

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure, I approve the project application referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Chris Wilson
Executive Director
Development Assessment Systems and Approvals

Sydney

2014

SCHEDULE 1

Application Number:	08_0143
Proponent:	Hanson Construction Materials Pty Ltd
Approval Authority:	Minister for Planning and Infrastructure
Land:	Lot 22 DP 1010797
Project:	Bass Point Quarry Project

Red Type – June 2017 Modification

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DEFINITIONS

Annual review	The review required by condition 4 of Schedule 5
Bass Point Quarry Haul Road	The haul road owned and maintained by the Proponent from the site to the intersection between Buckleys Road and Southern Cross Boulevard, as shown in Appendix 4
BCA	Building Code of Australia
Blast misfire	The failure of one or more holes in a blast pattern to initiate
CCC	Community Consultative Committee
Conditions of this approval	Conditions contained in Schedules 2 to 5 inclusive
Construction activities	Includes decommissioning of the existing processing plant, construction of the new processing facility, relocation of the haul road entry to the site, relocation of the concrete batching plant and construction of the new screen mounds, as described in the EA
Council	Shellharbour City Council
CPI	Australian Bureau of Statistics Consumer Price Index
Day	7 am – 6 pm
Department	Department of Planning and Infrastructure
DRG	Division of Resources and Geoscience of the Department
DPI	Department of Primary Industries
DPI Water	Department of Primary Industries – Water
EA	Environmental Assessment of the project titled <i>Environmental Assessment Bass Point Quarry Extension, Major Project Application No. 08_0143</i> , prepared by Insite Planning Pty Limited and dated June 2011; the <i>Bass Point Quarry NSW Detailed Response to Public Exhibition Submissions</i> , dated November 2011, and the supplementary hydrogeological assessment for the project which comprises the following documents: <ul style="list-style-type: none"> Report titled <i>Hydrogeological Assessment: Hanson's Bass Point Quarry Project</i> prepared by Martens & Associates Pty Ltd dated April 2013; Report titled <i>Hanson Construction Materials Pty Ltd Bass Point Quarry Deepening Project - Peer Review of Martens Hydrogeological and Modelling Assessment</i>, prepared by Kalf and Associates Pty Ltd dated 11 April 2013; and Letter titled <i>Bass Point Quarry – Response to DOPI Email of June 7 2013; EPA correspondence of June 6 2013 and NSW Office of Water Response of June 17, 2013</i>, dated 8 July 2013.
EA (MOD 1)	Modification Application PA 08_0143 MOD 1, and the accompanying Environmental Assessment titled <i>Section 75W Planning Assessment Report</i> prepared by Hanson Construction Materials Pty Ltd and dated April 2017
EEC	Endangered Ecological Community
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the <i>POEO Act</i>
Evening	6 pm – 10 pm
Extraction Areas	The Western and Eastern Extraction Areas shown on Figure 1 in Appendix 1
Feasible	Feasible relates to engineering considerations and what is practical to build
Haulage route	The transport route along which quarry products may be hauled from the site (see also Appendix 4)
Incident	A set of circumstances that: <ul style="list-style-type: none"> causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this consent.
km	kilometres
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this approval

m AHD	where it is defined to mean the whole of a lot, or contiguous lots, owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Material harm to the environment	metres Australian Height Datum Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning, or delegate
Minor	Not very large, important or serious
Negligible	Small and unimportant, such as to be not worth considering
Night	10 pm – 7 am
OEH	Office of Environment and Heritage
Privately-owned land	Land that is not owned by a public agency or the Proponent (or its subsidiary)
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Project	The development as described in the EA
Proponent	Hanson Construction Materials Pty Ltd, or any other person who seeks to carry out the development approved under this approval
Public Infrastructure	Linear and related infrastructure and the like that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc
Quarrying operations	Includes the removal of overburden and extraction, processing, handling, storage and transportation of extractive materials carried out on the site
Quarry Products	Extractive materials which are produced at the site including hard rock products and manufactured sand, but not including concrete
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the project to a good condition, ensuring that it is safe, stable and non-polluting and appropriately revegetated
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
Site	The land listed under "Land" in Schedule 1
Statement of commitments	The Proponent's commitments in Appendix 3

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this approval, the Proponent **must** implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the project.

TERMS OF APPROVAL

2. The Proponent **must** carry out the project:
 - (a) generally in accordance with the EA and EA (MOD 1); and
 - (b) in accordance with the statement of commitments and the conditions of this approval.

Notes:

- The general layout of the project is shown in Appendix 1 and Appendix 2.
- The statement of commitments is reproduced in Appendix 3.

3. If there is any inconsistency between the documents in condition 2(a), the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. The Proponent **must** comply with any reasonable requirement/s of the **Secretary** arising from the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval; and
 - (b) the implementation of any actions or measures contained in these documents.

LIMITS ON APPROVAL

Quarrying Operations

5. The Proponent may carry out quarrying operations on the site until 31 January 2044.

*Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the **Secretary**. Consequently, this approval will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.*

Staged Extraction

6. The Proponent **must** not carry out quarrying operations:
 - (a) below 0 m AHD without prior written approval from the **Secretary** under condition 23 of Schedule 3; and
 - (b) below - 40 m AHD at any stage of the project.

Note: This condition does not apply to the construction of any monitoring bores or drill holes.

Extractive Material Transport

7. The Proponent **must** not permit to be transported from the site:
 - (a) more than 4 million tonnes of quarry products in any calendar year; or
 - (b) more than 3 million tonnes of quarry products by road in any calendar year.

Transport of Products

8. The Proponent **must** limit the dispatch of trucks carrying quarry products or concrete from the site to the levels shown in Table 1.

Table 1: Laden Truck Dispatch Hours

<i>Period</i>	<i>Maximum Laden Truck Dispatch</i>
7 am – 10 pm	40 in any hour
10 pm – 7 am	23 in any hour
24-hour period on any day	500

SURRENDER OF CONSENTS

9. By the end of June 2014, or as otherwise agreed by the **Secretary**, the Proponent **must** surrender all development consents for existing operations on the site in accordance with Section 104A of the EP&A Act.

Note: The conditions or other requirements of this project approval do not prevent the continued carrying out of development which may be undertaken pursuant to DA 81/79 and DA 79/81am, prior to the surrender of those consents.

STRUCTURAL ADEQUACY

10. The Proponent **must** ensure that any new buildings and structures, and any alterations, or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under *Part 4A of the EP&A Act*, the Proponent is required to obtain construction and occupation certificates for the proposed building works.
- *Part 8 of the EP&A Regulation* sets out the requirements for the certification of the project.

DEMOLITION

11. The Proponent **must** ensure that all demolition work on site is carried out in accordance with *AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

12. The Proponent **must**:
- repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and
 - relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

ROAD MAINTENANCE

13. During the life of the project, for each calendar year, the Proponent **must** pay Council a monetary contribution for each tonne of quarry product transported from the site on roads for which Council is liable for road maintenance funding. Each payment must be:
- based on the approved rate as calculated under condition 14 below;
 - based on weighbridge records of the quantity of quarry products transported from the site;
 - paid by the date required by the invoice issued by Council; and
 - increased over the life of the project in accordance with the CPI.
14. By 31 May 2014, the Proponent shall submit in writing to Council a proposed road maintenance contributions rate for the project, based on the:
- sections of Buckleys Road and Dunmore Road and associated intersections to be used by trucks transporting quarry products from the site;
 - proportion of project-related trucks in the total trucks using these roads and intersections;
 - projected maintenance requirements for these roads and intersections for the life of the project; and

- (d) value of other works-in-kind proposed to be undertaken by the Proponent, such as the donation of road base material to be used in maintenance of these roads and intersections.

Within 28 days of receiving Council's submission on the proposed contributions rate, the Proponent **must** submit to the **Secretary** for consideration its proposed contributions rate, which includes justification for the proposed rate taking into consideration Council's submission.

