



Appendix 2

Preliminary Environmental Assessment

Brandy Hill Expansion Project
Environmental Impact Statement



**Quarry Expansion Project
Preliminary Environmental Assessment**

Contents

1	Introduction	5
1.1	The Proponent	5
1.2	Purpose of the Document	5
2	Land Ownership.....	7
2.1	Land Title and Ownership	8
3	Current Development Consent and Operations	9
4	Proposed Project.....	9
4.1	Ancillary Infrastructure	12
5	Stakeholder Consultation	13
6	Planning Considerations	13
7	Consideration of Other Environmental Planning Instruments.....	14
7.1	State Planning Issues	14
8	Key issues.....	15
8.1	Ecology	15
8.2	Visual Impacts	15
8.3	Noise and Blasting.....	16
8.4	Air Quality	16
8.5	Traffic	17
8.6	Surface and Groundwater	18
8.7	Aboriginal Archaeology	19
8.8	Socio-Economic Impacts	20
9	Conclusion	20

List of Figures

Figure 1 - Site Location	6
Figure 2 - Land Ownership	8
Figure 3 - Current Infrastructure Area with Proposed Plant Infrastructure area	10
Figure 4 - Current Extraction Limits with Proposed extraction limit.....	11

List of Tables

Table 1 - Summary of Land Ownership.....	8
Table 2 - Comparison of Currently Approved Brandy Hill Quarry and the Proposed Project.....	12

PRELIMINARY ENVIRONMENTAL ASSESSMENT

BRANDY HILL QUARRY

Address and Folio ID:

979 Clarencetown Rd, SEAHAM NSW 2324

Lots 100,101 DP 712886

Lots 1,2,12 DP 264033

Lot 1, DP 473133

Lots 19,20,21,36,56,57,58, 59,236 DP 752487

Lots 1,2 DP 823760

Lots 1,2 DP 737844

Lots 1,2,3 DP 1006516

Hanson Construction Materials Pty Ltd

Level 5, 75 George St

Parramatta, NSW 2150

Phone: 02 9354 2600

email: development@hanson.com.au

QUALITY ASSURANCE

This document has been prepared, checked and released in accordance with the Environmental Planning and Assessment Act 1979 (EP&A Act) by Hanson Construction Materials Pty Ltd.

Issue	Date	Description	By
A	21 February 2013	Draft	JL
B	12 March 2013	Proof	AD, ST, PA
C	15 March 2013	Rev 2	JL
D	15 March 2013	Final	JL

Copyright © Hanson Construction Materials Pty Ltd

This document has been authorised by



Andrew Driver

Date 15 March 2013

1 Introduction

Hanson Construction Materials Pty Ltd (Hanson) currently operates a hard rock quarry, known as Brandy Hill Quarry, at 979 Clarencetown Rd Seaham, located approximately 12 kilometres north-west of Raymond Terrace, 3.5km west of Seaham in New South Wales, and 175km north of Sydney (refer to **Figure 1**). The quarry has been in operation since 1983 and is considered a significant local supplier of rhyodacite hard rock aggregates to the Hunter, Central Coast and Sydney regions.

The current development consent Development Application No 1920 was approved on the 22 December 1983 by Port Stephens Shire Council (PSSC).

Hanson proposes to extend the life of the quarry and extend the approved extraction boundary to allow for extraction of additional resources at the site.

The proposed Project will set the annual maximum extraction limit at 1.5 million tonnes per annum (Mtpa). The proposed Project will provide important construction resources to support the planned future growth and development of the Hunter, Central Coast and Sydney regions.

The proposed Project is a State significant development as defined under the *State Environmental Planning Policy (State and Regional Development) 2011* and will require development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

