

JOINT REGIONAL PLANNING PANEL (Northern)

JRPP No	2014NTH001
DA Number	DA2014/0024
Local Government Area	Clarence Valley Council
Proposed Development	Extractive Industry (hard rock quarry)
Street Address	Boundary Creek Forest Road, Nymboida
Applicant/Owner	Applicant: Greensill Bros P/L (c/o GeoLINK) Owner: Unwin Gaine Cartmill
Number of Submissions	10 Submissions & 1 Petition (36 signatures) objecting
Regional Development Criteria (Schedule 4A of the Act)	Clause 8 Particular Designated Development Development for the purposes of an extractive industry, which meets the requirements for designated development under clause 19 of Schedule 3 to the <i>Environmental Planning and Assessment Regulation 2000</i>
List of All Relevant s79C(1)(a) Matters	<ul style="list-style-type: none"> • 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 (Mining, Petroleum Production and Extractive Industries) 2007 • State Environmental Planning Policy (Rural Lands) 2008 • State Environmental Planning Policy (State and Regional Development) 2011 • Clarence Valley Local Environmental Plan 2011 • Clarence Valley Council Rural Zones Development Control Plan 2011
List all documents submitted with this report for the panel's consideration	<ul style="list-style-type: none"> • Application and Environmental Impact Statement 17 January 2014 • Traffic Impact Assessment (second issue) & Road Safety Audit June 2014 • Addendum Ecological Assessment (second issue) 26 November 2014 • Amended Quarry Footprint 12 November 2014 • Submissions received during exhibition period & 1 late submission • NSW EPA General Terms of Approval • NSW Fisheries General Terms of Approval

	<ul style="list-style-type: none"> • NSW Office of Water General Terms of Approval • NSW RMS Submission (x2) • NSW Office of Environment & Heritage Submission • NSW Crown Lands Submission
Recommendation	That Development Application DA2014/0024 (JRPP reference No. 2014NTH001) be approved subject to the imposition of Conditions contained in the Draft Schedule attached to this report.
Report by	Sarah Ducat, Development Planner, Clarence Valley Council

Assessment Report and Recommendation Cover Sheet

Summary

Application	2014NTH001 – DA2014/0024 – Extractive Industry (hard rock)
Applicant	Greensill Bros c/o GeoLINK
Owner	Unwin Gaine Cartmill
Address	Boundary Creek Forest Road, Nymboida
Legal description	Lot 48 DP752839; Lot 50 DP752839; & Lot 20 DP46031
Submissions	10 submission, 1 petition & 1 late submission

Development Application DA2014/0024 (JRPP Reference No. 2014NTH001) seeks consent for a quarry to extract hard rock on Lot 48 DP752839, Lot 50 DP752839 and Lot 20 DP46031, Boundary Creek Forest Road, Nymboida. The quarry operations and extraction rates are proposed to be staged. The maximum extraction rate proposed is 200,000 tonnes per annum (80,000 bank cubic metres).

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 was advertised and notified in accordance with the required period of 30 days and 10 submissions and 1 petition were received during the exhibition period objecting to the development. One submission was received after the exhibition period. The issues raised in the submissions have been discussed within this report.

Recommendation

That Development Application DA2014/0024 (JRPP reference No. 2014NTH001) be approved subject to the imposition of Conditions contained in the Draft Schedule attached to this report.

Site Description & Location

The subject land is identified as Lot 48 DP752839, Lot 50 DP752839 and Lot 20 DP46031, Boundary Creek Forest Road, Nymboida. The site is located approximately 11km south-west of the Nymboida Township by road. The site has a total area of 254 hectares of which approximately 9.97 hectares is to be used for the operation of the extractive industry.

The site consists predominately of moderately to steeply sloping land with several hills/ridgelines and valleys/gullies. The site is located in a rich natural area with Hortons Creek Nature Reserve approximately 840m to the south; Boundary Creek State Forest

approximately 2.5km to the west, and Chaelundi National Park approximately 5km to the north-west. The two nearest dwellings are located 2km and 3.3km to the east of the quarry area.

The quarry site predominately contains native vegetation of varying densities with a partially cleared area. The cleared area has previously been used as a log dump site and to extract small amounts of gravel for use internally with the property. The lot currently supports a rural use and bushland, including private native forestry.

The site contains 29ha of Endangered Ecological Community (EEC) *Lowland Rainforests in NSW North Coast and Sydney Bioregions*. The footprint of the quarry has been located so that it does not extend into the EEC.

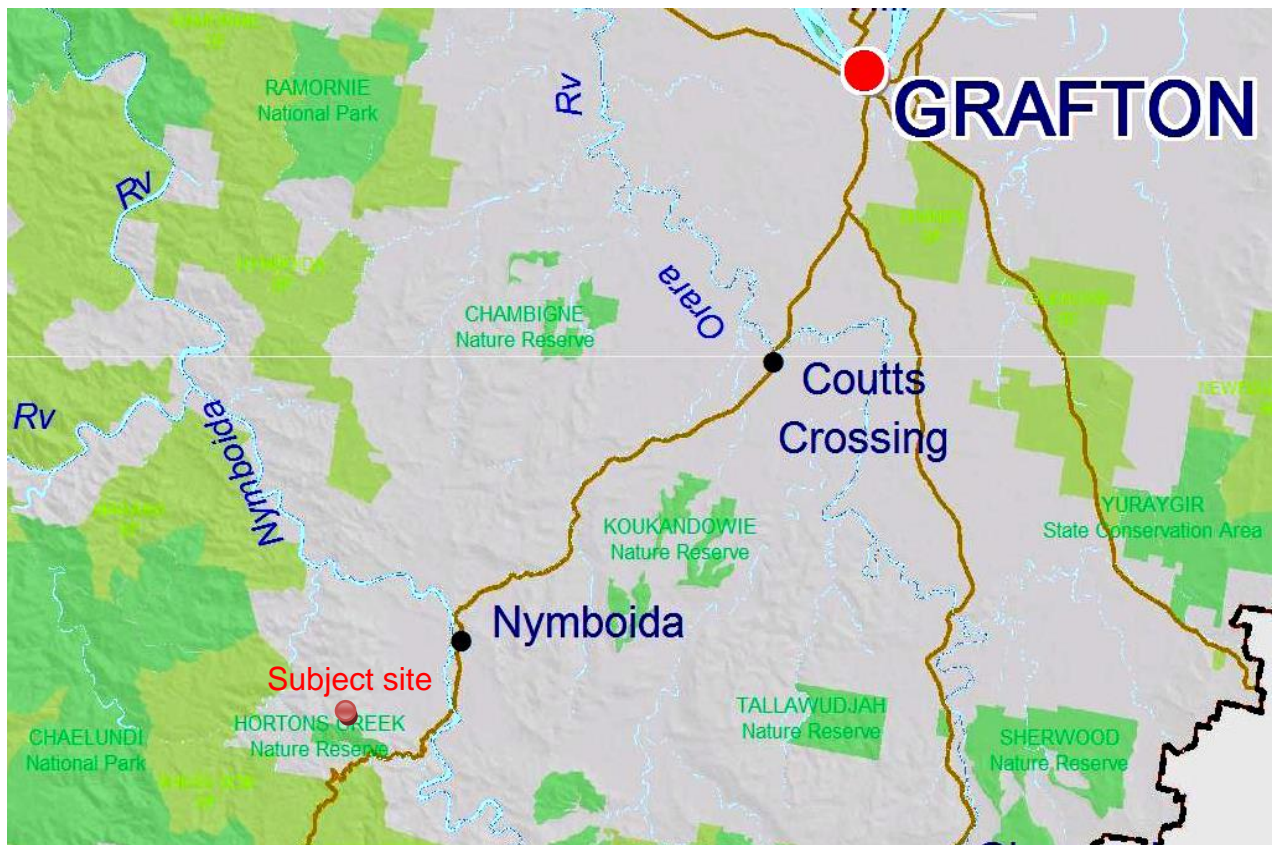


Figure 1: Locality Map – approximate location of quarry site (Source: CVC GIS)