Following receipt of the Proponent's proposed contributions rate, the **Secretary** shall, in consultation with the Proponent and Council, determine the contributions rate to be applied for the project.

OPERATION OF PLANT AND EQUIPMENT

- 15. The Proponent **must** ensure that all plant and equipment used at the site, or in connection with the project is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

COMPLIANCE

- 16. **The Proponent must ensure that all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.**

PRODUCTION DATA

- 17. The Proponent **must**:
 - (a) provide annual quarry production data to **DRG** using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review (see condition 4 of Schedule 5).

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION

1. Prior to carrying out quarrying operations under this approval, the Proponent **must**:
 - (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the Extraction Areas; and
 - (b) submit a survey plan of these boundaries to the **Secretary**.
2. While ever quarrying operations are being carried out, the Proponent **must** ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify the limits of extraction within the Extraction Areas.

NOISE

Noise Criteria

3. The Proponent **must** ensure that the noise generated by the project (not including transport of quarry products or concrete along the Bass Point Quarry Haul Road) does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

Location	Day/Evening	Night	
	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)
R4	44	44	54
R5	45	45	55
R6	42	42	52
R7	41	41	51
R8	35	35	45
R9	35	35	45
R11	45	45	55
R12	45	45	55
Any residential property within the Shell Harbour Marina Precinct	48	48	58
Shell Cove Primary School (when in use)	L _{Aeq} (1 hour) 40 (internal)	Not applicable	

Notes:

- Receiver locations are shown in Figure 2 in Appendix 2.
- After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this approval prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL.

Noise generated by the project is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy*. Appendix 6 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Construction Hours

4. The Proponent **must** only carry out construction activities on site between 7 am and 6 pm Monday to Friday and 8 am and 1 pm Saturday. No construction activities are allowed on Sundays or public holidays, or at any other time without the written approval of the **Secretary**.

Operating Conditions

5. The Proponent **must**:

- (a) implement best management practice to minimise the construction, operational and transport noise of the project;
 - (b) minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply;
 - (c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and
 - (d) regularly assess noise monitoring data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval,
- to the satisfaction of the **Secretary**.

Noise Management Plan

6. The Proponent **must** prepare a Noise Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with the EPA, and submitted to the **Secretary** for approval by 31 May 2014;
 - (b) describe the measures that would be implemented to ensure:
 - best management practice is being employed to minimise the construction, operational and transport noise of the project;
 - the noise impacts of the project are minimised during any meteorological conditions when the noise limits in this approval do not apply; and
 - compliance with the relevant conditions of this approval;
 - (c) describe the proposed noise management system in detail; and
 - (d) include a monitoring program that:
 - is capable of regularly evaluating the performance of the project, including noisy individual items of plant, such as haulage trucks, crushers and bulldozers;
 - includes a protocol for determining any exceedances of the relevant conditions in this approval at locations listed in Table 2; and
 - evaluates and reports on the effectiveness of the noise management system on site.

The Proponent must implement the approved management plan as approved from time to time by the **Secretary**.

BLASTING

Blasting Criteria

7. The Proponent **must** ensure that blasting on the site does not cause exceedances of the criteria in Table 3.

Table 3: Blasting criteria

Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Any residence on privately owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months

However, these criteria do not apply if the Proponent has a written agreement with the relevant residential owner or infrastructure provider/owner, and the Proponent has advised the Department in writing of the terms of this agreement.

Blasting Hours

8. The Proponent **must** carry out blasting on site only between 8 am and 5 pm, Monday to Friday. No blasting is allowed on weekends or public holidays, or at any other time without the written approval of the **Secretary**.

Blasting Frequency

9. The Proponent **must** not carry out more than 1 blast a day on site, unless an additional blast is required following a blast misfire.

Note: A blast may involve a number of explosions within a short period, typically less than two minutes.

Property Inspections

10. If the Proponent receives a written request from the owner of any privately-owned land within 500 m of proposed blasting for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, then within 2 months of receiving this request the Proponent **must**:
- commission a suitably qualified, experienced and independent person, whose appointment has been approved by the **Secretary**, to:
 - establish the baseline condition of any buildings and/or structures on the land, or update the previous property inspection report; and
 - identify any measures that should be implemented to minimise the potential blasting impacts of the project on these buildings and/or structures; and
 - give the landowner a copy of the new or updated property inspection report.

Property Investigations

11. If the owner of any privately-owned land claims that the buildings and/or structures on his/her land have been damaged as a result of blasting on site, then within 2 months of receiving this claim in writing from the landowner the Proponent **must**:
- commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties, to investigate the claim; and
 - give the landowner a copy of the property investigation report.

If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent **must** repair the damage to the satisfaction of the **Secretary**.

If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the **Secretary** for resolution.

Operating Conditions

12. During blasting operations, the Proponent **must**:
- implement best management practice to:
 - protect the safety of people in the surrounding area;
 - protect public or private infrastructure/property in the surrounding area from any damage; and
 - minimise the dust and fume emissions of any blasting; and
 - operate a suitable system to enable the public to get up-to-date information on the proposed blasting Schedule on site, to the satisfaction of the **Secretary**.

Blast Management Plan

13. The Proponent **must** prepare a Blast Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- be prepared in consultation with the EPA, and be submitted to the **Secretary** for approval by 31 May 2014;
 - describe the measures that would be implemented to ensure:
 - best management practice is being employed; and
 - compliance with the relevant conditions of this approval;
 - include a specific blast fume management protocol to demonstrate how emissions will be minimised, including risk management strategies if blast fumes are generated; and
 - include a monitoring program for evaluating the performance of the project including:
 - compliance with the applicable criteria; and
 - minimising fume emissions from the site.

The Proponent must implement the approved management plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Criteria

14. The Proponent **must** ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria in Tables 4 to 6 at any residence on privately-owned land.

Table 4: Long-Term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Total suspended particulates (TSP)	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 5: Short Term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 6: Long-Term Impact Assessment Criteria for Deposited Dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 4-6:

- ^a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources).
- ^b Incremental impact (i.e. incremental increase in concentrations due to the project on its own).
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.

Operating Conditions

15. The Proponent **must**:
- implement best management practice to minimise the dust and fume emissions of the project;
 - regularly assess meteorological and air quality monitoring data and relocate, modify, and/or stop operations on site as may be required to ensure compliance with the relevant conditions of this approval;
 - minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see Note d to Tables 4-6 above);
 - minimise any visible off-site air pollution; and
 - minimise surface disturbance of the site, other than as permitted under this approval, to the satisfaction of the Secretary.

Air Quality Management Plan

16. The Proponent **must** prepare an Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA, and submitted to the Secretary for approval by 31 May 2014;
 - describe the measures that would be implemented to ensure:
 - best management practice is employed;

- the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events; and
- compliance with the relevant conditions of this approval;
- (c) describe the proposed air quality management system based on the preparation of a site-specific best management practice determination and reactive dust management strategy; and
- (d) include an air quality monitoring program that:
 - is capable of evaluating the performance of the project;
 - includes a protocol for determining any exceedances of the relevant conditions of approval;
 - adequately supports the air quality management system; and
 - evaluates and reports on the adequacy of the air quality management system

The Proponent must implement the approved management plan as approved from time to time by the Secretary.

METEOROLOGICAL MONITORING

17. For the life of the project, the Proponent **must** ensure that there is a suitable meteorological station operating in the vicinity of the site that:
 - (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - (b) is capable of continuous real-time measurement of temperature lapse rate, in accordance with the *NSW Industrial Noise Policy*, or as otherwise approved by EPA.

SOIL & WATER

Water Supply

18. The Proponent **must** ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of quarrying operations on site to match its available supply.

Note: The Proponent is required to obtain the necessary water licences for the project under the Water Act 1912 and/or the Water Management Act 2000.

Water Pollution

19. Unless an EPL or the EPA authorises otherwise, the Proponent **must** ensure that all surface water discharges from the site comply with section 120 of the POEO Act.