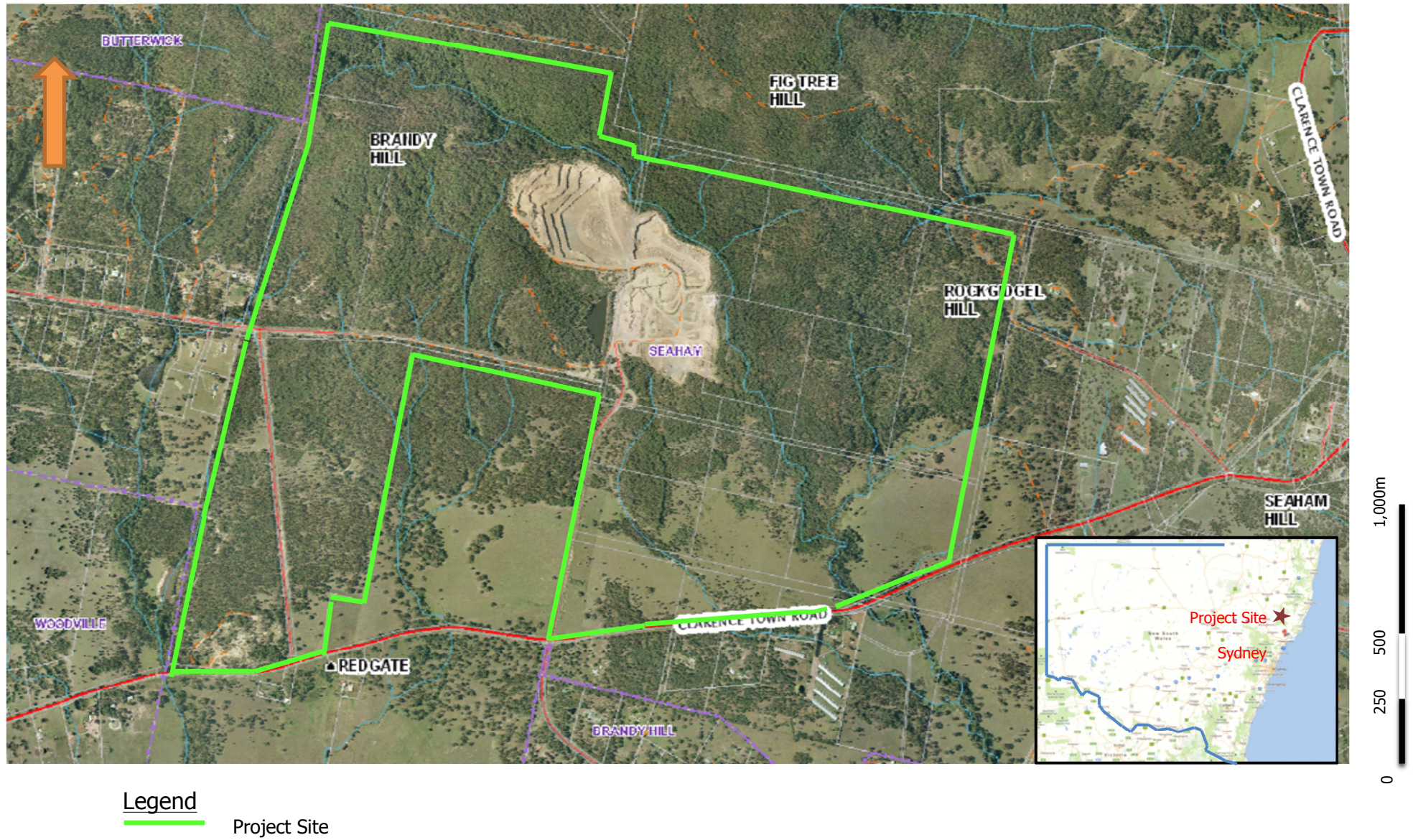
1.1 The Proponent

Hanson Construction Materials Pty Ltd operates over 50 quarries in Australia, directly employs over 3,000 people and generates total sales of over 20 million tonnes per annum.

With international backing and high level local expertise, Hanson runs twelve quarry operations in NSW, ranging from sand to hard rock quarries.

1.2 Purpose of the Document

This Preliminary Environmental Assessment (PEA) has been prepared by Hanson in order to brief relevant government agencies, the community and other stakeholders about the proposed Project. This PEA also introduces the environmental studies to be undertaken as part of the Environmental Impact Statement for the proposed Project. This document will be provided to each of the relevant agencies in order to assist them in providing input to the Department of Planning and Infrastructure (DP&I) to inform the Director-General of Planning and Infrastructure in determining the requirements for the EIS.



