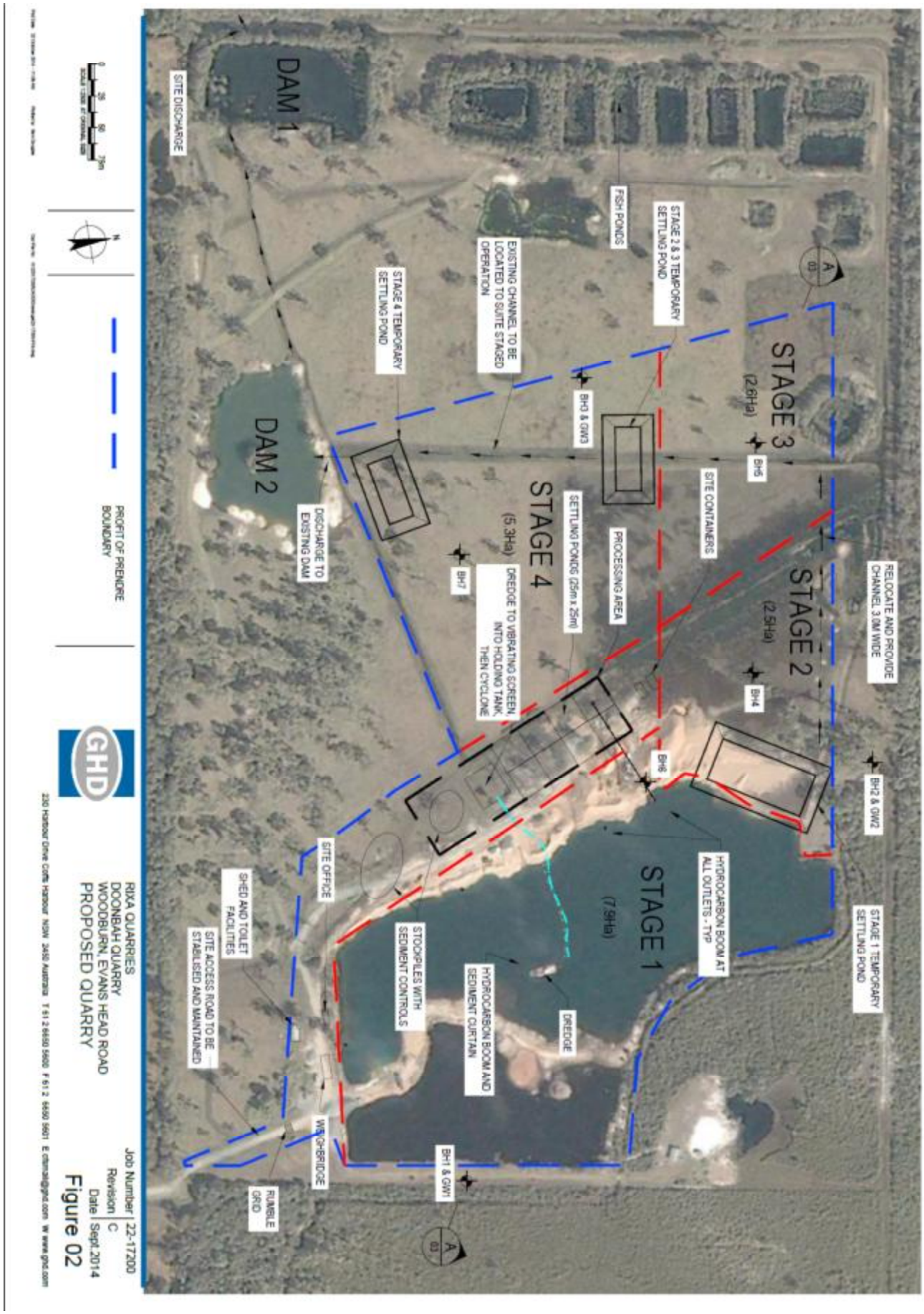
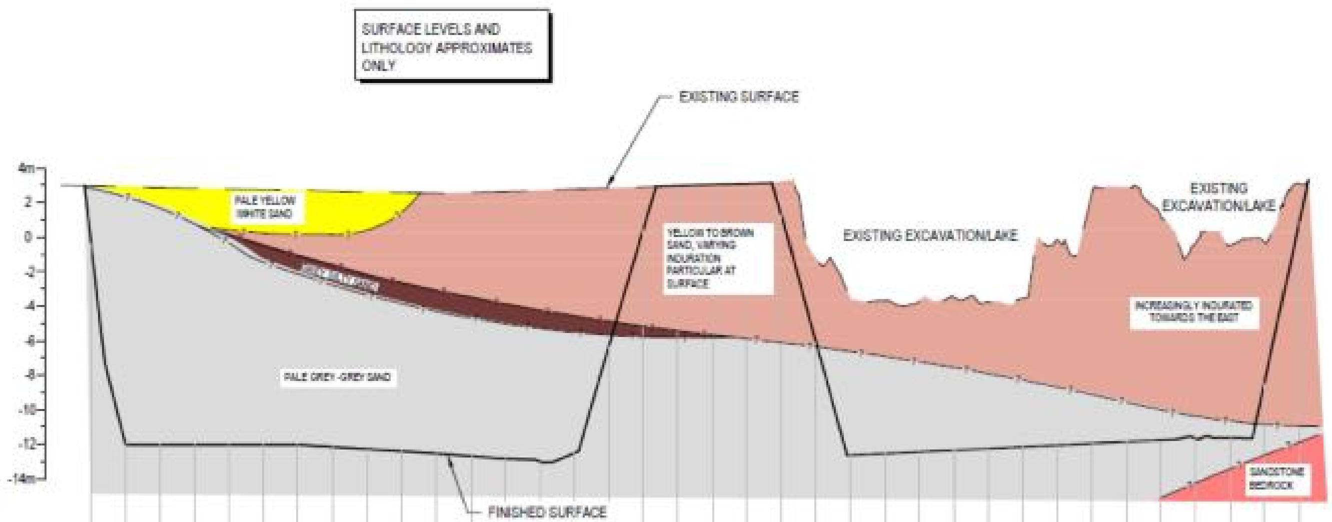
170912