Operating Conditions

20. The Proponent **must**:
 - (a) not undertake or permit any drilling or underboring to create a hydraulic connection between any quarry extraction void and the ocean; and
 - (b) maximise reuse of water captured on the site and minimise the use of town water for the project.

On-Site Sewage Management

21. The Proponent **must** manage on-site sewage to the satisfaction of Council and the EPA.

Storage of Chemicals & Petroleum Products

22. The Proponent **must** ensure that all chemicals and/or petroleum products on site are held in appropriately bunded areas with impervious flooring and sufficient capacity to contain 110% of the largest container stored within the bund, and in accordance with Australian Standard AS1940-2004, *The Storage and Handling of Flammable and Combustible Liquids*. The flooring and bund(s) **must** be designed in accordance with:
 - the requirements of relevant Australian Standards; and
 - DECC's *Storing and Handling Liquids: Environmental Protection – Participants Manual*.

Approval to Conduct Quarrying Operations Below 0 m AHD

23. The Proponent may only undertake quarrying operations below 0 m AHD in the Extraction Areas with the prior written approval of the **Secretary**, subject to the following:
- (a) before undertaking quarrying operations between each of:
 - 0 m and -10 m AHD;
 - -10 m and -25 m AHD; and
 - -25 m and -40 m AHD;the Proponent must submit to the **Secretary** a revised groundwater assessment;
 - (b) each such groundwater assessment must:
 - be prepared by suitably qualified and experienced person/s whose appointment has been approved by the **Secretary**;
 - be prepared in consultation with **DPI Water**;
 - include a review of the groundwater monitoring results from the previous stage/s against the predictions in the EA, Supplementary Groundwater Assessment and any later groundwater assessment;
 - describe any proposed alternating extraction stages between the Extraction Areas;
 - provide revised modelling of the site and vicinity and predictions of groundwater inflows to the Extraction Areas at the proposed incremental depth of extraction;
 - reconsider net inflows to, and potential impacts on, Killalea Lagoon;
 - propose an appropriate monitoring program, including borehole investigations and up to 3 test pits (of a permitted size of up to 15 m x 20 m and no greater than 10 m in depth) for each of the Extraction Areas;
 - demonstrate sufficient water access entitlements or exemptions can be obtained for predicted groundwater inflows; and
 - include a review of the Water Management Plan which proposes any amendments, including groundwater assessment criteria and groundwater monitoring, necessary to manage predicted groundwater inflows.

Water Management Plan

24. The Proponent **must** prepare a Water Management Plan for the project to the satisfaction of the **Secretary**. This plan must be prepared in consultation with Council, EPA and **DPI Water** by suitably qualified and experienced person/s whose appointment has been approved by the **Secretary**, and be submitted to the **Secretary** for approval by 31 May 2014.

In addition to the standard requirements for management plans (see condition 3 of Schedule 5), this plan must include a:

- (a) Site Water Balance that:
 - includes details of:
 - sources and security of water supply, including contingency planning;
 - water use on site;
 - water management on site, including groundwater inflows to the quarry voids and site discharges; and
 - audit and reporting procedures, including comparisons of the site water balance each calendar year; and
 - describes the measures that would be implemented to minimise clean water use on site and maximise recycling opportunities;
- (b) Surface Water Management Plan, that includes:
 - a detailed description of the surface water management system on site, including the:
 - clean water diversion systems;
 - erosion and sediment controls;
 - effluent irrigation system;
 - water transfers from the Extraction Areas;
 - water storages; and
 - discharge points;
 - design objectives and performance criteria for proposed:
 - erosion and sediment control structures;
 - water storages, including quarry voids;
 - site discharges; and
 - control of water pollution from rehabilitated areas of the site;

- performance criteria, including trigger levels for investigating any potentially adverse impacts for surface water quality in Killalea Lagoon and Bushrangers Bay;
 - a program to monitor:
 - the effectiveness of the water management system;
 - site discharge water quality; and
 - surface water level and quality in Killalea Lagoon, including the quantification of rainfall inflow, groundwater inflow and evaporation;
 - a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project;
 - long term water quality management objectives and the measures to achieve these objectives; and
 - audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of Killalea Lagoon monitoring results;
- (c) Groundwater Management Plan, that includes:
- detailed baseline data on groundwater yield and quality in groundwater bores on privately-owned land and Killalea Lagoon, that could be affected by the project;
 - groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;
 - a program to monitor:
 - the impacts of the project on:
 - groundwater inflows to Killalea Lagoon;
 - any groundwater bores on privately-owned land that could be affected by the project; and
 - seepage from water storages or backfilled voids on site;
 - a plan to respond to any exceedances of the groundwater assessment criteria; and
 - audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of Killalea Lagoon monitoring results;

The Proponent must implement the approved management plan as approved from time to time by the Secretary.

VISUAL

Operating Conditions

25. The Proponent **must**
- (a) implement all reasonable and feasible measures to minimise the visual impacts and any off-site lighting impacts of the project; and
 - (b) maintain and improve the effectiveness of the vegetated plantings on the quarry benches and bunds, over the life of the project,
- to the satisfaction of the Secretary.

Advertising Signage

26. The Proponent **must** not erect or display any advertising structure(s) or signs on the site without the written approval of the Secretary.

Note: This condition does not require approval for any business identification, traffic management, and/or safety or environmental signs.

TRANSPORT

Operating Conditions

27. The Proponent **must** ensure that quarry products transported by road are only transported from the site on Bass Point Quarry Haul Road to Dunmore Road (see Appendix 4).
28. The Proponent **must**, so far as reasonable and feasible, prioritise the transport of quarry products by ship.
29. The Proponent **must** ensure that all heavy vehicles:
- (a) do not exceed an on-site speed limit of 30 km per hour;
 - (b) do not exceed a speed limit of:

- 50 km per hour on Bass Point Quarry Haul Road between 8 pm and 7 am; and
- 60 km per hour on Bass Point Quarry Haul Road between 7 am and 8 pm;
- (c) are dispatched from the site in a controlled manner to minimise queuing and potential delays at the roundabout and Dunmore Road intersections; and
- (d) have their loads covered when entering or leaving the site.

Maintenance

30. The Proponent **must** maintain the pavement of Bass Point Quarry Haul Road to minimise noise generation and potholes, to the satisfaction of the **Secretary**.

Monitoring of Product Transport

31. The Proponent **must**:
- (a) keep accurate records of:
 - the amount of quarry products transported from the site (monthly and annually);
 - the regional destination of quarry products transported from the site; and
 - all laden truck movements (ie dispatch of trucks carrying quarry products or concrete) from the site (hourly, daily, weekly, monthly and annually); and
 - (b) publish these records on its website on a quarterly basis.

Parking

32. The Proponent **must** provide sufficient parking on-site for all project-related traffic in accordance with Council's parking codes.

Transport Management Plan

33. The Proponent **must** prepare a Transport Management Plan for the project to the **Secretary**. This plan must:
- (a) be prepared by a suitably qualified traffic consultant in consultation with the RMS and Council, and submitted to the **Secretary** for approval by 31 May 2014;
 - (b) include a drivers' code of conduct for the project;
 - (c) describe the measures that would be implemented to ensure:
 - drivers are aware of potential safety issues along the haulage route, particularly near schools and intersections;
 - drivers of project-related vehicles comply with the drivers' code of conduct;
 - compliance with the relevant conditions of this approval; and
 - (d) include a program to monitor the effectiveness of the implementation of these measures.

The Proponent must implement the approved management plan as approved from time to time by the Secretary.