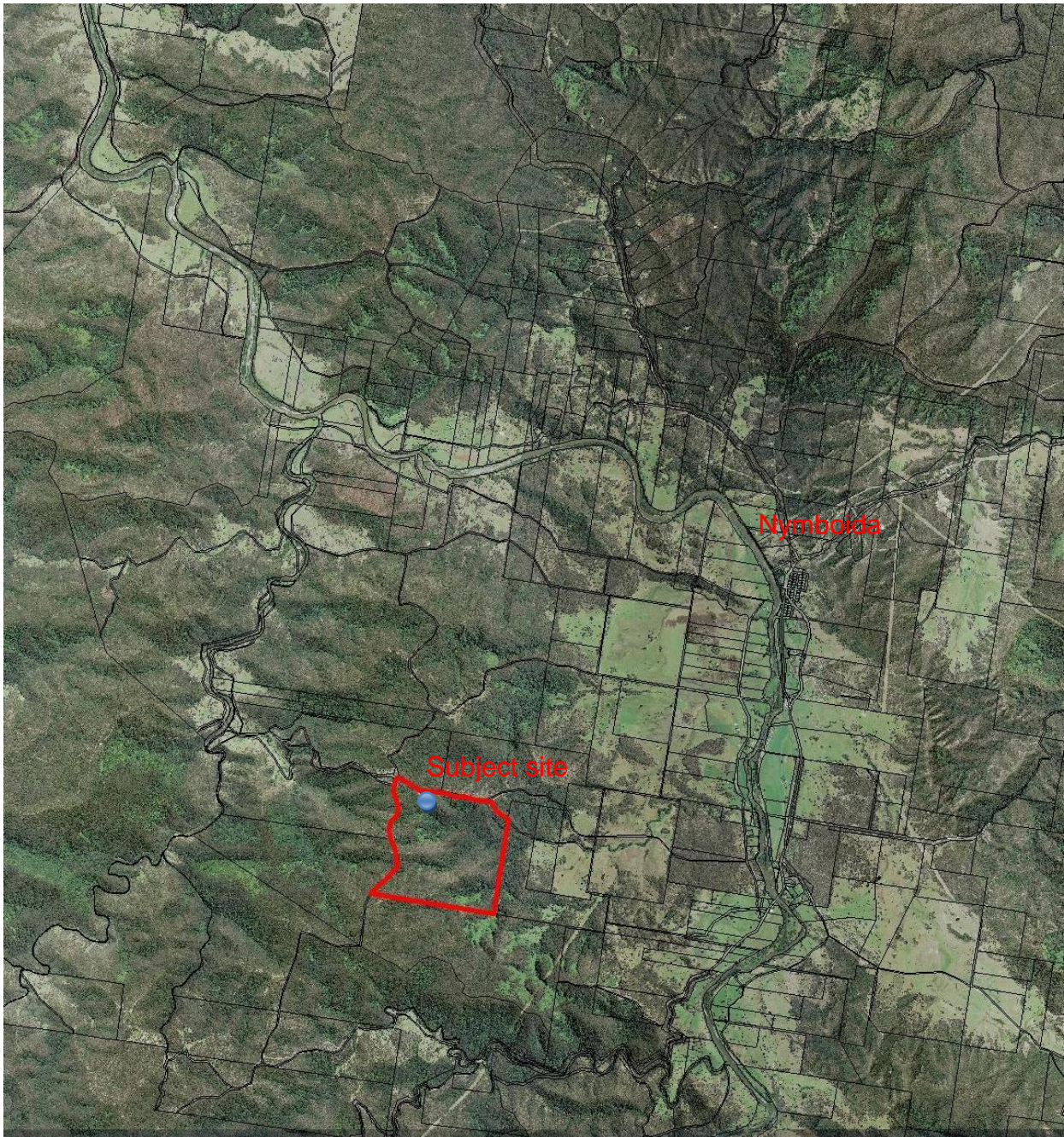


Figure 2: Aerial Photograph (Source: CVC GIS)

Details of proposal

The quarry area is proposed to be 9.97 hectares (reduced from the original proposal of 12ha after further environmental assessment). The total extractable resource amount is 4.9million tonnes of material over an estimated quarry life of 25 years. The quarry operations and extraction rates are proposed to be staged. The maximum extraction rate proposed is 200,000 tonnes per annum (80,000 bank cubic metres). The stages, extraction rates and truck movements proposed are:

Stage	Years	Total BCM	Bank Cubic Metres Per Annum	Tonnes Per Annum	Average Daily Truck Loads	Maximum Daily Truck loads
Area 1						
1A	0 – 5	40,000	8,000	20,000	2 (4 movements)	5 (10 movements)
1B	5 – 7.5	70,000	28,000	70,000	8 (16 Movements)	25 (50 movements)
2	7.5 – 10	150,000	60,000	150,000	17 (34 Movements)	35 (70 movements)
3	10 – 15	400,000	80,000	200,000	22 (44 Movements)	50 (100 movements)
Area 2 (subject to further geotechnical investigation)						
4	15 – 25	Between 800,000 – 1,300,000	80,000	200,000	22 (44 Movements)	50 (100 movements)

The application is a staged development under s83B of the *Environmental Planning and Assessment Act 1979* (the EP&A Act). Approval is sought for all Area 1 operations and a conceptual approval is sought for Area 2. Quarrying of Area 2 will be subject to lodgment and assessment of a separate Development Application, to be supported with a geotechnical investigation to confirm continuation of extractive resources.

Two units of material will be extracted, one being an extremely weathered to moderately weathered argillite rock which may be suitable for select and structural gravel materials such as Upper Zone Formation and Select Zone Formation used in RMS and ARTC (rail) projects. The other material is a hard rock argillite and greywacke of high to very high strength suitable for products such as road base or potentially concrete aggregate.

Operations will include extracting material by blasting and mechanical excavation, and on-site crushing, screening / sorting and stockpiling of material prior to transporting off-site.

The main haulage route is along Boundary Creek Forest Road, Boundary Creek Road, Armidale Road, Lilypool Road, Swallow Road, and Tyson Street to the Pacific Highway at South Grafton. Haulage is to be undertaken by truck and trailer with a 27-32 (average 30) tonne payload with a maximum of 302 haulage days per annum (including Saturdays and excluding public holidays and Sundays).

Upgrading of Boundary Creek Forest Road (including the Copes Creek crossing) and Boundary Creek Road (including its intersection with Armidale Road) is proposed to ensure they are suitable for the haulage of material.

The proposed hours of operation are:

- Haulage times: 7am to 5pm Monday to Friday and 7am to 1pm on Saturday,
- Overburden stripping and site establishment: 6am to 5pm Monday to Saturday,
- Processing: 7am to 5pm Monday to Saturdays, and
- Blasting: 10am to 4pm Monday to Friday.

Clearing of 10.12ha of native vegetation is proposed for the quarry footprint and road upgrading works. The majority of the vegetation to be removed is open Spotted Gum / mixed eucalypt forest (dry sclerophyll forest). A biodiversity offset is proposed to retain over 100ha of vegetation on-site in perpetuity to maintain biodiversity values in the locality.

On-site facilities proposed include an office, amenities and parking for quarry staff.

At the closure of the quarry the site buildings will be decommissioned and removed. The future land use of the quarry is to return the site to native vegetation. The final landform will comprise generally sloping free-draining platforms surrounded by stepped benches and batters. Rehabilitation is proposed to commence at the completion of each stage. A rehabilitation plan for the quarry includes erosion control, revegetation of local plant species, creation of quarry benches to facilitate vegetation growth, a weed and pest management plan, integrated water management plan and a maintenance program.

The majority of submissions received from the public notification raise concerns over impacts from increased traffic movements, impacts on biodiversity, noise, blasting and dust from quarry operations, land use conflicts, contamination of drinking water, the lack of notification / consultation for the proposal, the significance of the resource / capital expenditure and the water supply / usage amounts.

Statutory Development Assessment Framework

Extractive Industries that obtain or process for sale, or reuse, more than 30,000 cubic metres of extractive material per year, or that disturb or will disturb a total surface area of more than 2 hectares are declared to be Designated Development under Clause 19, Schedule 3 of the *Environmental Planning & Assessment Regulation 2000* (the EP&A Regulation).

The development is listed as development for which regional panels may be authorised to exercise the consent authority functions of councils under Schedule 4A of the EP&A Act.

The application is a staged development under s83B of the *Environmental Planning and Assessment Act 1979* (the EP&A Act).

The application is integrated development under s91A(2) of the EP&A Act and requires the concurrence of the:

- NSW Environmental Protection Authority (EPA) under the Protection of the Environment Operations Act 1997,
- NSW Office of Water under the Water Management Act 2000, and
- Fisheries NSW under the Fisheries Management Act 1994.

Council has received General Terms of Approval from the above State authorities which are attached and will be incorporated into the draft conditions of any consent to be issued.

The General Terms of Approval for the EPA are not triggered until Stage 2 of the development, when the annual extraction rates exceed 30,000m³. As such, Council will be the responsible authority for monitoring water quality, noise impacts and erosion and sediment control measures for Stages 1A and 1B of the operations.

The Roads and Maritime Service (RMS) was notified of the development in accordance with clause 16(3) of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*. The response from the RMS is discussed in this report.

Section 79C Assessment

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) the provisions of:

(i) any environmental planning instrument, and

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

The proposed development is permissible with consent using the provisions of Clause 7(3) of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*. Clause 7(3)(a) states that development for the purposes of an extractive industry may be carried out on land on which development for the purposes of agriculture or industry is permitted (with or without consent).

The subject land is zoned RU2 Rural Landscape under the provisions of *Clarence Valley Local Environmental Plan 2011*. All types of agriculture are permitted with or without consent on the subject land and therefore, an extractive industry is permitted subject to the submission and approval of a Development Application using the provisions of the SEPP.

Before determining an application for the purposes of an extractive industry, the consent authority must take into consideration the matters listed under the SEPP.

Clause 12 Compatibility of proposed mine, petroleum production or extractive industry with other land uses as follows:

(a)(i) *the existing uses and approved uses of land in the vicinity of the development,*

The surrounding land uses are predominately natural bush land with rural dwellings. The nearest dwelling is 2km from the quarry site. Smaller rural lots with dwellings are located along Boundary Creek Road. Hortons Creek Nature Reserve, Boundary Creek State Forest, and Chaelundi National Park are all within approximately 5km of the site. The site or adjoining lands are not identified as State Significant Farmland.

(a)(ii) *whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development,*

The EIS details proposed buffers that will minimise potential impacts on adjoining land uses. *Living and Working in Rural Areas 2007* recommends as a guide minimum buffers for extractive industries. The recommended buffer distance to rural dwellings of 1000m (for quarries with blasting) is achieved for the development with the closet dwelling being 2km away. A land use conflict risk assessment has been provided in section 15.5 of the EIS. The potential impacts to adjoining uses are likely to be noise, dust and increased traffic movements from the quarry operations. With implementation of the proposed mitigating measures in the EIS and imposition of the draft conditions of consent, the development is unlikely to have a significant impact on the current and preferred land uses in the vicinity of the development.

- (a)(iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses,*

The Soil & Water, Biodiversity, Traffic & Transport, Noise, Vibration & Blasting, Air Quality, and Waste Management assessment in the EIS all recommend measures to avoid and minimise potential impacts of the development. Through the General Terms of Approval issued by the EPA and draft conditions imposed by Council on the development, it is unlikely that there will be substantial incompatibility issues with the development and adjoining land uses.