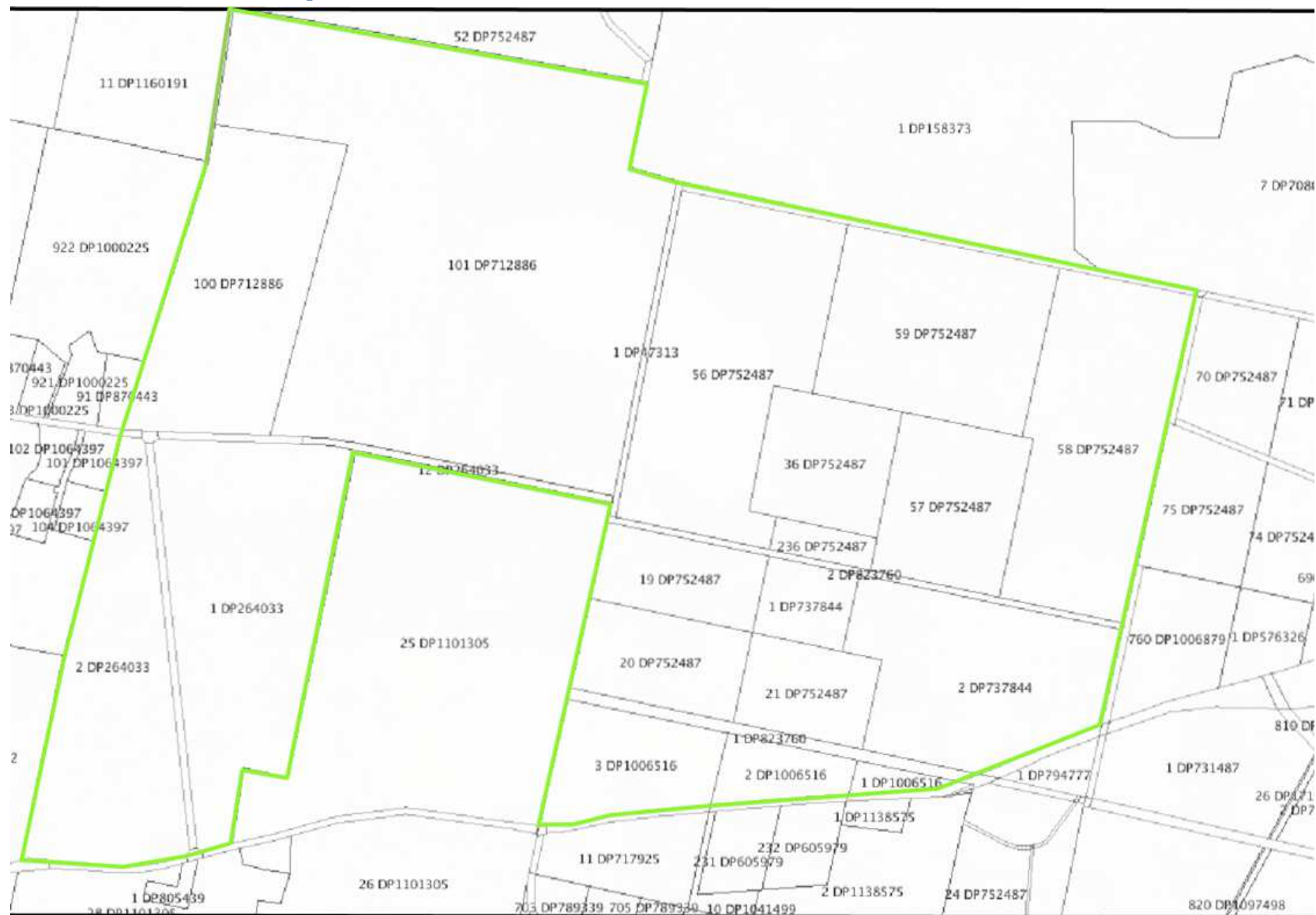


Figure 2 - Land Ownership

2.1 Land Title and Ownership

A total of 22 lots will be initially included in the assessment period. All lots subject to the project is currently owned by Hanson. The location of these lots as shown in **Figure 2**. A summary of the land ownership is shown in **Table 1** (below).

Title	Ownership
Lot 100,101 DP712886	Hanson
Lots 1,2,12 DP 264033	Hanson
Lots 1, DP 473133	Hanson
Lots 19,20,21,36,56,57,58,59,236,DP 752487	Hanson
Lots 1,2,DP823760	Hanson
Lots 1,2 DP737844	Hanson
Lots 1,2,3 DP 1006516	Hanson

Table 1 - Summary of Land Ownership

3 Current Development Consent and Operations

The site occupies approximately 561 ha of which 18.6 ha is occupied by the quarry, 11.1 ha by the plant and 5.3 ha occupied by the stockpile area. The site comprises 22 titles.

The reserves at the quarry are approximately 12 million tonnes which translates into a quarry life of in excess of 20 years. Yearly production has been typically has average approximately 620,000T which equates to approximately 150 truck movements each day. The peak period for truck movements is between 6am and 12pm with on average 80% of daily activities occurring between those periods.

The site operates to a mine plan that is operated and externally accredited to AS14001 (Environmental Management Systems), AS4801 (Safety Management systems) and AS9001 (Quality Management Systems).

The current development consent Development Application No 1920 was approved on the 22 December 1983 by Port Stephens Shire Council. Whilst no restrictions on operating hours have been defined in the consent, the operation has conducted the majority production and sales through day light hours Monday to Saturday. Typical current hours of operation are; Sales operate between 6:00am and 5:00pm weekdays and 6:00am to 12:00pm on Saturdays (and Sundays as required by market demands). The crushing plant operates between 6:00am and 10:00pm. Whilst the majority of production and sales have operated within these hours, operations outside of these hours have occurred to meet market demands. Currently there are 18 people employed at the Quarry.

4 Proposed Project

The Brandy Hill Quarry has been in operation since 1983 and is a significant local supplier of Rhyodacite hard rock aggregates to the region. An approval for the current Brandy Hill Quarry operations was granted in 1983 by Port Stephens Shire Council. The existing quarry operations are shown on **Figure 3**. The proposed Project will involve extending the life of the quarry to allow for extraction of additional resources up to 1.5 Million tonnes per annum.

In order to extract the remaining resources, Hanson is proposing to extend the currently approved extraction boundary. The proposed extraction area extension includes resources beneath part of the existing quarry infrastructure area, refer to **Figure 4**. In order to accommodate the proposed extraction boundary increase, it is proposed to relocate the existing plant infrastructure approximately 500m south of the current location, as shown in the area shaded in green on **Figure 3**.