Cumulative Traffic Impact Study

34. The Proponent **must**, in conjunction with the operators of the Dunmore Quarry and the Albion Park Quarry, cause to be prepared an independent Cumulative Traffic Impact Study. The study must:
- (a) be undertaken by a suitably qualified traffic consultant, whose appointment has been approved by the **Secretary**;
 - (b) be commissioned by 30 June 2014, and completed by 31 October 2014, or as otherwise agreed in writing by the **Secretary**;
 - (c) be co-funded by the operators of the Dunmore, Bass Point and Albion Park quarries, proportionate to the quarries' respective quarry product road transport limits, as approved at 30 June 2014;
 - (d) include a comprehensive assessment of current and future projected cumulative traffic impacts of the three quarries on the classified road network, undertaken in consultation with the RMS; and
 - (e) identify any reasonable and feasible measures that can be implemented to minimise the traffic and road safety impacts of quarry trucks on Mount Ousley Road, and the likely cost of implementing these measures.

35. The Proponent **must**, in conjunction with the operators of the Dunmore Quarry and the Albion Park Quarry, prepare and implement a program to implement any reasonable and feasible measures identified in the Cumulative Traffic Impact Study not already undertaken by the Applicant, in an equitable manner with the two other quarry operators to the satisfaction of the **Secretary**. The program must be submitted to the **Secretary** for approval by 28 February 2015, or as otherwise agreed in writing by the **Secretary**.

WASTE

36. The Proponent **must**:
- (a) minimise the waste generated by the project; and
 - (b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of,
- to the satisfaction of the **Secretary**.

HERITAGE

Heritage Management Plan

37. The Proponent **must** prepare a Heritage Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with Aboriginal stakeholders for matters relating to Aboriginal heritage values and with Council for matters relating to non-Aboriginal heritage;
 - (b) be submitted to the **Secretary** for approval by 31 May 2014;
 - (c) describe the measures that would be implemented for:
 - managing the discovery of any human remains or previously unidentified heritage objects on site;
 - ensuring ongoing consultation with Aboriginal stakeholders in the conservation and management of any Aboriginal cultural heritage values on site;
 - protecting heritage sites identified adjacent to the project.

The Proponent **must** implement the approved management plan as approved from time to time by the **Secretary**.

LANDSCAPE

Rehabilitation Objectives

38. The Proponent **must** rehabilitate the site to the satisfaction of the **Secretary**. This rehabilitation must be generally consistent with the proposed rehabilitation strategy in the EA and Appendix 5, and comply with the objectives in Table 7.

Table 7: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	Safe, stable & non-polluting.
Surface Infrastructure	To be decommissioned and removed, unless the Secretary agrees otherwise.
Quarry Benches	Landscaped and revegetated utilising native tree and understorey species
Public Access	Establish safe pedestrian access between Killalea State Park and Bass Point Reserve
Other land affected by the project	Maintain or establish self-sustaining eco-systems comprised of: <ul style="list-style-type: none">• native endemic species; and• a landform consistent with Figure 5 (Appendix 5) and the surrounding environment.

Progressive Rehabilitation

39. The Proponent **must** rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area

exposed for dust generation at any time. Interim rehabilitation strategies **must** be employed when areas prone to dust generation cannot yet be permanently rehabilitated.

Landscape Management Plan

40. The Proponent **must** prepare a Landscape Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with **DRG** and Council;
 - (b) be submitted to the **Secretary** for approval within 12 months of the date of this approval;
 - (c) describe the short, medium and long term measures that would be implemented to:
 - manage remnant vegetation and habitat on site; and
 - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this approval;
 - (d) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggering remedial action (if necessary);
 - (e) include a detailed description of the measures that would be implemented, including the procedures to be implemented for:
 - ensuring compliance with the rehabilitation objectives and progressive rehabilitation obligations in this approval;
 - enhancing the quality of remnant vegetation and fauna habitat;
 - restoring native endemic vegetation and fauna habitat within the rehabilitation area;
 - maximising the salvage of environmental resources within the approved disturbance area – including vegetative and soil resources – for beneficial reuse in the enhancement of the rehabilitation areas;
 - collecting and propagating seed;
 - avoiding impacts to threatened species (including *Pimelia spicata*); EECs (including Littoral Rainforest EEC and Themeda Grassland EEC); and the *Melaleuca armilaris* Tall Shrubland and Littoral Thicket vegetation communities, including the identification and marking of areas in which these species and/or communities may occur;
 - minimising the impacts on native fauna on site, including undertaking appropriate pre-clearance surveys;
 - controlling weeds and feral pests;
 - controlling erosion;
 - controlling access; and
 - bushfire management;
 - (f) include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;
 - (g) provide details of water management measures to be implemented to minimise the risk of blue green algae proliferation in water bodies, particularly in final voids;
 - (h) identify the potential risks to successful rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate against these risks; and
 - (i) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

The Proponent **must** implement the approved management plan as approved from time to time by the **Secretary**.

Conservation & Rehabilitation Bond

41. Within 6 months of the approval of the Landscape Management Plan, the Proponent **must** lodge a Conservation and Rehabilitation Bond with the Department to ensure that the rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the Landscape Management Plan. The sum of the bond **must** be determined by:
- (a) calculating the cost of rehabilitating the site; and
 - (b) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs,
- to the satisfaction of the **Secretary**.

Notes:

- If capital and other expenditure required by the Landscape Management Plan is largely complete, the **Secretary** may waive the requirement for lodgement of a bond in respect of the remaining expenditure.

- *If the rehabilitation of the site area is completed to the satisfaction of the **Secretary**, then the **Secretary** will release the bond. If the rehabilitation of the site is not completed to the satisfaction of the **Secretary**, then the **Secretary** will call in all or part of the bond, and arrange for the completion of the relevant works.*
42. Within 3 months of each Independent Environmental Audit (see condition 9 of Schedule 5), the Proponent **must** review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the **Secretary**. This review must consider the:
- (a) effects of inflation;
 - (b) performance of the rehabilitation of the site to date; and
 - (c) likely cost of rehabilitating the site.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable, **and no longer than 7 days**, after obtaining monitoring results showing an exceedance of:
 - (a) any relevant criteria in Schedule 3, the Proponent **must** notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
 - (b) the relevant air quality criteria in Schedule 3, the proponent **must** send a copy of the NSW Health fact sheet entitled *"Mine Dust and You"* (as may be updated from time to time) to the affected landowners and/or existing tenants of the land.

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 3, then he/she may ask the **Secretary** in writing for an independent review of the impacts of the project on his/her land.

If the **Secretary** is satisfied that an independent review is warranted, then within 2 months of the **Secretary's** decision the Proponent **must**:

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the **Secretary**, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and
 - if the project is not complying with these criteria, then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the **Secretary** and landowner a copy of the independent review; **and**
- (c) **comply with any written requests made by the Secretary to implement any findings of the review.**

SCHEDULE 5

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent **must** prepare an Environmental Management Strategy for the project to the satisfaction of the **Secretary**. This strategy must:
 - (a) be submitted to the **Secretary** for approval by 31 July 2014;
 - (b) provide the strategic framework for environmental management of the project;
 - (c) identify the statutory approvals that apply to the project;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the project;
 - respond to any non-compliance; and
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this approval; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

The Proponent **must** implement the approved strategy as approved from time to time by the **Secretary**.

Evidence of Consultation

- 1A. Where consultation with any public authority is required by the conditions of this approval, the Proponent **must**:
 - (a) consult with the relevant public authority prior to submitting the required document to the **Secretary** for approval;
 - (b) submit evidence of this consultation as part of the relevant document;
 - (c) describe how matters raised by the authority have been addressed and any matters not resolved; and
 - (d) include details of any outstanding issues raised by the authority and an explanation of disagreement between any public authority and the Proponent.

Adaptive Management

2. The Proponent **must** assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Proponent **must**, at the earliest opportunity:

- (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
 - (b) consider all reasonable and feasible options for remediation (where relevant);
 - (c) within 14 days of the exceedance occurring, submit a report to the **Secretary** describing these remediation options and any preferred remediation measures or other course of action; and
 - (d) implement remediation measures as directed by the **Secretary**;
- to the satisfaction of the **Secretary**.