- (b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a)(i) and (ii)*

The establishment of the quarry will result in benefits to the local and regional economy and will help generate employment opportunities. The capital investment of the quarry is estimated at \$1.2million and it is anticipated that the quarry will generate up to 10 full time equivalent construction jobs, as well as stimulating indirect employment by sub-contractors gaining employment. The economic benefits of the development and indirect multiplier effects will stimulate the local and regional economies. The implementation of the conditions contained within the draft schedule, will mitigate the quarry impacts on adjoining land uses.

- (c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph a(iii)*

The measures proposed by the applicant to avoid and minimise any potential incompatibility measures have been evaluated and where appropriate, have been imposed as conditions of consent.

Clause 13 Compatibility of proposed mine, petroleum production or extractive industry with other land uses:

The consent authority must also take into consideration Clause 13 of the SEPP if the subject land is:

- 13(1) (a) *in the vicinity of any existing mine, petroleum production facility or extractive industry*
(b) *identified on a map (being a map that is approved and signed by the Minister and copies of which are deposited in the head office of the Department and publicly available on the Department's website) as being the location of State or regionally significant resources of minerals, petroleum or extractive materials, or*
(c) *identified by an environmental planning instrument as being the location of significant resources of minerals, petroleum or extractive materials*

The land is not located in the near vicinity of competing extractive industries and is not identified by an environmental planning instrument as being the location of significant resource materials.

Clause 14 Natural resource management and environmental management

Before granting consent for development for the purposes of an extractive industry, the consent authority must consider whether or not the development should be issued subject to the imposition of conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:

- a) *that impacts on significant water resources, including surface and groundwater resources are avoided, or are minimised to the greatest extent practicable,*

Impacts on water resources has been assessed and detailed in Part 6: Soil and Water and Appendix J: Geological Drilling and Groundwater Assessment of the EIS.

The proposed quarry is located in the upper reaches of the catchment of Copes Creek, which is a tributary of the Nymboida River. Several ephemeral gullies traverse the site and flow into Cope Creek. The quarry site is located at the top of the ridge and does not receive surface flows from upslope areas.

The groundwater level is estimated to fluctuate between 9m to 11m below surface level (being RL 451m to RL 449m) and the proposed base level of the quarry is proposed at RL 410m. As such, it is expected that the quarry extraction would intercept groundwater. Due to the location of the quarry on top of a ridge, the rate of groundwater seepage into the quarry is expected to be low and it is considered that the 'removal' of this water from the groundwater system would have a negligible impact on the behaviour of the aquifer. Any groundwater entering the quarry will be collected in the stormwater collection sumps.

The reports determined that the potential for the proposal to cause significant detrimental impacts to groundwater dependent ecosystems is considered to be minimal. The proposal would not result in significant changes to the hydrology of the Copes Creek catchment or the broader Nymboida River catchment.

The potential impacts from the quarry on water resources include contamination from erosion and sedimentation, increased surface water runoff from increased surface areas not covered by vegetation and groundwater contamination from spills of fuel or hazardous materials. A Soil and Water Management Strategy has been developed in accordance with *Managing Urban Stormwater: Soils and Construction: Volume 2E Mines and Quarries*. The mitigating measures proposed ensure that no significant impacts result from the quarry operations. The quarry will be required to operate in accordance with that Strategy.

- b) *that impacts on threatened species and biodiversity are avoided, or are minimised to the greatest extent practicable,*

An Ecological Assessment forming part of the EIS and an Addendum to that report dated 3 November 2014 assessed the impacts of the proposal on the threatened species and biodiversity.

The site contains a dry rainforest EEC and the quarry design has been proposed to avoid and minimise impacts on the community on-site. No threatened flora species were identified during the surveys, however, 8 were identified as potentially occurring on the property. Ten (10) threatened fauna were identified during surveys and a further 14 were considered to potentially occur on-site.

The assessment (including the addendum) concluded that the proposal would pose a number of negative (incremental and cumulative) impacts and contribute to recognised Key Threatening Processes. However, the applicant has proposed a biodiversity offset strategy and other mitigating measures to minimise the impact on the local population/occurrence of any threatened species or EEC. Draft conditions of consent have been included in the schedule to ensure compliance with the measures proposed.

c) that greenhouse gas emissions are minimised to the greatest extent possible

A greenhouse gas (GHG) emissions report was submitted in support of the application. Overall, the greenhouse emissions generated from the development is considered to be minimal for both National and State emission levels. Notwithstanding this, the cumulative impacts of GHG emissions are acknowledged by the applicant and mitigating measures proposed to ensure efficient use of fossil fuel on-site and in associated operations.

Clause 15 Resource recovery

Due to the type of material, being hard rock, to be extracted and the efficient extraction processing methods, minimal resource waste is anticipated. Approximately 1000m³ of mulch and 10,000m³ of overburden sourced for the quarry establishment processes is proposed to be stored on-site and re-used as part of the rehabilitation plans.

Clause 16 Transport

The applicant has proposed a principal haulage route, as detailed above, which includes use of Armidale Road (a classified regional road under Council's control) and various local roads. A Traffic Impact Study, including a Road Safety Audit was submitted with the application.

The application was referred to the Roads and Maritime Services (RMS) under the requirements of this clause. No objection to the development was raised in the RMS response. The comments raised by RMS have been considered and included in the draft conditions of consent.

Several conditions of consent are proposed relating to transport. Road upgrading works to Boundary Creek Forest Road and Boundary Creek Road are required to ensure it is suitable for the proposed traffic movements. A report detailing how specific items in the Road Safety Audit will be managed/implemented will be required. Preparation of a 'Traffic Management Plan and Truck Driver Code of Practice' is necessary to address a variety of matters including consideration of potential risk areas along the haulage route, such as the transport of children to school.

A condition is proposed in the schedule to reflect a recommendation contained in the Road Safety Audit. The condition does not permit haulage vehicles utilising Viaduct Road and Ryan Street, South Grafton during peak traffic times. This is a secondary haulage route and is proposed to be utilised on minimal occasions.

The quarry operator is proposing to enter into a road maintenance agreement and they will be responsible for maintaining the sections of Boundary Creek Forest Road and Boundary Creek Road utilised as a haulage route. The quarry operator has also agreed to pay an annual road maintenance contribution for the other roads forming part of the haulage route under the control of Clarence Valley Council. The contribution has been calculated based on the number and weight of trucks, the length of road and the current cost of maintaining it.

Clause 17 Rehabilitation

Rehabilitation works will be undertaken in accordance with the Quarry Closure and Rehabilitation Plan prepared by GeoLINK. A summary of the rehabilitation proposal is provided above. Further details of the rehabilitation proposed will be submitted with the Plan of Management prior to any works commencing on the site.

State Environmental Planning Policy (State and Regional Development) 2011

The proposed development is classified as regionally significant development under Schedule 4A of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) and is subject to the provisions of Part 4 of the *State Environmental Planning Policy (State and Regional Development) 2011*.

Regional panels are authorised to exercise the consent authority functions of Councils to which Part 4 of the SEPP applies.

State Environmental Planning Policy (Rural Lands) 2008

The Rural Lands SEPP applies to the subject land given its RU2 Rural Landscape zone under the provisions of the Clarence Valley Local Environmental Plan 2011.

The subject land and surrounding lands have limited agricultural productive potential due to the poor soil structure and steep slopes / terrain of the land. Potential land-use conflicts will be minimised by the proposed quarry operations. The proposed development is not inconsistent with the rural planning principles and will result in positive economic benefit to the local economy and adverse social impacts can be mitigated through the imposition of appropriate conditions of consent.

State Environmental Planning Policy 33 – Hazardous and Offensive Development

Extractive Industries have the potential to be hazardous or offensive development through the nature of their operations. If measures are not implemented to reduce impacts from the proposed development, the extractive industry could be considered to be a potentially offensive industry which is defined as follows:

potentially offensive industry means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.

Without employing measures to ensure that the development minimises any impacts, and in particular noise, the development has the potential to be an offensive industry. The proposed development was considered to be integrated development and required licensing from the Environment Protection Authority (EPA). The EPA granted concurrence to the development subject to the imposition of conditions. Through implementation and compliance with the conditions set out in their General Terms of Approval the impacts of noise and potential pollution to the surrounding area will be minimised through:

- restricted hours of operation and blasting times
- restriction on noise emissions from the site and noise compliance monitoring
- implementation of stormwater and erosion and sedimentation controls
- monitoring and recording of complaints including an annual return to the EPA

The quarry proposes to store a limited amount of fuel (less than 10,000L) on site for machinery. All fuel storage will be within a separate bunded area where no other flammable materials will be stored. Transport of small quantities of fuel would also be required. The

storage and transport of the proposed amount of fuel would not trigger the quarry being defined as a potentially hazardous or offensive industry.

A condition of consent is also proposed to ensure that any on-site maintenance of machinery (including mechanical or washing) is undertaken in a manner that results in suitable disposal of waste water / materials.

A full set of conditions are contained in the draft schedule at the end of this report. Compliance with the conditions will minimise the impacts to the surrounding area and in turn the extractive industry is not likely to be classified as a potential hazardous or offensive industry.

State Environmental Planning Policy 44 – Koala Habitat Protection

The Ecological Assessment Report dated 10/08/2013 and the Addendum to that report dated 26/11/2014 prepared by GeoLINK included an assessment in accordance with the provisions of SEPP 44. The reports determined that the subject land is identified as potential Koala habitat. The survey results did not identify any areas of core Koala habitat and therefore, a Koala Plan of Management is not required.

Some limitations were identified with the survey, including previous fires, however, given the survey efforts undertaken (including additional surveys in October 2014) and the presence of Brushtail Possums, some evidence of Koala occurrence is likely to have been detected if the survey areas were subject to moderate to high levels of Koala usage.

State Environmental Planning Policy 55 – Remediation of Land

The historical uses of the site indicates that there is little to no potential for the site to be contaminated as a consequence of past or current land uses, and it is considered that a detailed investigation under the provisions of the SEPP 55 is not required.