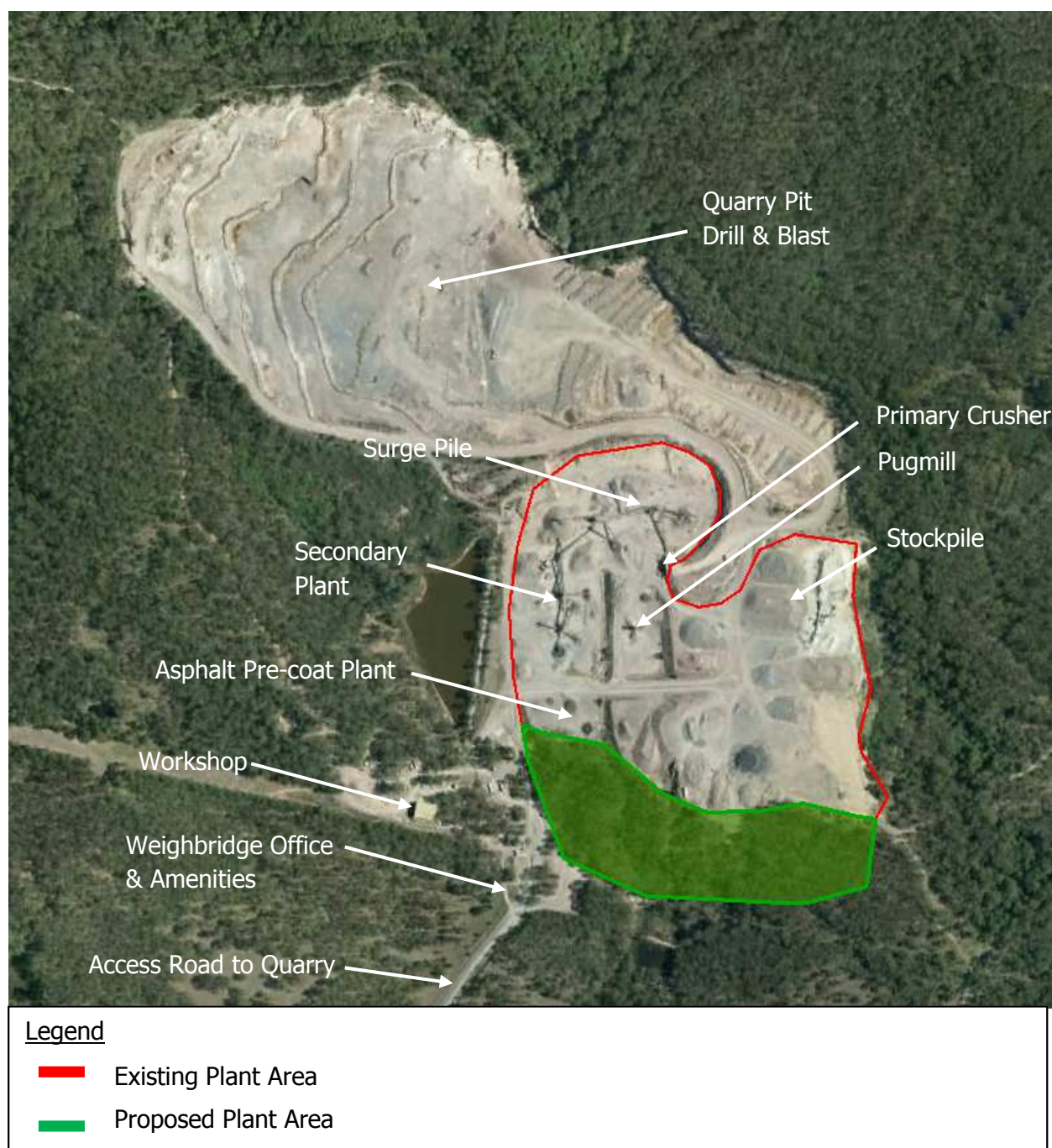


Figure 3 - Current Infrastructure Area with Proposed Plant Infrastructure area

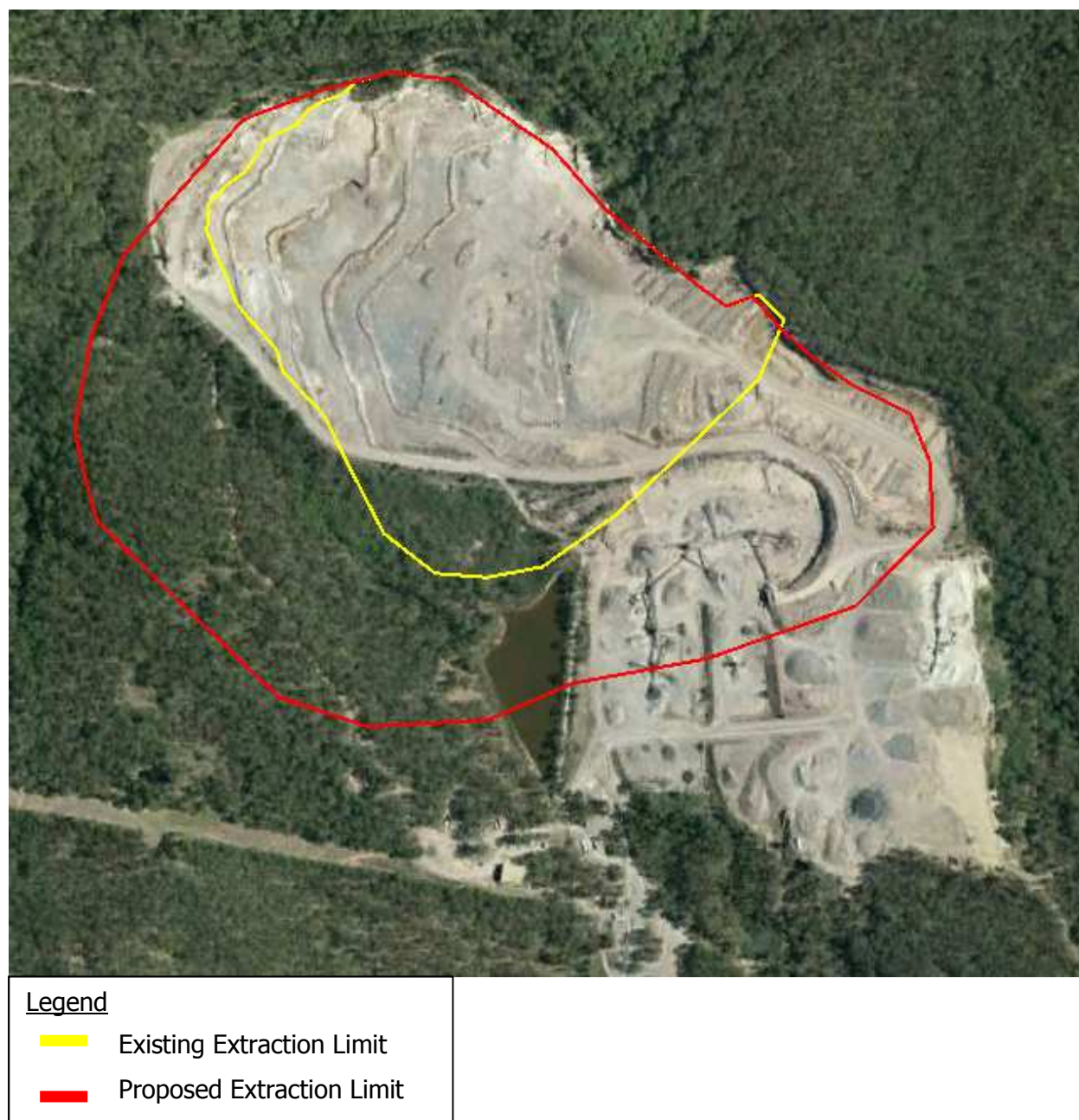


Figure 4 - Current Extraction Limits with Proposed extraction limit

The proposed Project will also seek a maximum annual extraction limit of 1.5 Mtpa.

Hanson also proposes to receive concrete washout waste from concrete batch plants in order to produce blended recycled aggregates and roadbase.

Approximately 20,000T of washout material will be received by the concrete batch plants, through mainly the use of tipper trucks and directly using concrete agitator trucks. The material will be processed with the existing site material to process into recycled road base and other fill and drainage materials. The material will be processed within the existing quarrying operations.

4.1 Ancillary Infrastructure

Ancillary plant such as mobile pug mill and mobile pre-coat plant for asphalts will also form part of the proposed Project to assist in meeting industry demands for these products. The existing office block, quarry crib room, amenities block and transport crib room block have been on site for 20 years and are proposed to be replaced. The proposed office block is approximately 12 x 9 metres in dimension.

The proposed crib room/amenities block is proposed where the current office block is located and will run parallel with the existing weighbridge. Dimensions are to be assessed as to whether ablutions can be included within this block.

The existing site sewerage system does not meet current standards and is to be replaced. The existing volume would need to be determined in relation to the number of persons who could be on site at any one time.

Major Project Components/Aspects	Currently Approved Brandy Hill Quarry	Proposed Project
Quarry Life	No limit prescribed in existing consent. EIS states in excess of 30 years.	Approval is sought for 30 years.
Limits on Production	No Limit set by PSSC	1.5 Mtpa
Quarry Footprint	As shown on Figure 2	Extension of quarry pit and relocation of quarry infrastructure area as shown on Figure 2 .
Hours of Operation	No Limit set by PSSC	Sales 24 hours Monday - Sunday Production 24 hours Monday - Sunday Maintenance 24 Hours Monday - Sunday Blasting 8am – 5pm Mon to Friday