Management Plan Requirements

3. The Proponent **must** ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and include:
- (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the project; and
 - effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the project over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

*Note: The **Secretary** may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

Annual Review

4. By the end of March each year, the Proponent **must** review the environmental performance of the project to the satisfaction of the **Secretary**. This review must:
- (a) describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against:
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the EA;
 - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the project;
 - (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.

Revision of Strategies, Plans & Programs

5. Within 3 months of:
- (a) the submission of an annual review under condition 4 above;
 - (b) the submission of an incident report under condition 7 below;
 - (c) the submission of an audit report under condition 9 below; or
 - (d) any modification to this approval (unless the conditions require otherwise),
- the Proponent **must** review the strategies, plans, and programs required under this approval, to the satisfaction of the **Secretary**. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the **Secretary** for approval. **The Proponent must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.**

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the project.

Updating and Staging of Strategies, Plans or Programs

- 5A.** To ensure that strategies, plans or programs required under this approval are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development, the Proponent may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis.

The Secretary may approve a revised strategy, plan or program required under this approval, or the staged submission of any of these documents, at any time. With the agreement of the Secretary, the Proponent may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this approval.

While any strategy, plan or program may be submitted on a staged basis, the Proponent will need to ensure that the operations associated with the development are covered by suitable strategies, plans or programs at all times.

If the submission of any strategy, plan or program is to be staged; then the relevant strategy, plan or program must clearly describe the specific stage/s of the development to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.

Community Consultative Committee

6. The Proponent **must** establish and operate a Community Consultative Committee (CCC) for the project to the satisfaction of the **Secretary**. This CCC must be operated in general accordance with the **Department's Community Consultative Committee Guidelines, November 2016 (or later version)**, and be operating within four months of the date of this approval.

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- *In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.*

REPORTING

Incident Reporting

7. The Proponent must immediately notify the Secretary (using the contact name, email address and phone number provided by the Department from time to time) and any other relevant agencies of any incident.
- 7A. Within 7 days of the date of the incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested. This report must include the time and date of the incident, details of the incident, measures implemented to prevent re-occurrence and must identify and non-compliance with this approval.

Regular Reporting

8. The Proponent must provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.

INDEPENDENT ENVIRONMENTAL AUDIT

9. By 30 June 2014, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
 - (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of any approved strategy, plan or program required under the these approvals; and
 - (e) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

10. Within 3 months of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

11. By 31 May 2014, the Proponent must:
 - (a) make the following information publicly available on its website:
 - the EA;
 - all current statutory approvals for the project;
 - all approved strategies, plans or programs;
 - a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;
 - a complaints register, updated on a quarterly basis;
 - minutes of all CCC meetings;
 - copies of any annual reviews, or similar (for the last 5 years);
 - any independent environmental audit, and the Proponent's response to the recommendations in any audit; and
 - any other matter required by the Secretary; and
 - (b) keep this information up-to-date, to the satisfaction of the Secretary.