Clarence Valley Local Environmental Plan 2011

The subject land is zoned RU2 Rural Landscape under the provisions of the *Clarence Valley Local Environmental Plan, 2011* (LEP). Extractive industries are not permissible under the provisions of the LEP, however, as discussed above, are a permissible development using the provisions of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*. In this case the SEPP takes precedence over the LEP.

The LEP requires the consent authority to have regard for the objectives of the zone when determining a development application in respect of land within the zone. The objectives of the zone are;

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To maintain the rural landscape character of the land.*
- *To provide for a range of compatible land uses, including extensive agriculture.*
- *To provide land for less intensive agricultural production.*
- *To prevent dispersed rural settlement.*
- *To minimise conflict between land uses within the zone and with adjoining zones.*
- *To ensure that development does not unreasonably increase the demand for public services or public facilities.*
- *To ensure development is not adversely impacted by environmental hazards.*

The proposal is not inconsistent with the objectives of the zone as it does not interfere with agricultural potential of the land or surrounding land. The implementation of the conditions contained within the draft schedule will help minimise the potential land use conflicts. No unreasonable demand will be placed on public services or public facilities. The operator of the site will be required to upgrade Boundary Creek Forest Road and Boundary Creek Road and pay an annual contribution for the maintenance of Council roads.

Clause 7.2: Earthworks

(3) Before granting development consent for earthworks, the consent authority must consider the following matters:

- (a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,*
- (b) the effect of the proposed development on the likely future use or redevelopment of the land,*
- (c) the quality of the fill or the soil to be excavated, or both,*
- (d) the effect of the proposed development on the existing and likely amenity of adjoining properties,*
- (e) the source of any fill material and the destination of any excavated material,*
- (f) the likelihood of disturbing relics,*
- (g) the proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area.*

The proposed quarry is not considered to have a detrimental effect on existing drainage patterns or soil stability of the locality. The quarry site is located at the top of a ridgeline and does not receive significant surface water flows from upslope areas. The future landform of the site will be altered, however, the site will be rehabilitated to reinstate the native vegetation. The quality of the material to be extracted has been determined to be suitable for various infrastructure projects in the region. Further assessment is required to determine the impact of the road works on two relic sites found. If the sites are impacted by the works, a Heritage Impact Permit will be required from the Office Environment and Heritage (OEH). The likely impacts on watercourses, drinking water catchments and environmental sensitive areas are minimal and can be adequately managed and or mitigated.

Clause 7.7: Drinking Water Catchment

(3) Consent must not be granted to the carrying out of development on land to which this clause applies unless the consent authority:

- (a) has taken into consideration whether there will be any adverse impact on drinking water quality and flows having regard to the following:*
 - (i) whether there is sufficient distance between the proposed development and waterways that feed into the water supply catchment,*
 - (ii) the on-site use, storage and disposal of any chemicals on the development site,*
 - (iii) the treatment, storage and disposal of wastewater and solid waste generated or used on the development site,*
 - (iv) any other potential adverse impacts on the water quality and quantity within the catchments, and*
- (b) is satisfied that:*
 - (i) the development is designed, sited and will be managed to avoid any adverse impact on water quality and flows, or*
 - (ii) if that impact cannot be avoided, after having taken into consideration feasible alternatives, the development is designed, sited and will be managed to minimise that impact, or*
 - (iii) if that impact cannot be minimised, the development will be managed to mitigate that impact.*

The quarry site is mapped within the Drinking Water Catchment Map of the LEP. The quarry site is located within the Copes Creek catchment, which is a tributary to the Nymboida River. The proposed collection and management of stormwater runoff from the quarry site is proposed in accordance with the 'Blue Book'. Stormwater runoff within the quarry will be drained to stormwater collection sumps to facilitate settlement of suspended sediment prior to reuse or discharge (subject to quality testing and treatment if required). The EPA has issued General Terms of Approval for the proposal, which includes requirements and criteria for water quality and monitoring. If necessary, erosion and sedimentation controls will be implemented to divert clean runoff around the quarry.

Chemicals and fuels used for quarry operations will be required to be stored in a bunded area with the ability to contain any spillage. Waste water will be required to be managed on-site in accordance with Council's On-site Waste Water Management Strategy.

The proposed quarry operations have been designed to ensure that there is no significant impact on water quality or quantity within the drinking water catchment.

Clause 7.8: Essential Services

On-site collection and management of water, sewer and stormwater is proposed for the development. Access to the site is via Boundary Creek Forest Road and Boundary Creek Road, both Council owned roads. The roads require upgrading to ensure that they are suitable to service the development. The quarry operator will maintain these roads under a maintenance agreement with Council.

- (ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the draft instrument has been deferred indefinitely or has not been approved), and**

A draft LEP to include a clause for Biodiversity and Vegetation mapping was on exhibition until 14 April 2014.

The subject land is identified as containing high conservation values. Under the draft provisions the consent authority shall not grant development consent unless it has considered the impacts on native vegetation. The impacts of the proposal have been addressed by the applicant and the consent authority can be satisfied that the environmental impacts are minimised and biodiversity values are maintained.

The Ecological Assessment and addendum submitted with the application have been prepared in accordance with the proposed LEP and DCP controls. A biodiversity offset is proposed, and is considered to be in accordance with Council's adopted Biodiversity Offset Strategy. The offset will ensure the protection of over 100ha of vegetation on-site in perpetuity to offset the impacts of the development and retain biodiversity values to the locality.

- (iii) any development control plan, and**

Rural Zones Development Control Plan

There are no specific requirements for extractive industries under the Rural Zones DCP. The development was notified in accordance with Part B of the DCP which is discussed under S79C(d) of this report. The proposed development is not inconsistent with the objectives of the plan.

- (iiia) **any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and**

Nil

- (iv) **the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates,**

Extractive industries that obtain or process for sale, or reuse, more than 30,000 cubic metres of extractive material per year, or that disturb or will disturb more than 2 hectares are declared to be Designated Development under Clause 19 Schedule 3 of the *Environmental Planning and Assessment Regulations, 2000* (the Regulations).

The proposed development was publically notified in accordance with Part 6, Division 5 of the Regulations. The General Terms of Approval have been sought from the relevant public authorities and are contained within the Draft Schedule of Conditions.

- (v) **any coastal zone management plan (within the meaning of the Coastal Protection Act 1979),**

The subject land is not affected by any coastal zone management plan.

- (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 development has the potential for various environmental, social and economic impacts, including noise, traffic, dust, vegetation removal and land-use conflicts. However, through the mitigating measures proposed and the implementation of conditions contained in the draft schedule, the potential negative impacts from the proposed extractive industry will be minimised.

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

The site is suitable for the proposed development subject to the imposition of conditions contained in the Draft Schedule.

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

The proposed development was advertised and notified in accordance with the provisions of the Act, Regulations and Council's DCP. Ten (10) submissions and 1 petition objecting to the development were received during the notification period. One submission was received after the notification period. Issues raised in the objections are discussed below.

1. Increased traffic

The submitters concerns relate to increased truck movements along the haulage route in regards to:

- the suitability of the road network to cater for the additional vehicles (narrow road with limited passing opportunities),
- increased risk of accidents

- impacts of traffic noise & dust,
- damage to the road surface,
- conflict / danger during peak school times (Nymboida & Coutts Crossing).

It was recommended by submitters that road upgrading (including Armidale Road) be required, a reduced speed limit be imposed along Boundary Creek Road and bitumen sealing of Boundary Creek Road to reduce dust.

Comment:

The haulage route proposed utilises Armidale Road, a classified regional road under Council's control. Armidale Road is currently highly utilised by heavy vehicles. The Traffic Impact Assessment concluded that the roads within the haulage route are suitable for the increased traffic generated by the development. Additionally, it would be unreasonable to require the applicant to upgrade Armidale Road, given the amount of traffic utilising this road and its status as a classified regional road. The carriageway widths of Boundary Creek Forest Road and Boundary Creek Road will be widened to support the transport of quarry material.

The quarry operator is proposing to enter into a road maintenance agreement and they will be responsible for regularly maintaining the sections of Boundary Creek Forest Road and Boundary Creek Road utilised as a haulage route to a suitable standard. The quarry operator has also agreed to pay an annual road maintenance contribution for Armidale Road, Swallow Road, Lilypool Road and Tyson Street. This will offset the impact of additional heavy vehicle use of these roads.

Impacts from traffic noise and dust have been assessed as part of the EIS and mitigating measures proposed are discussed in more detail under item no. 3 below. Preparation of a 'Traffic Management Plan and Truck Driver Code of Practice' is necessary to address a variety of matters including consideration of potential risk areas along the haulage route, such as school zones. Truck drivers will be required to comply with this Plan.

Vehicle speeds on unsealed rural roads should be determined by the condition of the road at the time of travel, and as such a specific speed limit is generally not set. Road conditions can vary from various factors such as weather conditions and maintenance status and a set speed limit does not address all of these factors. In saying that, the maximum default speed for such roads is 100km per hour.

2. Impacts to biodiversity

The submissions state that the removal of native vegetation, the loss of threatened species habitat and adverse impacts on biodiversity are too significant to support the proposal. The quarry will negatively impact on fauna, wildlife corridors, Dry Rainforest EEC and nearby Nature Reserves. Road kill would be high along Boundary Creek Road. Adequate offsets have not been proposed to address the impact.

It was recommended by submitters that blasting activities be reduced to mitigate impacts to fauna, additional offsets be required (including revegetation of existing degraded areas and installing nest boxes to rehouse displaced fauna), suitable mitigating measures imposed (e.g. silt traps) to protect the EEC from pollution, ensuring the gullies are not starved of natural water flows, and clearly identifying rehabilitation requirements.