Transport	No limit prescribed in existing consent. Approximately 150 truck movements each day. The peak period for truck movements is between 6am and 12pm with on average 80% of daily activities occurring between that period.	Quarry: 137 loads per day Concrete Recycling: 2 loads per day Concrete Production: 5 loads per day. Total activity: 144 loads per day
Concrete Production	Not currently operating	15,000 m ³ per year
Concrete Recycling	Not currently operating	20,000T per year

Table 2 - Comparison of Currently Approved Brandy Hill Quarry and the Proposed Project

The proposal will also be incorporating a new concrete batch plant within the quarry site. The concrete plant will supply concrete within the local markets. The plant will produce approximately 15,000m³ of concrete each year and will have a fleet of approximately two twin steer trucks with average load size of approximately 5.5m³. The batch plant will produce approximately 2,700 additional trips per annum.

The plant infrastructure will be constructed on a concrete hard stand area and water runoff will be managed on site. The plant would consist of an upright silo, incline conveyor belt, load bin,

admixture bunded area, and batchroom/amenities. The profile of the batch plant will be kept under the existing quarry infrastructure to minimise any visual impact.

5 Stakeholder Consultation

Hanson has an established relationship with the surrounding community and other stakeholders and has implemented a process for ongoing engagement regarding its operations. The existing engagement program includes a Community Engagement Plan enquiry telephone line and website. As part of the proposed Project, Hanson is committed to working with the community to develop a Project that can coexist with the local community and has built on the existing engagement program to implement a detailed stakeholder engagement process for the Project.

The detailed engagement process will enable the community to be involved in project planning by providing comments and feedback to help identify community needs and concerns. This will assist Hanson to target specific areas of community interest during project considerations throughout the environmental impact assessment and approval process.

Consultation with the relevant government agencies will be undertaken throughout the preparation of the EA to ensure key issues are identified and appropriately assessed and addressed in the EA.