APPENDIX 1 PROJECT LAYOUT PLANS

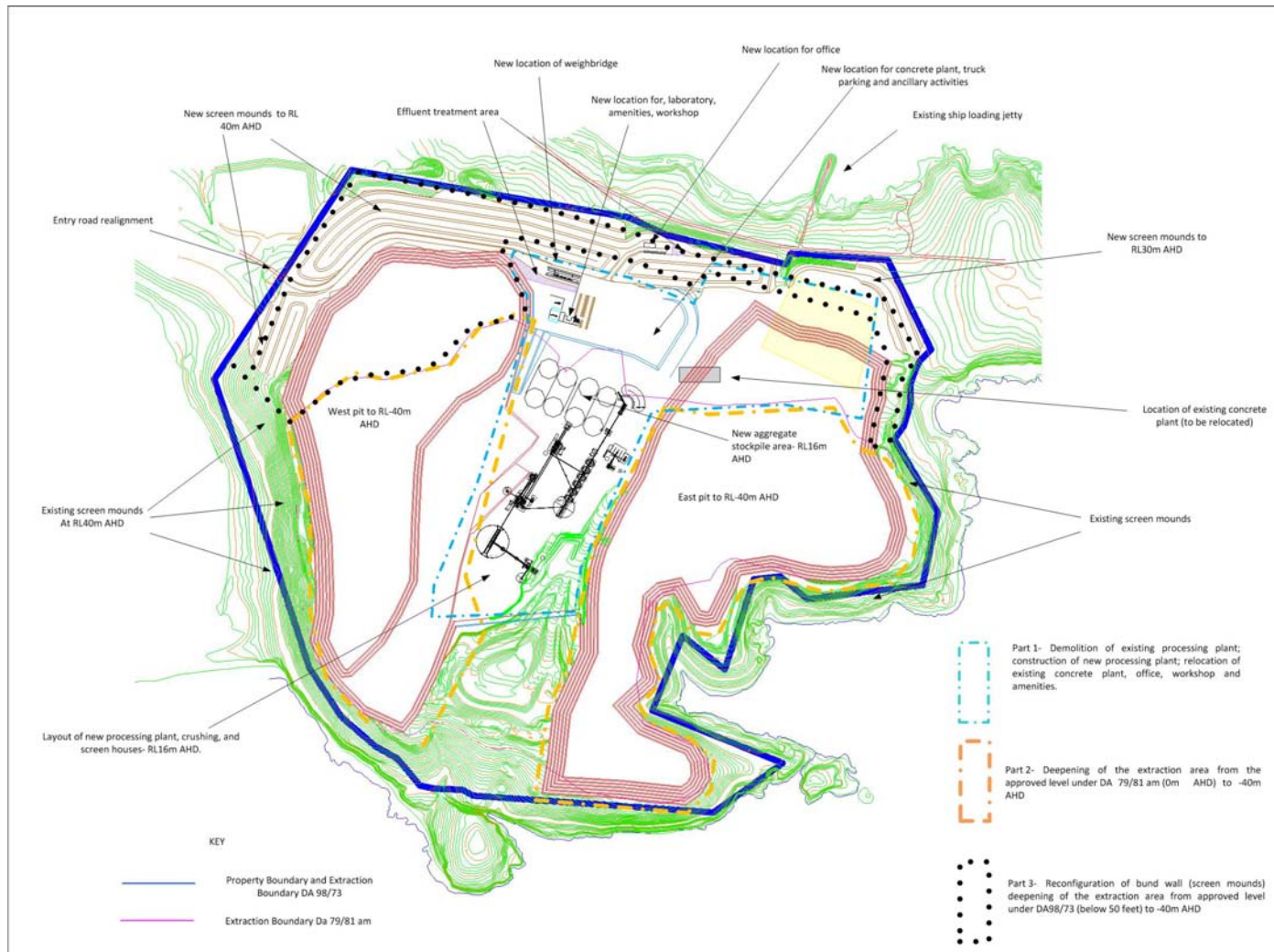


Figure A1: Extraction Area and Site Features

APPENDIX 2 RECEIVER LOCATIONS

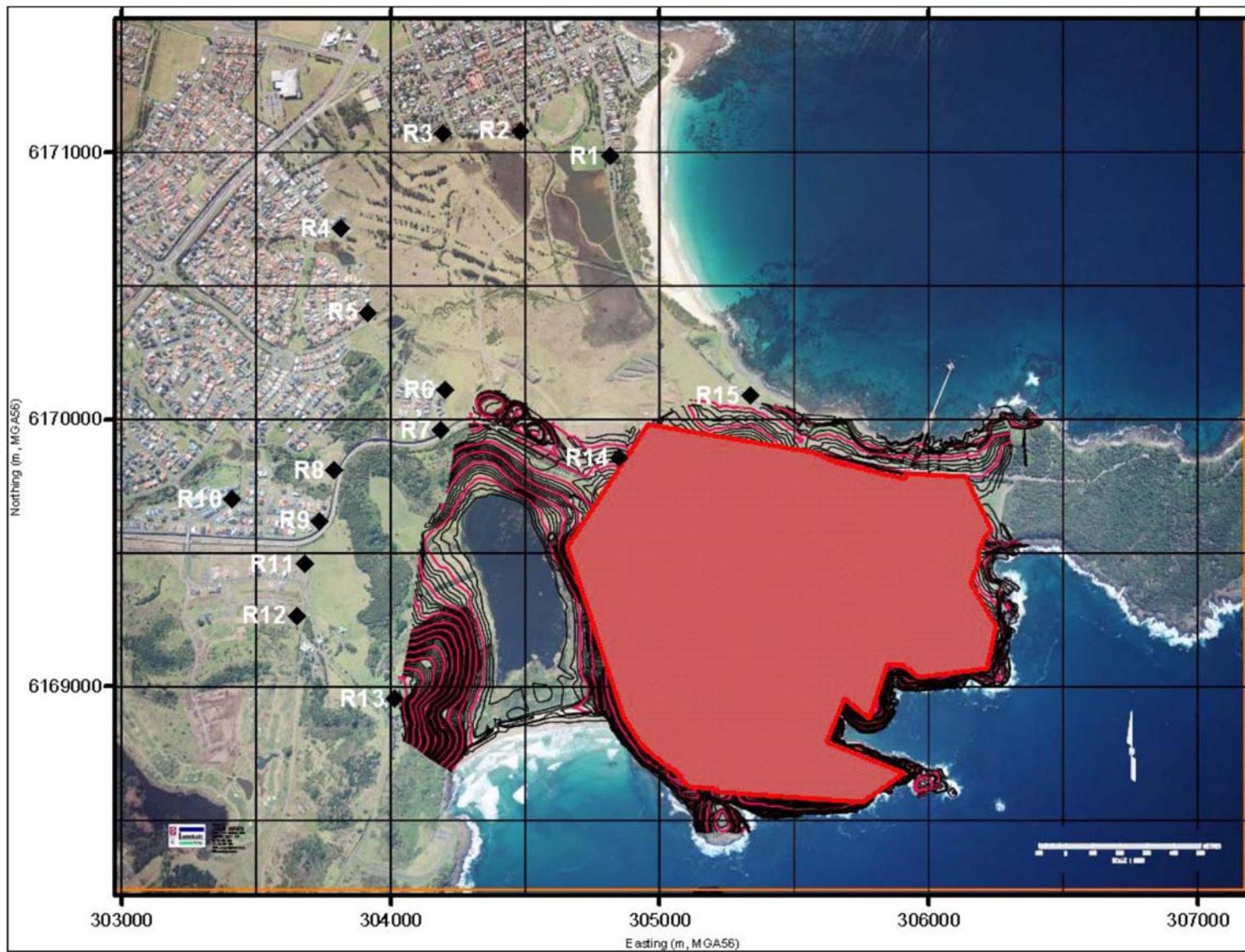


Figure 2: Site and Nearest Residential Receivers

APPENDIX 3 STATEMENT OF COMMITMENTS

Prior to Commencement of Works on Site

All relevant licenses and approvals will be obtained.

Preparation of a formal Extraction Management Plan to set out the processes of mining and to deal with ongoing operational matters and conditions of consent.

The extent of the approved extraction area **must** be clearly and permanently marked with survey posts by a licensed surveyor.

Prior to any demolition or works being undertaken on the site, an accredited asbestos consultant will be engaged to conduct a formal asbestos site audit to: determine if there is any asbestos (and the precise location/extend of asbestos) in accordance with Australian Standard 4964 – „*Method For the Qualitative Identification of Asbestos in Bulk Samples*‘, and, where appropriate prepare a Hazardous Substances Management Plan (HSMP).

Extraction Operations

All nearby residents, the Council and relevant community groups (i.e. the Killalea Trust) will be provided with the contact details of a site management representative and relevant procedures for contact in the event of complaints.

All extraction and associated activities (blasting etc.) will be undertaken only in the hours specific within this Environmental Assessment

Extraction will extend to a maximum depth of no greater than -40m AHD over the approved areas of extraction

Extraction operations will be undertaken in accordance with the staging as set out in the Martens and Associates letter dated 8 July 2013 (in order to ensure the protection of the water level within the nearby SEPP 14 wetlands), which comprises of:

- Stage 1 - lowering of both pits to a level of 0mAHD. On reaching 0mAHD in each pit a series of test excavations **must** be made to a depth of 5 – 10 m below the pit floor (i.e. -5 to – 10mAHD). These **must** be monitored to assess the rate of ingress of water and to allow for further testing and characterisation of the underlying groundwater system.
- Stage 2 - provided acceptable outcomes of monitoring of the excavated test holes the pits **must** be lowered by 10 m to -10 m AHD. Again test excavations **must** be made in the base of the extraction pits to 5 to 10 m below the floor.
- Stage 3 - provided acceptable outcomes of monitoring of the excavated test holes the pits **must** be lowered by 15 m to -25 m AHD. Again test excavations **must** be made in the base of the extraction pits to 5 to 10 m below the floor.

- Stage 4 - provided acceptable outcomes of monitoring of the excavated test holes the pits **must** be lowered to the base of the resource or to -40mAHD (whichever is **must**ower).

Further to the proposed staging of the quarry as outlined above and review of comments from submissions it is further proposed that site water management strategies be modified so that:

- Both pits **must** not be dewatered concurrently to – 40mAHD. Staged stepwise resource extraction of the two pits will mean that the peak groundwater inflows occur when the eastern pit is at –40mAHD and the western pit is at –25mAHD. Peak groundwater inflow **must** therefore be reduced and in the range of 301 to 479 m³/day (i.e. rate for eastern pit at -40mAHD and both pits at -40mAHD).
- During resource extraction of western pit to –40mAHD inflowing groundwater **must** be transferred to the eastern pit previously excavated to -40mAHD. This **must** mean both the recovery phase and the period of discharge of water to the ocean **must** be reduced.

The above proposed discharge conditions and the amended quarry staging and groundwater inflow management strategy **must** further mitigate against any adverse influences on the Bushrangers Bay Aquatic Reserve.

Ecology

A Vegetation Management Plan will be developed for the site which details the rehabilitation, restoration and ongoing maintenance (including weed management) of vegetation retained within the site;

A Threatened Species Management Plan will be developed in relation to the population of *Pimelea spicata* and the two Endangered Ecological Communities which occur on the site;

Vegetation to be removed is to be clearly marked in the field using temporary fencing (flagging tape or similar exclusion tape) so that boundaries are clearly established and to minimise the potential for equipment to accidentally enter areas to be retained;

An ecologist is to be present to supervise any vegetation clearing within the site and that occurs within 20 metres of a mapped wetland area;

Aboriginal Archaeology

Liaison established with the registered Aboriginal stakeholders and other interested parties as per the DECCW Interim Community Consultation Guidelines for Applicants (2004) during this project will be maintained as necessary.

If it is suspected Aboriginal cultural heritage material has been encountered, work will cease immediately. The Department of Environment, Climate Change and Water (DECCW) and the Illawarra Local Aboriginal Land Council will be notified. Works will only recommence when an appropriate and approved management strategy has been agreed to by all of the relevant stakeholders.

If evidence of any previously unidentified non-indigenous heritage items and/or archaeological relics are found within the project area all work likely to affect the site(s) must cease immediately and, in accordance with section 146(a) of the 'Heritage Act, 1977' the Heritage Council of NSW is notified within a reasonable time of the discovery or location of any relics.

In the event that skeletal remains are uncovered whilst operations are underway, work will stop in the vicinity immediately and the NSW Coroner's Office and NSW Police contacted. If skeletal remains are deemed to be of Aboriginal origin, a representative of the local Aboriginal Community (ILALC) and the DECCW are to be contacted.

European Heritage

If the dry stone wall identified on the site is to be adversely affected by any works on site then the wall will be appropriately recorded. The wall will be measured and recorded in accordance with NSW Heritage Council guidelines.