Comment:

The Ecological Assessment identified all of the above concerns as potential impacts associated with the proposed development, including the removal of 10.12ha of native

vegetation. Several safeguards have been proposed to mitigate the impacts of the proposal on local biodiversity, including safeguards for design features, rehabilitation, habitat protection and clearing protocols.

In total, clearing of 10.12ha of native vegetation is proposed for the quarry footprint and road upgrading works. The majority of the vegetation to be removed is open spotted gum / mixed eucalypt forest (dry sclerophyll forest). However, removal of up to 20 saplings / bushes of regrowth dry rainforest species (EEC) and removal of River Oak woodland is also proposed for road upgrading and Copes Creek stream crossing works. The ecology assessment determined that the area of EEC within the road upgrade footprint is considered in poor condition due to previous disturbance and it is regrowth vegetation. The assessment also determined that due to the current poor condition of the River Oak woodland vegetation, the increased fragmentation of habitat proposed is unlikely to adversely affect existing local fauna movements, including potentially listed migratory species under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In regards to impact on the EEC within the site boundaries, the Ecological Assessment proposes specific buffers to the EEC (including horizontal buffers between 50m and 75m) and stated the importance of gullies within the rainforest area retaining water flows. These measures are proposed to avoid direct impacts and reduce indirect impacts / 'edge effects' to the community.

An Addendum Ecological Assessment provided results of additional surveys work and an amended proposal to reduce the proposed clearing from 11.6ha to 10.12ha. An amended and detailed biodiversity offset strategy in accordance with Council's Biodiversity Offset Policy was also proposed. The offset proposed includes:

- a ratio of 10:1 (protected to removed), for a total offset area of 101.2ha
- like for like outcome for the vegetation communities to be protected
- removal of RAMA's and amending the existing PNF (Private Native Forestry) on the land to remove logging approved in the offset area
- securing the offset in perpetuity through an approved mechanism (a Property Vegetation Plan (PVP) is the preferred option to the applicant).

The offset proposed is considered a net vegetation gain as the habitat protection area will be retained in perpetuity and will result in removal of the approval to log in these areas, improving the biodiversity values of the locality. The offset will result in protection of like for like vegetation on the property which is preferred to other agreements for protecting vegetation off-site.

The site is located within the centre of a regionally significant wildlife corridor and spans approximately half the width of that corridor. The like for like vegetation being protected under the offset proposed will contribute to maintaining wildlife connectivity for the locality.

An assessment under S5A of the EP&A Act was undertaken to determine the impact of the proposal on known and potentially occurring threatened species and EEC. The assessment (including the addendum) concluded that it is unlikely that the proposal would result in a significant impact on the local population/occurrence of any threatened species or EEC, as a result of the proposed biodiversity offset strategy and other mitigating measures.

3. Noise, vibrations and dust impacts

Submitters raised concerns with the potential health and social impacts and loss of rural amenity to surrounding residents resulting from the noise, vibration and dust generated by

quarry activities. Submitters are concerned with damage to buildings and properties resulting from blasting and vibrations.

The submissions also stated there was a lack of impact assessment of on-site processes, mitigating measures proposed, ongoing monitoring proposed, and impact assessment on residents close to roads. There was uncertainty about what action is to be taken if noise limits are exceeded.

It was recommended that the hours of operation be reduced and that no operations be permitted on Saturday and that residents be notified when blasting is planned.

Comment:

The proposal has the potential to impact on the desirable rural characteristics of the local areas near the quarry site and along the haulage route. The closest dwelling to the proposed quarry is 2km and a total of 8 dwellings are located within 5km of the quarry site. The relatively isolated location of the quarry limits the number of dwellings subject to potential negative impacts from quarry operations. There are a number of dwellings located along the main haulage route at Nymboida and Coutts Crossing villages.

The EIS included a noise (operational and traffic), vibration and blasting assessment. Mitigating measures are necessary for quarry operations (on-site operations) to achieve compliance with the background noise levels of $L_{Aeq}(15\text{ min})$ of 35 dBA at the closest dwellings, in accordance with the Industrial Noise Policy. The traffic noise assessment determined that the heavy vehicle noise generated by the haulage of material along Boundary Creek Forest Road and Armidale Road is likely to be below the limits identified in the EPA NSW Road Noise Policy (RNP). The draft conditions of consent limit operational and traffic noise and vibration and blasting to the acceptable levels identified in the EIS. A Noise and Vibration Management Plan, Monitoring and Assessment/Review of the monitoring is recommended in the EIS and reflected in the draft conditions.

Furthermore, the EPA approval and the draft conditions in the schedule contain reduced operating hours to those proposed. The hours do not permit any operation during early morning periods (before 7am) and Saturday afternoons (after 1pm). This will further mitigate noise and amenity impacts to nearby dwellings.

There is the potential of dust generation along Boundary Creek Forest Road and Boundary Creek Road impacting on residents along those roads. An air quality assessment submitted with the EIS assessed the impacts of dust emissions at two receivers (one being the dwelling located closest to the road with a setback of 60m). The assessment was prepared in accordance with the NSW EPA 'Approved Methods of Modelling and Assessment of Air Pollutants in NSW' and it determined that the predicted dust emissions for the quarry comply with the air quality criteria for each relevant dust metric.

4. Land use conflicts

Submissions stated a potential future land use conflict for eco-tourism in the locality from the existence of the quarry and associated heavy traffic movements. Conflicts with existing local businesses such as the canoe centre, horse riding, and equestrian centre were mentioned.

Comment:

A land use conflict risk assessment, under section 15.5 of the EIS, focuses on adjoining / nearby land uses. The potential impacts to adjoining uses are likely to be noise, dust and increased traffic movements from the quarry operations. It concluded that with implementation of the proposed mitigating measures in the EIS, the development is unlikely

to have a significant impact on the current and preferred land uses in the vicinity of the development.

The canoe centre is approximately 13km from the quarry. At that distance, it is likely that the only impacts from quarry operations would be increased traffic movements on Armidale Road. Restricted hours of operation, traffic noise limits and monitoring requirements are proposed in the draft conditions of consent to mitigate the impacts.

Horse riding is likely to occur in various locations in the Nymboida locality. It is unlikely that any significant impacts to this use would result from quarry operations as a result of the mitigating measure proposed.

5. Drinking Water Contamination

The site is located in the Shannon Creek Dam catchment which is a drinking water supply for Clarence Valley and Coffs Harbour LGA's. Potential contamination of drinking water from the development was stated as a risk in the submissions.

Comment:

This has been addressed above under clause 7.7 of the CVLEP. Implementation of the proposed Soil and Water Management Plan is not considered to result in changes to the quality of stormwater runoff from the quarry area. Stormwater runoff within the quarry area will be drained to stormwater collection sumps to facilitate settlement of suspended sediment prior to reuse or discharge. Discharging will be subject to quality testing and treatment if required. Erosion and Sedimentation controls will be implemented to divert clean runoff around the quarry where possible.

6. Notification / consultation process

The submissions identified a lack of adequate notification and consultation of the proposed development, by both Council and the applicant (as specified in the Director-General's requirements), resulting in many local residents not being aware of the application.

Comment:

The application was advertised and notified in accordance with the provisions of the EP&A Act 1979, Part 6, Division 5 of the EP&A Regulations 2000 and Part B of Council's Rural Zones DCP. This included an exhibition period of 30 days and publishing newspaper notices on two separate occasions.

An extract from the Director-General Requirements states that "*during the preparation of the EIS, you must consult Council and should consult with...community groups. In particular, you should consult surrounding landowners and occupiers that are likely to be impacted by the proposal*".

The EIS states that limited informal consultation with landowners was undertaken due to the limited number of landowners that occupy nearby lands. It is considered that consultation with community groups and surrounding landowners was a recommendation and not a specific requirement.

7. Bushfire hazard

Increased risk of bushfires from quarry activities and increased congestion on roads for evacuations of residents is a concern to the submitters.

Comment:

The EIS contained a bushfire hazard assessment for the development. The assessment details bushfire protection measure for asset protection zones (APZ), building construction standards, services, road access and evacuation in accordance with *Planning for Bush Fire Protection 2006*. The road upgrading works required for Boundary Creek Road and Boundary Creek Forest Road are likely to reduce potential vehicle congestion on these roads in an emergency as the width of the roads will be increased.

8. Significance of the resource and employment / capital expenditure

One submission stated that the resource is insignificant, readily available and does not warrant the disruption proposed. The low amount of capital expenditure and small number of employees is unlikely to stimulate the local economy.

Comment:

Geotechnical investigations have only been undertaken for Area 1, with further investigations subject to Area 2. The Geotechnical assessment determined that there are two types of material that will be extracted. The hard rock argillite and greywacke is a high to very high strength and suitable for road base and potentially concrete aggregate.

It is estimated that the quarry has a capital investment of \$1.2million and will generate up to 10 full time equivalent construction jobs. Additional indirect economic benefits are anticipated through the quarry, such as engaging environmental officers to undertake the rehabilitation works required. The quarry is likely to have positive direct and indirect impacts on the local and regional economies from the ongoing financial expenditure and employment generation over the life of the quarry.

9. Water supply source

Dust suppression and quarry activities require between 9,000L and 75,000L per day with a further 5,000L to 14,000L for irrigating revegetated areas. The method of water supply / threat to water supplies and the impacts on surrounding lands from the use of water is identified as an uncertainty in one of the submissions.

Comment:

The Soil and Water Assessment submitted with the EIS included a detailed water balance assessment. For each stage of the quarry, it has been calculated how much water would be captured in the sedimentation ponds / stormwater sumps, how much of that water is proposed to be re-used on-site for quarry operation and how much is to be discharged back into the environment (subject to compliance with water quality controls). In accordance with this assessment approximately 36% to 42% of the water captured is proposed to be discharged.

The EIS also concludes that the potential for the proposal to cause significant detrimental impacts to groundwater dependent ecosystems is considered to be minimal. The proposal would not result in significant changes to the hydrology of the Copes Creek catchment or the broader Nymboida River catchment. The quarry site is located at the top of the ridge and does not receive surface flows from upslope areas.