6 Planning Considerations

Following commencement of the *Environmental Planning and Assessment Amendment (Part 3A Repeal) Act 2011*, the proposed Project will require development consent under Part 4 of the EP&A Act. The Project is seeking approval to produce up to 1.5 million tonnes per annum and is therefore considered a State Significant Development under the provisions of the State Environmental Planning Policy (State and Regional Development) 2011. The Minister for Planning and Infrastructure, or their delegate, will be the consent authority for the development.

As State significant development, the proposed Project is permissible provided it is not wholly prohibited by an environmental planning instrument. The subject land is zoned 1(a) Rural Agricultural "A" Zone. The proposed development is considered permissible within the zone subject to development consent from Council in accordance with the Port Stephens Local Environmental Plan 2000 (LEP 2000).

Other approvals or variations to existing licences and approvals under the *Protection of the Environment Operations Act 1997*, *Water Management Act 2000* and *Roads Act 1993* are likely to be required for various components of the proposed Project if approved. All relevant legislative requirements will be discussed in further detail in the EA.

7 Consideration of Other Environmental Planning Instruments

7.1 State Planning Issues

In addition to State Environmental Planning Policy (Major Projects) 2005, the following SEPPs apply to the Project or over the Project Site.

State Environmental Planning Policy No. 11 – Traffic Generating Development (SEPP 11)

Clause 7 of SEPP 11 requires that certain development applications be referred to the NSW Roads and Maritime Service (formerly RTA). Extractive industries are listed under paragraph (m),

Schedule 1 of this policy, hence, the Project is to be referred to the RMS.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

Hazardous and offensive industries, and potentially hazardous and offensive industries, relate to industries that without the implementation of appropriate impact minimisation measures would, or potentially would, pose a significant risk in relation to the locality, to human health, life or property, or to the biophysical environment. A risk screening of the Project will be performed in accordance with the document entitled *Applying SEPP 33 2nd edition*, (DUAP, 1997), however, as the only hazardous substances and dangerous goods to be used / stored on the Project Site would be restricted to well managed diesel fuel and other hydrocarbon products, the Project is unlikely to classify as hazardous or potentially hazardous industry.

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44)

Port Stephens Local Government Area is identified in Schedule 1 of this policy as an area that could provide habitat for Koalas. As required by the SEPP, an investigation will be carried out to determine if the Project Site represents core or potential Koala habitat.

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)

SEPP 55 is not considered applicable given no area of the land within the Project Site is known to be contaminated.

8 Key issues

The following additional issues are also considered important:

- Ecological Issues
- Visual Impacts
- Noise and Blasting Impacts
- Air Quality
- Traffic
- Surface & Groundwater
- Aboriginal Archaeology
- Socio-Economic Impacts
- Concrete Batch Plant
- Concrete Waste Management

8.1 Ecology

Detailed studies will be undertaken to assess the impacts of the proposal on the ecology of these sites. These studies include:

- Conducting and documenting field surveys in accordance with NSW Office of Environment guidelines.
- Mapping existing vegetation communities and habitats.
- Identifying mitigation measures to minimise impacts on threatened species and their habitat, including an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
- Providing an assessment of the impacts of the development quarry site on threatened species and endangered ecological communities.
- Assessing potential impacts on aquatic, riparian habitats groundwater dependent ecosystems.
- Assessing the impacts of clearing native vegetation on a regional context, especially pertaining to potential impacts on wildlife corridors.

8.2 Visual Impacts

A Visual assessment will be undertaken for the proposed Project to assess potential impacts to visual amenity associated with the proposed Project and to compare the additional impacts.

The visual analysis will include assessing potentially affected surrounding residences and viewing locations, including public roads. The assessment will include the preparation of radial analysis and transects to confirm the proposed Project visibility. Based on the available information, it is anticipated that visual impacts are not likely to be a significant issue from surrounding residential locations due to topography.

8.3 Noise and Blasting

The proposed Project has the potential to impact on amenity as a result of noise from quarrying activities and the construction of the proposed infrastructure area, however, as the nature of the quarry operations will remain substantially the same, the potential for significant changes in noise and blasting impacts are considered minimal. A comprehensive noise and blasting impact assessment will be undertaken for the proposed Project in accordance with the requirements of the NSW *Industrial Noise Policy* (EPA 2000).

The comprehensive assessment will include:

- Analysis and discussion of the existing noise environment in the proposed Project area and surrounds;
- Prediction of the noise emissions for the proposed Project;
- Assessment of the impact of the proposed Project on surrounding sensitive receivers in accordance with the NSW Industrial Noise Policy;
- Assessment of any cumulative impacts associated with the proposed Project and other significant local noise sources;
- Assessment of predicted blasting overpressure and vibration levels at potentially affected receivers; and recommendations relating to noise and blasting monitoring and management.

The noise impact assessment will consider noise associated with all construction and operational activities associated with the quarry, including associated road traffic noise.

8.4 Air Quality

The assessment of air quality impacts is being undertaken using the results from background monitoring, information on emission levels from site activities, and predictive computer modelling. Air samplers will be installed near nearest potential affected residents in accordance with the recommendations of the Company's consultants. As with noise, dust impacts will be modelled upon the worst case scenario.

Detailed studies will be undertaken to:

- Assess the existing air quality in the area.
- Assess all activities and identify all activities likely to generate air impacts or have the potential to cause harmful effects on the environment including health and amenity, and all related environmental issues.
- Identify air pollution controls or mitigation measures for the operations to minimise air quality impacts.
- Assess air quality impacts from quarry activities on nearby receivers.