Noise and Blasting Impacts

It is recommended, in accordance with the Industrial Noise Policy, that management procedures are implemented including:

- Noise monitoring on site and within the community.
- Prompt response to any community issues of concern.
- Refinement of on-site noise mitigation measures and quarry operating procedures, where practical.
- Discussions with relevant property holders to assess concerns.
- Consideration of acoustical mitigation at the receivers.
- Consideration of negotiated agreements with property holders.

Note that these will be implemented as appropriate in addition to any other noise and blasting amelioration measures included within the Noise & Blast Impact Assessment

Air Quality

- Routine water spraying of haul routes and unsealed surfaces will be undertaken;
- Water spraying of stockpiles and stockpile transfer points will be undertaken;
- Full and partial enclosure of conveyors will be undertaken where possible ;
- Underground loading of conveyors from stockpiles will be incorporated into the design and placement of conveyors where possible; and
- Enclosure of crushers will be undertaken where possible.
- Maintaining a high level of repair and servicing for all trucks associated with the quarry,
- Minimise the amount of exposed surfaces and stockpiles where possible.
- Revegetation of any bunding and exposed areas to minimise erosion from these areas.

- Regular maintenance of BPQ haul routes, both unsealed and sealed, will be continued (to the extent that this is the responsibility of the Bass Point Quarry operations).

Energy Efficiency and Greenhouse Gas Assessment

- Appropriately sized, high efficiency motors will be used on all pumps, crushers & equipment.
- Variable speed drives (VSD"s) will be provided on electric motors in order to ensure energy savings and to deal with the results of varying loads on equipment.
- Timer switches will be provided for relevant electrical appliances across the site and sensor lights installed to reduce energy use.
- The fuel economy and energy use of vehicles and equipment will be considered when sourcing new vehicles/equipment for the operation.
- Idling time for vehicles **must** be minimised by ensuring that vehicles are turned off during breaks in their use.
- Regular servicing of vehicles and equipment will be undertaken, including maintaining optimum tyre pressures, to optimise fuel economy for vehicles and maximum energy efficiency for other site equipment.
- Driver training will be undertaken to ensure that all vehicles and equipment is operated at maximum efficiently.
- Appropriate day-to-day management of quarrying activities will ensure that double handling of materials is minimised.
- Use of alternative fuels (such as biodiesel) and fuel additives will be investigated for the proposed development.

Geotechnical

Soil Excavation – Mound

All organic top-soils will be stripped in the area of the mound and stockpiled for rehabilitation and landscaping uses.

Soil overburden required to be excavated without structural supports will have a permanent batter slope of 1 (vertical): 2 (horizontal). Alternatively, an appropriately designed retaining structure may be used.

Fill Placement – Mound

- Fill is to be placed to construct the mound in accordance with the geotechnical report. It is understood that the only permanent structure constructed on the mound will be the quarry access road. The following specifications are provided in light of this:

- Underlying materials supporting mound are to be a minimum stiff clay (or weathered rock), proof rolled with a minimum 12 t static drum roller prior to placement of fill.
- Engineered fill should be placed in layers of a maximum of 300 mm loose thickness and compacted (as specified herein). For granular materials, a minimum ID of 75 % should be achieved. For clayey soils (e.g. including weathered sandstone/shale), engineered fill should be compacted to minimum 95% SMDD, and 98% SMDD for a minimum of 10.5m below pavement, as per AS 3798 (2007).
- Final fill batters should not exceed 1V:3H.
- Final surface should be free-draining to prevent excessive ingress of water.
- Should groundwater ingress through rock be observed then a subsoil drainage system may be required prior to placement of fill.

Rock Excavation - Quarry

Based on slope stability modelling, excavation batter slopes will be constructed up to a maximum of 8V:1H.

Batter slopes to be cut in at a maximum of 15 metres deep increments with 5-metre wide benches between each increment. Benches will be graded to ensure stormwater, seepage and groundwater drain off the bench towards the desired location (outside edge).

If batter slopes show signs of failure then excavations are to stop immediately and a geotechnical engineer will be consulted to determine appropriate action.

Retaining Structures

Any retaining structures to be constructed as part of site works will be backfilled with suitable free-draining materials and include suitable drainage measures, such as a geotextile enclosed 100 mm agricultural pipe, to redirect water that may collect behind the retaining walls.

Hydrogeological

The following modifications to the project and additional commitments are suggested as means of addressing matters raised through consultation:

1. Modified staging as detailed above. Resource extraction in pits to proceed concurrently to levels as detailed (0mAHD, -10mAHD, - 25mAHD, - 40mAHD). Each deepening of the pit **must** be approved subject to NSW DOPI assessment of findings of monitoring information during the previous stage and their determination that impacts are acceptable or have been adequately mitigated.
2. Following lowering to each of the prescribed pit levels 5 – 8 test holes are to be blasted to 5 – 10 m below the floor of the pit. These holes are to be monitored for

- the duration of pit lowering on the alternate pit to assess impacts on local aquifer and to provide further information to validate the project model.
3. Monitoring of each excavated test hole is to include:
 - a) Continuous water level monitoring.
 - b) Continuous salinity monitoring.
 - c) Draw down pumping and monitoring of flow to assess likely inflow to subsequent stages.
 4. The preparation and implementation of a Killalea Lagoon Monitoring Program. This program is to be developed in consultation with NSW Office of Water and NSW EPA to the satisfaction of the Director General of the Department of Planning and Infrastructure. The program is to be implemented prior to the commencement of lowering of either pit below 0mAHD. The plan is to provide for the following as a minimum:
 - a) Establishment of a permanent monitoring location within Killalea Lagoon instrumented to allow continuous monitoring of lagoon water level and salinity.
 - b) Ongoing monitoring of site rainfall to allow for calibration of site water balance assessment.
 - c) Annual reporting of the findings of the monitoring and review and analysis of the site water balance.
 - d) Development of a typical rainfall response relationship for Killalea Lagoon against which assessment of quarry extension impacts on the lagoon rainfall response may be assessed.

Surface Water & Stormwater Management

A detailed site Water Management Plan will be prepared for the Project. This plan **must** be prepared in consultation with NSW Office of Water and NSW EPA to the satisfaction of the Director General of the Department of Planning and Infrastructure. The plan **must** include:

- a. Establishment of a monitoring program for site water resources. Monitoring is to include as a minimum:
 - Flow and water quality (TSS) at proposed ocean discharge point for at location identified and licensed under the site EPL.
 - Discharge from quarry void dewatering pumps.
 - Metering of town water inflows to the site.
 - Metering of wastewater discharges (sewage).
- b. The maintenance of a water balance model covering the site and Killalea Lagoon, this balance is to be annually assessed. The model **must** take account of water inflows and discharges from the site and is to allow for the informed assessment of environmental monitoring data. The water balance **must** document the following:
 - Rainfall inputs to quarry voids and Killalea Lagoon.

- Estimated evaporative losses from quarry voids and Killalea.
 - Uses of water within the quarry operation.
 - Discharge from quarry void to licensed outlet and transfers between voids.
 - All other inflows and outflows from the quarry.
 - Estimates of groundwater inflows to quarry void based on balance of other inflow, outflows and losses.
- c. Assessment of licensing requirements and details of any Water Access Licences (WALs) in place.
 - d. Requirement for annual reporting of the findings of the monitoring and review and analysis of the site water balance.

Contamination

Once project approval has been granted, a Preliminary Site Contamination Assessment (PSCA) will be undertaken to screen the areas of potential contamination. Should this screening identify contamination then a Stage 2 contamination assessment is to be undertaken.

Any identified contamination is to be dealt with in accordance with the recommendations of the contamination assessment process.