(e) the public interest.

The proposed development complies with the relevant legislation and local policies ensuring that the public interest is maintained. Through the imposition of the conditions contained within the draft schedule, potential impacts from the development to the surrounding area will be minimised.

Schedule of Draft Conditions

1. The development being completed in conformity with the Environmental Planning & Assessment Act, 1979, the Regulations thereunder, the Building Code of Australia (BCA) and being generally in accordance with the following documents and plans:
 1. Amended Quarry Footprint Plan 12 November 2014
 2. Environmental Impact Statement 17 January 2014
 3. Traffic Impact Assessment (second issue) & Road Safety Audit June 2014
 4. Addendum Ecological Assessment (second issue) 26 November 2014

Or where modified by any conditions of consent.

2. The Development has been determined as a Staged Development under Section 83B of the Environmental Planning & Assessment Act 1979. This consent grants approval to extract material from Area 1 and a concept approval for Area 2.

Area 2 may not be cleared or quarried, without further development approval. A separate Development Application, and necessary supporting information (including geotechnical investigations), is to be submitted to Council to seek approval to quarry Area 2.

3. Compliance with the conditions and advice of the NSW Environmental Protection Authority, as contained in their letter dated 1 April 2014, consisting of 10 pages, and as attached to this Notice of Determination.
4. Compliance with the conditions and advice of the NSW Office of Water, as contained in their letter dated 10 March 2014, consisting of 7 pages, and as attached to this Notice of Determination.
5. Compliance with the conditions and advice of the Fisheries NSW, as contained in their letter dated 14 February 2014, consisting of 2 pages, and as attached to this Notice of Determination.
6. Submission of a Plan of Management prepared by a suitably qualified and experienced person/s to Council for approval prior to the commencement of quarrying under this Notice of Determination. The Plan of Management is to include, but is not limited to, the following details:
 - Operating details including: numbers, type and location (if fixed plant) of plant and machinery; numbers of employees on-site and off site; stockpile and overburden storage areas; vehicle storage and refuelling areas; and fuel storage areas.
 - A plan identifying the sedimentation/storage ponds at each proposed stage of the quarrying operations. That is, as quarry expansions are proposed, any necessary relocation of sedimentation structures should be identified on the plan. The dimensions, capacity and anticipated levels of waste water within these structures should be included in this detail.
 - A water quality monitoring program is to be implemented which assesses the quality of discharges from the sedimentation ponds as they occur. Details of measures for drainage or pumping from the ponds after storm events are to be provided, including the time taken for ponds to empty.
 - Any proposal for the re-use of wastewater from the dams is to be provided. Such water could be used for water of access roads and exposed areas to avoid dust nuisance.

- Noise and Vibration Management Plan (as required by conditions of this consent) including noise mitigating and monitoring measures.
 - Blast Management Plan (as required by conditions of this consent) including a monitoring program of ground vibration and airblast overpressure for blasting activities. Details to be recorded include MIC, airblast and vibration level and distance at which monitoring of the blast are conducted.
 - Details of dust mitigation measures and monitoring program.
 - Full quarry rehabilitation details, including details of commencement and completion of each stage of rehabilitation proposed.
 - Details of the method of weighing extracted material. A schedule is to be included which allows for the annual update of the rates of extraction. This will ensure monitoring of the amount of material extracted and enable Council to calculate the contributions for Council road maintenance.
 - A waste management plan, including measures to optimise the efficiency of resource recovery and the reuse or recycling of material.
7. The establishment, operation and management of the development is to comply with the approved Plan of Management at all times.
8. An annual update of the Plan of Management is to be submitted to Council by 31 July each year. This update is to include a plan by a registered surveyor and statement demonstrating compliance with this consent and the Plans of Management. Specifically, the statement is to include:
- a. A site plan by a registered surveyor showing:
 - The extraction area at the date of report
 - The areas intended for extraction in the next twelve (12) months
 - Sediment ponds
 - Stockpile sites
 - Overburden storage sites
 - Erosion controls in place at the time of the report
 - b. Written details addressing:
 - State of compliance with each condition of consent and the Plan of Management at the time of the report.
 - The stage of the quarry and quantity of material extracted in the immediately preceding twelve (12) months
 - The stage of the quarry and quantity of material proposed to be extracted in the next twelve (12) months
 - Results from all monitoring programs for the preceding twelve (12) months
 - Sedimentation ponds constructed during the preceding twelve (12) months or proposed to be constructed in the next twelve (12) months
 - A staged rehabilitation plan for the life of the quarry
 - Records of any complaints received in the immediately preceding twelve (12) months

9. Development consent is given to extract the following maximum annual and total amounts of material:

Stage	Total BCM	Bank Cubic Meters Per Annum	Tonnes Per Annum
Area 1			
1A	40,000	8,000	20,000
1B	70,000	28,000	70,000
2	150,000	60,000	150,000
3	400,000	80,000	200,000
Area 2			
4	Between 800,000,– 1,300,000	80,000	200,000

Note: Area 2 is subject to further development consent prior to commencing quarrying of this area.

10. The area of the quarry shall not exceed 9.97 ha as shown in the Amended Quarry Footprint Plan prepared by GeoLINK dated 12 November 2014. All blasting, crushing, screening, stockpiling and loading is to be undertaken within this area.
11. The quarry/extraction area is to be defined on the ground by the establishment of permanent survey marks located and shown on a plan by a registered surveyor and submitted to Council, prior to commencement of works.
12. All vehicles associated with the use of the premises, including employees' vehicles, are to be parked within the confines of the site at all times.
13. A sign must be erected on the subject land in a prominent position visible from the entrance of the property during quarrying operations. The sign is to:
- State that unauthorised entry to the quarry work area is prohibited; and
 - Show the name of the person in charge of the quarry operations and a contact number for that person.
14. Accurate records of quantities extracted are to be kept, maintained and available for inspection by authorised Council officers on request. The method of recording and the location where records are to be kept are to be outlined in the Plan of Management.
15. An additional assessment is to be undertaken to confirm, if possible, the location and impact of the development on any item of Aboriginal Cultural Heritage, including items listed as occurring within the site or within proximity of the site as registered in the Aboriginal Heritage Information Management System (AHIMS). This search is to include the quarry footprint area and areas subject to road upgrading works required by this consent.

Management strategies for any Aboriginal objects/sites identified during this assessment shall be detailed, including measures to protect these items to avoid any impact or harm. If impact or harm cannot be avoided, an Aboriginal Heritage Impact Permit may be required from the Office of Environment and Heritage (OEH) for the works.

This assessment, in addition to any approval required from OEH, is to be submitted to Council prior to quarry operations or road works commencing.

16. Should any Aboriginal relics or artefacts be uncovered during works on the site, all work is to cease and the Director-General of the NSW Office of Environment and Heritage shall be contacted immediately and any directions or requirements of that Department complied with.
17. No advertising sign is to be erected, painted or displayed without approval from Council.
18. The quarry operator may not:
 - Encroach upon the Crown Road adjoining Lot 48 DP752839;
 - Remove any vegetation from the Crown Road;
 - Stockpile any materials, equipment, or machinery on the Crown Road;
 - Direct Stormwater discharges onto the Crown Road; or
 - Use the Crown Road as an Asset Protection Zone.

ENGINEERING

Roadworks

19. Design plans and documentation for the following works are required to be assessed and approved by Council. The works shall then be constructed by the applicant and approved by Council prior to commencement of quarry operations:
 - a) The location of the existing Boundary Creek Road and Boundary Creek Forest Road formations, with respect to the public road reserve boundaries, is to be determined by survey. Any road works shall be undertaken within the surveyed road reserve or the road reserve boundaries are to be adjusted with the written agreement of the owners of any affected properties. Revised survey plans will be required to be approved and registered with NSW Land and Property Information.
 - b) The road section known as Boundary Creek Forest Road that provides access to the quarry site from the existing Council maintained Boundary Creek Road section, is to be constructed as a 6m wide unsealed gravel carriageway with 0.5m wide shoulders (minimum).
 - c) The quarry ingress / egress driveway off Boundary Creek Forest Road shall be designed as a basic right-turn treatment (BAR) into the property and basic left-turn treatment (BAL) out of the property in accordance with Austroads and NRDC.
 - d) If a gate is proposed for the quarry, it shall be set back so that the largest service vehicle can stand clear of Boundary Creek Forest Road.
 - e) All Unsealed gravel pavements are to be designed for the in-situ subgrade conditions and design traffic.
 - f) Stormwater drainage culvert road crossings are to provide a minimum 1 in 5 year Average Recurrence Interval (ARI) immunity against flood and drainage flows.
 - g) The existing causeway at Copes Creek, on Boundary Creek Forest Road, is to be upgraded to a culvert crossing that provides a minimum 1 in 20 year Average Recurrence Interval (ARI) road immunity against flood and

drainage flows. Water depth markers and road edge guide posts are to be provided. Copes Creek is a third order stream. Comments and approval for any construction works are required from the NSW Department of Primary Industries – Fishing and Aquaculture.