STAGE 3
(2.6Ha)
STAGE 2
(2.5Ha)
STAGE 4
(5.3Ha)
STAGE 1
(7.9Ha)
DAM 1
DAM 2
BH1 & GW1
BH2 & GW2
BH3 & GW3
BH4
BH5
BH6
BH7
RELOCATE AND PROVIDE CHANNEL 3.0M WIDE
STAGE 1 TEMPORARY SETTLING POND
HYDROCARBON BOOM AT ALL OUTLETS - TYP
HYDROCARBON BOOM AND SEDIMENT CURTAIN
DREDGE
STOCKPILES WITH SEDIMENT CONTROLS
SITE CONTAINERS
PROCESSING AREA
SETTLING PONDS (25m x 25m)
DREDGE TO VIBRATING SCREEN, INTO HOLDING TANK, THEN CYCLONE
STAGE 2 & 3 TEMPORARY SETTLING POND
FISH PONDS
EXISTING CHANNEL TO BE LOCATED TO SUITE STAGED OPERATION
STAGE 4 TEMPORARY SETTLING POND
DISCHARGE TO EXISTING DAM
SITE DISCHARGE
SITE OFFICE
SHED AND TOILET FACILITIES
SITE ACCESS ROAD TO BE STABILISED AND MAINTAINED
WASH BRIDGE
RUMBLE GRID
PROFIT OF PRENDRE BOUNDARY
RIXA QUARRIES
DOONBAH QUARRY
WOODBURN EVANS HEAD ROAD
PROPOSED QUARRY
Job Number 22-17200
Revision C
Date Sept 2014
Figure 02
GHD



DATUM RL. -17.00

DESIGN SURFACE LEVEL	-0.38	-11.99	-12.00	-12.00	-12.00	-12.00	-12.01	-12.13	-12.26	-12.38	-12.51	-12.67	-12.82	-12.97	-12.48	-6.33	0.47	4.61	4.12	3.58	1.30	-6.11	-12.54	-12.52	-12.42	-12.33	-12.23	-12.13	-12.03	-11.94	-11.85	-11.75	-11.66	-11.65	-8.48	0.83
EXISTING SURFACE LEVEL	2.89	2.76	2.63	2.51	2.39	2.27	2.18	2.17	2.20	2.07	2.00	1.96	1.56	1.59	2.17	3.94	4.39	4.18	2.70	2.95	3.22	-1.26	-3.54	-3.68	-3.71	-3.50	-3.79	-3.56	-0.19	2.55	2.90	1.19	-0.41	-0.48	-0.29	3.10

A SECTION
02 SCALE : V 1:250 H 1:2500

—?—?—?— APPROXIMATE LEVELS

GHD

RIXA QUARRIES
DOONBAH QUARRY
WOODBURN, EVANS HEAD ROAD
SECTION DETAILS

Job Number | 22-17200
Revision | A
Date | MAR.2014

Figure 03

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