Identify all air pollutants likely to be generated, including but not necessarily restricted to odour, dust, TSP and PM10, provide emission rates for those pollutants for the different activities, and determine the resultant ground level concentration of pollutants.

The current locations of the Dust Disposition Monitors as shown in **Figure 5** below, which has been used for operation monitoring, will remain in place throughout the project. Previous results will be used as baseline information to adequately track the performance of the project.

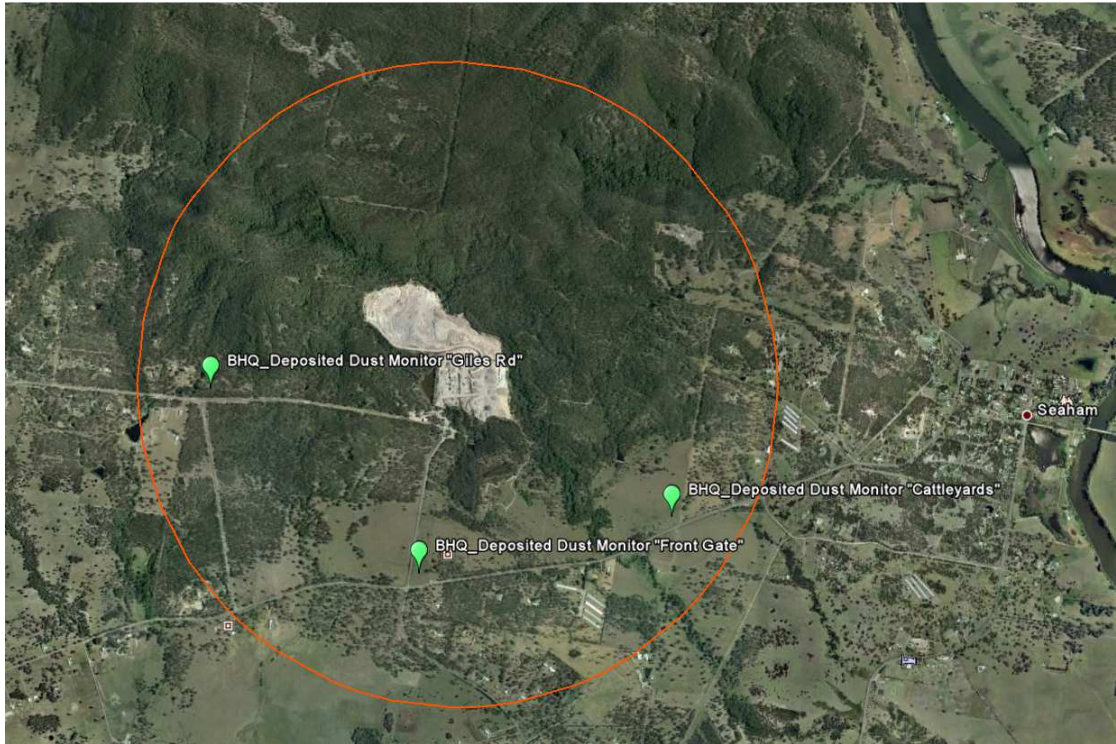


Figure 5 – Current DDM Locations (2km radius outlined)

8.5 Traffic

The proposed increase production will result in an increase of heavy vehicle movements. A detailed traffic impact assessment will be completed as part of the EA to assess the impact of the proposed Project on the local traffic network. The traffic impact assessment will involve the following:

- An assessment of the existing road transport systems including the identification of any transport constraints or issues;
- An assessment of traffic generation due to the proposed Project and the likely impacts of this traffic on the existing transport networks. The assessment will also identify any transport infrastructure upgrade or maintenance works required as a result of the proposed Project;
- Documenting potential road transport issues for the proposed Project including:
 - Level of service on the road network;
 - Physical condition of the roads related to the proposed Project including capacity of the networks;
 - Road safety issues; and
 - Consideration of the cumulative transport impacts associated with this proposed Project and other existing developments.

8.6 Surface and Groundwater

There will be minimal changes required to the existing water management system for the quarry operations, with some minor changes associated with the extension of the quarry pit and relocation of the infrastructure area. The maximum depth of the pit will be at ORL and although the quarry footprint will expand, it is unlikely to result in a substantial change in groundwater impacts. Despite the limited potential for significant impact changes resulting from the proposed Project, water resources impacts are still considered a key issue and a water resources assessment will be completed for the proposed Project.

The water resources impact assessment will:

- Assess the potential impacts on surface water and groundwater;
- Investigate the management of process water;
- Assess the interaction of surface water and groundwater with the quarry water management system; and
- Include a predicted water balance.

The site currently has three bore holes as per **Figure 6** fitted with data loggers. The bores have been monitored for over one year. It is proposed that the bore locations and historical results will be used to study the projects ground water studies.

Despite the limited potential for significant impact changes resulting from the proposed Project, water resource impacts are still considered a key issue and a water resources assessment will be completed for the proposed Project.

The water resources impact assessment will:

- Assess the potential impacts on surface water and groundwater.
- Investigate the management of process water.
- Assess the interaction of surface water and groundwater with the quarry water management system.
- Include a predicted water balance.