- h) The section of Boundary Creek Road, extending from the 'Armidale Road – Boundary Creek Road' intersection to 'Boundary Creek Road - Boundary Creek Forest Road' intersection, is to be constructed as a 7m wide carriageway with minimum 0.5m wide shoulders. Cross-road drainage culvert crossings are to provide a minimum 1 in 5 year Average Recurrence Interval (ARI) immunity against flood and drainage flows. The location of the existing road with respect to the public road reserve boundaries is to be determined by survey.
 - i) Armidale Road – Boundary Creek Road intersection is to be constructed as an 'Austroads' basic right and left turn (BAL & BAR) complying intersection. The bitumen sealed gravel pavement is to be designed for the in-situ subgrade conditions and design traffic. Bitumen sealing shall comprise emulsion or cutback primer plus 2 coat 14 / 7 mm double / double seal. The design plans shall include details of linemarking, signage and road furniture and consider the 'RoadNet' Road Safety Audit Report (dated 13 June 2014) recommendations.
 - j) A report, addressing items 1 to 5 in Appendix A of the Road Safety Audit prepared by Roadnet (dated 13 June 2014), detailing how they are to be managed and / or implemented is to be submitted by the applicant for the approval of Roads & Maritime Services and Council.
 - k) Certification from the supervising professional engineer or registered land surveyor, that all works have been constructed in accordance with the Council approved plans and specifications are required.
 - l) All quarry trucks exiting the site shall do so via a weighbridge to be installed prior to commencement of quarrying activities, or all trucks are to be loaded by a machine with scales to enable accurate records of loads.
20. The developer must bear any costs relating to alterations and extensions of existing roads, drainage and services for the purposes of the development.
21. The developer must design all civil works, in accordance with NRDC, and construct these works in accordance with the approved, dated and stamped engineering plans; and NSW Roads Act 1993 Approval issued by Council. This work must be done under the supervision of a suitably qualified and experienced engineer or land surveyor approved by Council.
22. The supervising engineer / surveyor must arrange for the hold point inspection, and accompany Council or accredited Private Certifier on the inspection unless alternative arrangements are made. Where Council is the Certifying Authority for civil engineering works the applicant must give Council one (1) business day's notice to permit hold point inspections of the following components of the construction process:
- a Roadworks
 - i stripping with erosion controls in place
 - ii subgrade

- lii subbase (at discretion of Development Engineer)
 - iv completion of pavement ready for sealing
 - v final including stormwater
- b Stormwater
 - i Prior to backfilling of trenches
 - ii In accordance with the submitted and Council approved stormwater drainage construction, inspection, testing, establishment and staging management plan for WSUD components

Plus any other part of the works specific to the development that the Development Engineer may request.

23. A Construction Management Plan must be submitted to and approved by Council prior to the issue of the NSW Roads Act 1993 Approval. The plan must document the proposed method of work within the construction site boundaries and road reserve with regard to the health and safety of the public and affect on the road reserve. If any part of the road reserve or public land is proposed for long term (exceeding 24 hours) inclusion in the construction site boundaries this area must be identified in the Construction Management Plan. The road reserve is classed as the property boundary to opposite property boundary and includes roadway, nature strip and footpath.
24. A Traffic Management Plan must be submitted with the Construction Management Plan for approval by Council prior to the issue of the NSW Roads Act 1993 Approval. The plan must show the proposals for reducing any impact of the construction site on the adjacent traffic network. This plan will include traffic management of short term activities such as delivery of materials; accessing, exiting and parking in and near the work site by cranes, concrete agitator trucks; tradesmen work vehicles and the like.
25. For any part of the site that comes under the jurisdiction of another Government department, a Controlled Activity approval (or similar approval) may be required. Any such approval must be obtained and provided to Council prior to issue of the NSW Roads Act 1993 Approval.

Restricted haulage times

26. Access to the intersections of Armidale Road – Ryan Street and Armidale Road – Viaduct Road will not be permitted between the hours of;
 - 7:30am and 9:30am
 - 2:30pm and 4:30pm
27. On any school day, no truck movements shall occur during the period that any school bus travels along the haulage route and the quarry operator shall consult with the bus company to determine the period that the buses traverse the route.

Traffic Management Plan and Truck Driver Code of Practice

28. Prior to commencement of quarry operations, the applicant shall submit a 'Traffic Management Plan and Truck Driver Code of Practice' for assessment and approval by Council. The plan shall document :
- a) The road maintenance program
 - b) Surrounding environment, existing conditions and road safety
 - c) Existing private property driveways and farm access points
 - d) Dust suppression methods including water supply management, monitoring, reporting, source, licencing, drought
 - e) Noise suppression methods including monitoring and reporting
 - f) Road inspection activities to be implemented for the life of the quarry
 - g) Approved haulage routes highlighting specific locations for consideration such as school zones, school bus routes, residential areas or potential risk locations (including map).
 - h) Induction process for staff and sub contractors outlining clear expectations and consequences for any breach of the code
 - i) Instruction on all operational and safety requirements related to the quarry operations
29. The quarry is to operate in accordance with the approved Traffic Management Plan and Truck Driver Code of Practice.

Road Maintenance Agreement and Contribution

30. Prior to commencement of quarry operations, the applicant shall enter into a legally binding road maintenance agreement with Clarence Valley Council for all utilised sections of Boundary Creek Road, Boundary Creek Forest Road and the interface with the Armidale Road - Boundary Creek Road intersection that are utilised by the applicant. This agreement shall be for the life of the quarry.
31. Payment to Council of a road maintenance contribution per annum for the use of Council's roads by extractive industry trucks at a rate of \$0.05 per tonne of material extracted. The maximum annual contribution rates for each stage are:

Stage	Maximum extraction rate	Maximum annual rate
Stage 1A	20,000 tonnes	\$1,000
Stage 1B	70,000 tonnes	\$3,500
Stage 2	150,000 tonnes	\$7,500
Stage 3	200,000 tonnes	\$10,000
Stage 4	200,000 tonnes	\$10,000

NB

1. The contribution(s), as assessed, will hold for a period of 12 months from the date of this approval. Contributions not received by Council within 12 months of the date of this determination will be adjusted in accordance with the movement in the Consumer Price Index.
2. The contributions are to be paid to Council on an annual basis. The amount will be determined by the extraction amounts specified in the Plan of Management and revised annually by the operator.

Internal access and parking

32. Prior to commencement of quarry operations, internal quarry roads shall be constructed in accordance with the Private Native Forestry Code of Practice for Northern NSW (DECC, 2008), consider all design service vehicles used in the quarry operations and be wide enough to facilitate 2 way traffic, unless alternate routes are determined which will ensure vehicles do not pass in opposite directions.
33. Car parks, driveways and vehicular accesses for the development must be provided in accordance with the requirements of the RMS, Austroads, AS2890 and NRDC.
34. Driveways are to be constructed in accordance with NRDC standard drawings. Design calculations for access culverts must be provided where culverts are required.
35. Prior to the commencement of quarry operations, the adequacy of parking, car parks, driveways, garages and vehicular accesses for the development is to be demonstrated by the submission of standard scale plans with manoeuvring paths shown in accordance with AS2890. This must clearly demonstrate that the parking area will function as intended. The parking area plans are to be submitted and approved by Council or accredited private certifier.
36. Grades and paths of travel for persons with disabilities are to be provided from carparking bays through to the main entrance of the building. Access provisions are to be in accordance with AS1428.1 and the Building Code of Australia.

Stormwater

37. All stormwater falling on the property is to be collected within the property and discharged in accordance with the relevant parts of the applicable Clarence Valley Council Development Control Plans and NRDC.
38. The Stormwater Management Plan for the roadworks, site, and any adjacent areas affected by the development shall be submitted for assessment and approval by Council prior to issue of the NSW Roads Act 1993 Approval.

Detailed stormwater control design plans, including downstream infrastructure necessary for the system to operate, must be submitted for assessment and approval by Council or accredited private certifier prior to issue of the NSW Roads Act 1993 Approval.
39. Prior to the endorsement of constructed works by Council and the commencement of quarry operations, submission of 'Work as Executed' Plans and asset register records for all public road and drainage works for the development, to the satisfaction of Council, is required. This shall include certification from the supervising professional engineer or land surveyor, that the works have been constructed in accordance with the approved plans and specifications.

Earthworks

40. Detailed plans of earthworks including an Earthworks Management Plan must be submitted to Council or accredited private certifier for assessment and approval prior to the issue of a NSW Roads Act 1993 Approval.

The earthworks Management Plan is to be prepared in accordance with Council's guidelines. The guidelines are listed in the Advices section of this Notice.

41. Any fill earthworks to be undertaken on the site must be carried out in accordance with the placement and compaction of fill described in AS 3798, and NRDC.

Erosion & Sediment Control

42. Erosion and Sediment Control is to be implemented in accordance with the relevant parts of the applicable Council Development Control Plans and NRDC. Sediment and erosion control plans are required for all construction works. These are to be prepared in accordance with NRDC and the NSW Landcom 'Blue Book' guidelines and submitted for assessment and approval by Council, prior to the commencement of construction.
43. A detailed Erosion and Sediment Control Management Plan for any construction works must be submitted for assessment and approval by Council, prior to issue of a NSW Roads Act 1993 Approval. This shall be compatible with the Stormwater Management Plan and must include procedures for clean-up and restoration of public / private property and infrastructure, affected by any construction operations. All such remedial works are to be completed to the satisfaction of Council.
44. The applicant must ensure that vehicles or plant associated with the works do not adversely impact on the roadways to such an extent that cause them to become untrafficable for other road users particularly during wet weather. Any such damage is to be rectified by the contractor immediately.
45. During dry weather, standard dust suppressions methods are to be used as often as is necessary to ensure that adjoining properties are not adversely affected by undue dust.
46. All trucks carrying quarry or crusher products from the site shall ensure their loads are fully covered by a suitable material to prevent spillage or dust falling from the truck.

BUILDING

47. A Construction Certificate shall be obtained in respect of the office and amenities buildings prior to their installation/placement on site.
48. The buildings are not to be occupied or used until such time as an Occupation Certificate has been issued.
49. Prior to commencement of works, a sign must be erected in a prominent position on any work site on which work is being carried out:
- a Stating that unauthorised entry to the work site is prohibited, and
 - b Showing the name of the person in charge of the work site and a telephone number at which that person may be contacted outside of working hours, and

- c Showing the name, address and telephone number of the principal certifying authority for the work, and

Any such sign is to be removed when the work has been completed.