Sediment & Erosion Control Measures

The recommendations of the submitted Sediment and Erosion Control Plan, Geotechnical Assessment, Hydrogeological Assessment, and Wastewater Assessment will be adopted in the sites ongoing Environmental Management Plans and Strategies. In particular those related to ecology, surface water and stormwater management, and sediment and erosion control detailed in sections 8.1, 8.10, 8.12 and 10 of the EA. All the proposed safeguards and mitigation actions listed in the EA and Appendices (including the Flora and Fauna Assessment, Surface Water and Stormwater Assessment and the Sediment and Erosion Control Plan) will be included in any ongoing Environmental Management Plans and Strategies and fully implemented by the proponent and its contractors.

Strict erosion and sediment control measures will be installed, monitored and maintained;

Sediment Basin Maintenance

The following procedures will take place to ensure the proper operation and maintenance of the sediment basin:

- The basin(s) will be inspected monthly.
- The accumulated sediment depth will be checked to ensure remaining storage capacity meets storage specifications.

- Sediment **must** be removed and the basin restored to its original dimensions when sediment accumulation has filled nominated sediment storage depth. The removed sediment **must** be deposited on the site outside of concentrated flow paths, be allowed to dewater and then be used in site rehabilitation works.

Killalea Lagoon

Local armouring works required for any outflow into the catchment of Killalea Lagoon will be situated within Lot 22; to reduce the flow rate to a flow rate which does not cause erosion on the adjoining Crown land; and to be within the water qualities specified in the submitted Surface Water Assessment.

Contingency

If NSW EPA EPL conditions are not met with the revised SECP measures then sediment and erosion control management at the site is to be reviewed and changes are to be made to ensure license conditions are met.

Wastewater/Effluent Disposal

An appropriate effluent disposal area with an area of not less than 1323 m² will be provided for effluent irrigation in order to assimilate the applied hydraulic and nutrient loads. This area will be located within the north eastern corner of the site, currently occupied by the processing plant.

Appropriate soil material will be imported to this area to provide for appropriate effluent disposal capabilities.

Waste Management

All wastes from the site are to be managed in accordance with the completed Waste Management Plan (**Attachment 18 of the EA**).

All hazardous wastes (including asbestos) to be handled and disposed of in the appropriate manner, in accordance with all relevant requirements.

Prior to any demolition or works being undertaken on the site, an accredited asbestos consultant will be engaged to conduct a formal asbestos site audit to:

- determine whether there is any asbestos within the existing buildings and to identify the precise location/extend of asbestos in accordance with Australian Standard 4964 – „*Method For the Qualitative Identification of Asbestos in Bulk Samples*‘. And, where appropriate prepare a Hazardous Substances Management Plan (HSMP).

The asbestos waste consultant will be appropriately experienced and accredited with suitable licensing from WorkCover NSW. All works will be undertaken by a suitably qualified consultant.

Traffic & Transport

Identified hazards along the quarry haul road will be removed.

Social & Economic

The operator of the quarry will continue to keep neighbours informed of the proposed works, including a regular newsletter to advise of any construction works, particularly those relating to demolition of existing buildings, blasting or other works near to the boundary.

Prior to any works commencing, all adjoining neighbours will be provided with the contact details of a quarry manager or other suitable staff member who will act as the initial point of contact for any complaints.

Hanson will provide contact details to Council staff in the event that any complaints are made directly to Council.

Killalea State Park

Hanson is prepared to provide for a footbridge over the haul road to link the park with open space planned to north of the haul road. Hanson is willing to discuss the matter further with the Killalea State Park Trust in due course.

APPENDIX 4 TRANSPORT ROUTE



Figure 4: Transport Route (shown in blue)

APPENDIX 5 REHABILITATION STRATEGY

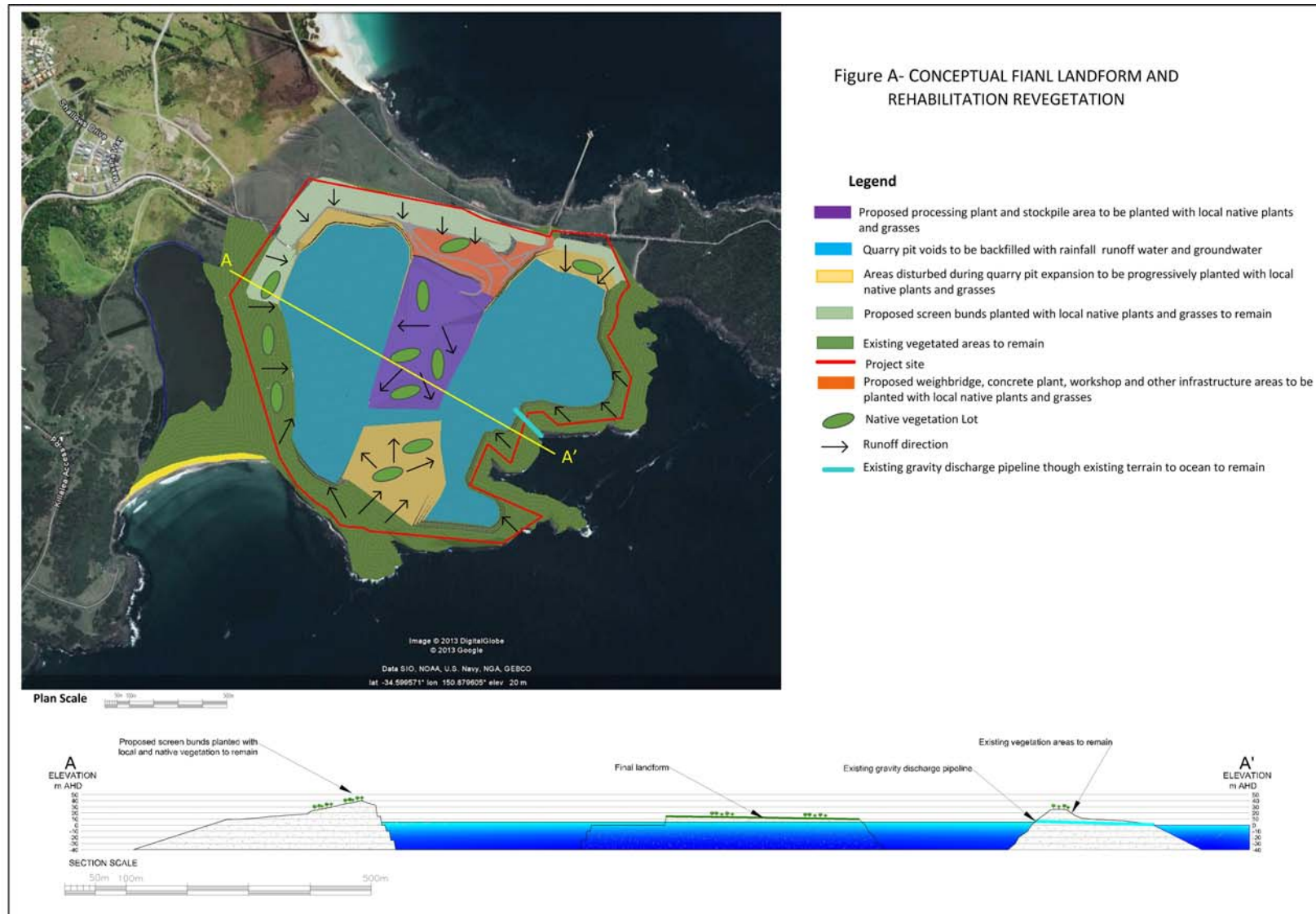


Figure 5: Indicative Final Landform

APPENDIX 6 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 1 of the conditions are to apply under all meteorological conditions except the following:
 - (a) during periods of rain or hail;
 - (b) average wind speed at microphone height exceeds 5m/s;
 - (c) wind speeds greater than 3 m/s measured at 10 m above ground level; or
 - (d) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions **must** be that recorded by the meteorological station on or in the vicinity of the site.

Compliance Monitoring

3. *Deleted*
4. Unless otherwise agreed with the **Secretary**, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.