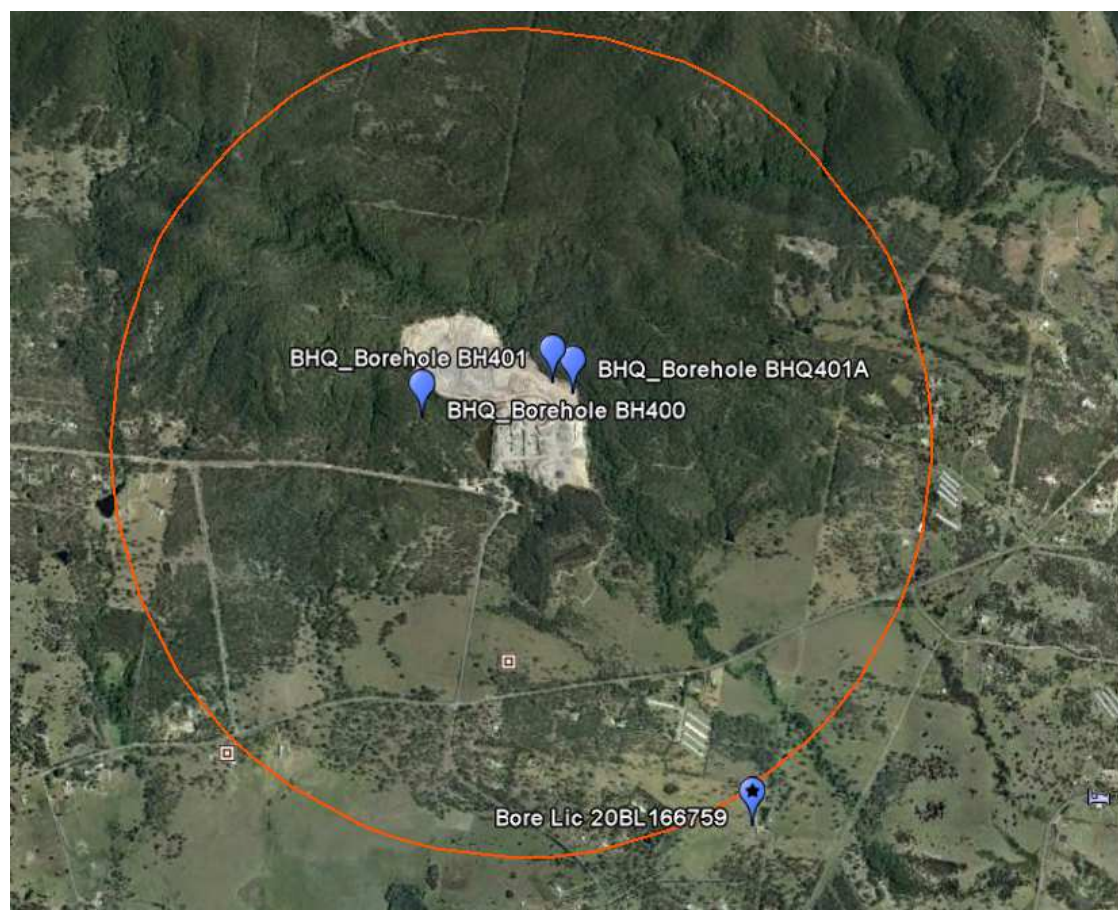


Figure 6 – Current Bore locations on site including other registered bores (2km radius outlined)

8.7 Aboriginal Archaeology

It is proposed that detailed studies will be undertaken as part of the formal EA which will include:

- A review of relevant environmental information, past Aboriginal cultural heritage investigations and relevant statutory registers and inventories in order to identify areas of archaeological potential and known sites.
- Conducting and documenting aboriginal cultural issues as set out in the Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005) as well as the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, April 2011), Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, April 2010), and Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, September 2010).including surveys and the Aboriginal community.
- Identifying the nature and extent of impacts on Aboriginal cultural heritage values across the project area.

- Identifying mitigation measures to minimise impacts on Aboriginal cultural values. This includes an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
- Undertaking effective community consultation with Aboriginal communities in determining and assessing impacts, developing options and making recommendations.

8.8 Socio-Economic Impacts

The proposal is significant in terms of environmental sustainability of reducing the environmental costs in remediation of another site after extraction and reducing the environmental costs associated with added transport distribution costs from a series of separate and more distant sites from the market served by the subject site.

The production of materials proximate to markets directly affects the cost to consumers including Councils and infrastructure providers and overall infrastructure and development costs and affordability.

Socio-economic assessment is concerned with assessing and predicting the likely consequences of a project in both social and economic terms. While economic assessment emphasises the monetary effects of a proposal, social impact assessment is concerned with assessing benefits and costs in non-monetary terms.

The methodology to be employed for the SIA will largely centre on secondary data review. Engagement with local landholders and key community stakeholders is a critical component of the SIA program.

9 Conclusion

The existing Hanson Brandy Hill Quarry has been in operation since 1983 and has established an excellent operation that focuses to minimise, to the maximum extent possible, any impacts on the locality.

The proposed Project seeks planning approval to increase annual production to maximum 1.5 million tonnes per annum by expanding the current extraction limits and shifting production facilities on site.

The quarry has well established processes, traffic movement regimes and facilities. The expansion of such a quarry offers significant advantages to the community over establishing a new quarry at an alternate location.