- 50. The facility shall be provided with sanitary facilities and a water supply of appropriate quantity and quality to satisfy sanitary and drinking water requirements for staff. Details of how this is to be achieved are to be submitted to Council for consideration and approval prior to any works commencing on the site.
- 51. Access to the buildings for disabled persons shall be provided and constructed in accordance with the requirements of Part D3 of the Building Code of Australia and AS 1428.1-2009.
- 52. Accessible facilities for the use of the disabled shall be provided as specified in Clause F2.4 of the Building Code of Australia and shall be constructed to the requirements of AS 1428.1-2009.
- 53. Car parking spaces for people with disabilities are to be provided as required by Part D3.5 of Building Code of Australia.
- 54. In a building required to be accessible, braille and tactile signage complying with Specification D3.6 of the Building Code of Australia and incorporating the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1-2009 must identify each sanitary facility; space with a hearing augmentation system and door with a required 'exit' sign.
- 55. The Construction Certificate plans shall detail dimensional compliance with the requirements of AS 1428.1-2009 for access and facilities.
- 56. An On-Site Wastewater Management (OSM) Application is to be lodged with the Construction Certificate demonstrating how wastewater will be disposed and treated on-site. The system will need to be installed in accordance with the approval prior to issue of the Occupation Certificate for the buildings.

Note: The proposed pump-out system is not in accordance with Council's On-site Wastewater Management Strategy.

ECOLOGY

- 57. Removal of native vegetation approved under this application is to be undertaken in accordance with the recommendations of the Ecological Assessment and Addendum Ecological Assessment submitted with the Application. This includes staging vegetation removal, methods of vegetation removal and works to be undertaken by a qualified ecologist.

No native vegetation is to be removed from the site, with the exception of that identified for removal in the application.

- 58. A Biodiversity Offset is to be provided in accordance with the Addendum Ecological Assessment November 2014 and Council's Adopted Biodiversity Offset Policy.

A Biodiversity Offset Management Plan shall include details of the method of offsetting proposed and an ongoing Vegetation Management and Monitoring Plan. This Plan is to be submitted to Council for approval prior to commencing quarry operations.

The Biodiversity Offset, totalling 101.2 ha, is to be secured in perpetuity, in accordance with the approved Biodiversity Offset Management Plan, prior to commencing quarry operations. No vegetation removal on the site is to occur until the Biodiversity Offset has been secured.

59. The applicant is to develop a staged rehabilitation plan for the life of the quarry. Rehabilitation of each stage is to be undertaken prior to commencing extraction from the subsequent stage. The rehabilitation plan is to be included in the Plan of Management.

ENVIRONMENTAL HEALTH

Hours of Operation

60. Hours of operation of the premises are restricted to times between 7:00am and 5:00pm Monday to Friday, between 8:00am and 1:00pm on Saturday.
61. There is to be no quarrying, processing or transportation on Sundays or statutory public holidays except for emergency purposes; for example, but not limited to, sudden damage to public infrastructure or any damage posing an immediate risk to life or property.

The quarry operator is to inform Council on the first working day following the emergency that trucks were carrying quarry products outside the approved hours for emergency purposes.

Noise Limits

62. Noise from the premises must not exceed an $L_{Aeq(15\text{ min})}$ of 35 dBA at the nearest residential receiver who has not given written permission for an exceedance of this condition including under adverse meteorological conditions.
63. Noise from the premises is to be measured at the most affected residential receiver who has not given written permission for an exceedance to determine compliance with the conditions herein at least annually and at any time where Council requests it having reason to believe an exceedance has occurred based on complaints. The results are to be supplied to Council for review within 30 days of the request. Noise measurement must not take place under the following conditions:
- a. Wind speeds greater than 3 metres/second at 10 metres above ground level; or
 - b. Temperature inversion conditions up to 3°C/100m and wind speeds greater than 2 metres/second at 10 metres above ground level; or
 - c. Temperature inversion conditions greater than 3°C/100m.
64. A Noise and Vibration Management Plan is to be prepared by a qualified noise consultant in accordance with section 4 of the Noise, Vibration, Blasting and Air Quality Report dated 28 November 2013 by Wilkinson Murray Pty Ltd. The report is to determine how compliance with the limits set herein ($L_{Aeq(15\text{ mins})} = 35\text{ dB(A)}$) will be achieved by quarry operations. The report is to detail noise mitigation measures and monitoring programmes.

The report must be submitted to Council for approval and installation of mitigation works is required prior to commencement of extraction activities. Quarry operations are to be undertaken in accordance with the Plan approved by Council.

Traffic Noise

65. Traffic noise shall not exceed an $L_{Aeq(1 \text{ hour})}$ of 55 dBA (external) as measured 1 metre from the façade of the residential receiver and 1.5 metres above the floor for residences located along Boundary Creek Forest Road and Boundary Creek Road and $L_{Aeq(15 \text{ hour})}$ of 60 dBA (external) as measured 1 metre from the façade of the residential receiver and 1.5 metres above the floor for residences located along Armidale Road. Since hours of operation are restricted above, traffic noise generated as a result of quarry operations at any time other than permitted operating times is prohibited.
66. Noise mitigation efforts and best practice noise management protocols must be implemented to reduce the noise generated by heavy vehicular traffic as is considered reasonable and feasible.
67. Road traffic noise shall be evaluated within one year of commencement of quarry operations and ten years of commencement of quarry operations and shall compare the road traffic noise levels as if the project had not proceeded (the 'no build option'). This report must be provided to Council within 60 days of the completion of year one and year ten.

Blasting & Vibrations

68. Residential receivers shall be notified of forthcoming blasts at least 24 hours in advance unless otherwise indicated by the resident in writing.
69. Blasting shall not be conducted outside of the hours of 9:00 am to 3:00 pm on Monday to Friday and shall not be conducted on weekends or public holidays. (Where compelling safety reasons exist, Council may permit a blast to occur outside the above mentioned hours. Prior written notification of any such blast must be made to Council.)
70. Blasting events are limited to once per day except for minor blasts such as required to clearing crushers and feed chutes.
71. Blasting amenity level criteria at any point within 1 metre of any affected residential boundary or other noise sensitive location must not exceed:
- a. A ground vibration peak particle velocity of:
 - i. 5mm/sec for more than 5% of the total number of blasts in an annual period;
 - ii. And 10mm/sec at any time;
 - b. An overpressure of:
 - i. 115dB (Lin Peak) for more than 5% of the total number of blasts in an annual period;
 - ii. And 120dB (Lin Peak) at any time.
72. A Blast Management Plan is to be prepared by a qualified noise consultant in accordance with section 5 of the Noise, Vibration, Blasting and Air Quality Report dated 28 November 2013 by Wilkinson Murray Pty Ltd. This includes details of monitoring each blast for ground vibration and air blast overpressure, MIC and an accurate distance at which monitoring of the blasts is conducted.

This Plan is to be submitted to and approved by Council prior to commencing quarrying. Quarry operations are to be undertaken in accordance with the Plan approved by Council.

73. This monitoring data recorded in accordance with the approved Blast Management Plan must be reviewed by a suitably qualified consultant after 12 months from the operation of the quarry. This review must use the data collected from the blasts to refine the site law. This review must indicate if air blast and ground vibrations are within acceptable criteria as per the ANZEC Guidelines for the nearest receiver. It must also determine a maximum instantaneous charge (MIC) to be used at the site and make any other recommendations to minimise blasting impacts.

A report of this review must be supplied to Council for assessment and approval within 60 days of the completion of one year of quarry operations. Quarry operations are to be undertaken in accordance with the Report approved by Council.

Noise, Blasting & Vibration Compliance and Monitoring

74. Compliance noise monitoring shall be conducted by qualified persons within 30 days of commencement of the extraction to establish if compliance has been achieved at all potentially affected residences. The report must be submitted to Council within 60 days of commencement of extraction activities.
75. For the purposes of monitoring for compliance with the noise limit conditions of the consent to operate, noise emitted from the premises must be measured at 30 metres from the nearest residential receiver 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 NSW Industrial Noise Policy.
76. The quarry operator must operate a telephone complaints line during the approved hours of operation for the purpose of receiving complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant. The quarry operator 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. A legible record of all complaints is to be made available to Council on request and included in the annual update of the Plan of Management. The record must include details of the following:
- a. The date and time of the complaint;
 - b. The method by which the complaint was made;
 - c. Any personal details of the complainant which were provided by the complainant or, if not such details were provided, a note to that effect;
 - d. The nature of the complaint;
 - e. The action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant;
 - f. And if no action was taken by the licensee, the reasons why no action was taken.
77. The applicant is advised that Council may carry out periodic inspections of the premises to ensure that the conditions of this consent are being complied with. In accordance with the provisions of Section 118G of the Environmental Planning and Assessment Act, if as a result of any such inspection Council requires work to be carried out on or in the premises then Council may charge a fee to recover the costs of that inspection. The appropriate fee will be as specified in Council's current adopted fees and charges.

ENVIRONMENT

78. Drainage berms are to be constructed so as to direct clean run-off around the quarry area. All run-off from disturbed areas, including access roads, is to be diverted into sedimentation dams. The design and location of these features is to be incorporated into the Plan of Management and revised as required.
79. If the quarry machinery is to be serviced/maintained on site, prior to commencing quarry activities, the following information/plans shall be provided detailing:
1. the measures to be implemented to prevent discharge of waste liquids/pollutants to the environment.
 2. that the storage of hazardous materials, including fuels, oils and chemicals are contained in a roofed and bunded area with the bund to have a capacity of 110% of the largest container or other acceptable means of containment.
 3. that the refuelling of machinery is conducted in a manner whereby any leaks or spills are captured and discharge to the environment is prevented.
 4. how wastewater will be managed if machinery is washed on site.

This information can be detailed in the Plan of Management for the quarry. The quarry is to operate in accordance with the plans/documents approved by Council.