Project Approval

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

As delegate of the Minister for Planning and Infrastructure, the Planning Assessment Commission of NSW approves 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.

Member of the Commission	**Member of the Commission**	**Member of the Commission**

Sydney 23 December 2013

SCHEDULE 1

Application Number:	06_0278
Proponent:	Rocla Materials Pty Limited
Approval Authority:	Minister for Planning and Infrastructure
Land:	Lot 2 in DP 229889; Lots 1 and 2 in DP 805358, Peats Ridge Road Calga
Project:	Calga Sand Quarry Project

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DEFINITIONS

Annual review	The review required by condition 4 of schedule 5
BCA	Building Code of Australia
Biodiversity offset strategy	The biodiversity conservation and enhancement strategy described in the EA, required by condition 23 of schedule 3 of this approval and depicted conceptually in the figure in Appendix 4
CCC	Community Consultative Committee
Conditions of this approval	Conditions contained in schedules 1 to 5 inclusive
Council	Gosford City Council
Day	The period from 7am to 6pm Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Infrastructure
Director-General	Director-General of the Department, or delegate
Dirty water	Water that accumulates within, or drains from, active extraction areas, emplacements, stockpiles, dams and infrastructure areas
DPI	Department of Primary Industries
DRE	Division of Resources and Energy (within the Department of Trade and Investment, Regional Infrastructure and Services)
EA	Environmental Assessment titled *Environmental Assessment for the Calga Sand Quarry Southern Extension* (3 volumes) dated November 2009; associated response to submissions titled *Final Response to Government Agency Submissions and Non-Confidential Public Submissions for the Calga Sand Quarry Southern Extension* dated November 2012; the *Preferred Project Report* dated November 2012; and the supplement to the response to submissions dated 24 July 2013
EEC	Endangered ecological community, as defined under the TSC Act or EPBC Act
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment Protection Licence issued under the POEO Act
Evening	The period from 6pm to 10pm
Extraction operations	Includes the removal of vegetation and overburden, and extraction, processing, handling, storage, blending and transportation of extractive material on site
Feasible	Feasible relates to engineering considerations and what is practical to build or carry out
Heritage item	An item as defined under the *Heritage Act 1977* and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974*
Incident	A set of circumstances that: • causes, or threatens to cause, material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this approval
Land	As defined in the EP&A Act, except where the term is used in the noise and air quality conditions in schedules 3 and 4 of this approval, where it is defined as 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	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning and Infrastructure, or delegate
Mitigation	Activities associated with reducing the impacts of the project
Morning Shoulder	The period from 5am to 7am, Monday to Saturday
Night	The period from 10pm to 5am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NOW	NSW Office of Water, within the DPI
OEH	Office of Environment and Heritage, within the Department of Premier and Cabinet
POEO Act	*Protection of the Environment Operations Act 1997*
Privately-owned land	Land that is not owned by a public agency or a quarrying company (or its subsidiary)
Project	The project as described in the EA
Proponent	Rocla Materials Pty Limited, or any person who seeks carry out the approved project under this approval
Public infrastructure	Linear and related infrastructure that provides services to the

	general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
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 and for the purpose of establishing a safe, stable and non-polluting environment
Residence	Any dwelling or domicile, or any overnight tourist accommodation (including tourist cabins and tent sites) that was approved or pending approval prior to 27 November 2009
RMS	Roads and Maritime Services
Site	The land described in schedule 1
Stage	The extraction staging as described in the EA and shown on the relevant plan in Appendix 1
Statement of commitments	The Proponent's commitments in Appendix 3
TSC Act	*Threatened Species Conservation Act 1995*
VENM	Virgin Excavated Natural Material, as defined in the POEO Act

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 shall 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 shall carry out the project generally in accordance with the:
   (a) EA;
   (b) statement of commitments; and
   (c) conditions of this approval.

   Notes:
   - *The general layout of the project is shown in Appendix 1; and*
   - *The statement of commitments is reproduced in Appendix 3.*

3. If there is any inconsistency between the above documents, 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 shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
   (a) any reports, strategies, plans, programs, reviews, audits 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 extraction operations on the site until 31 December 2038.

   Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Director-General. Consequently, this approval will continue to apply in all other respects - other than the right to conduct extraction operations - until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Production Limit

6. The Proponent shall not transport more than 1 million tonnes of product from the site in any calendar year.

Approved Stages

7. This approval is granted for Stage 3 and Stage 4 only, as described in the EA, and shown conceptually on the plans in Appendix 1.

   Note: For the avoidance of doubt, this approval does not allow any extraction in Stage 5, which is to be included in the biodiversity offset strategy for the project (see condition 23 of schedule 3).

SURRENDER OF EXISTING DEVELOPMENT CONSENT

8. By the end of June 2014, or as otherwise agreed by the Director-General, the Proponent shall surrender the existing development consent (DA-94-4-2004) for the Calga Sand Quarry in accordance with Section 104A of the EP&A Act.

   Prior to the surrender of this development consent, the conditions of this approval shall prevail to the extent of any inconsistency with the conditions of the development consent.

STRUCTURAL ADEQUACY

9. The Proponent shall ensure that all 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; and*
   - *Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*

DEMOLITION

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

PROTECTION OF PUBLIC INFRASTRUCTURE

Note: Prior to undertaking any extraction operations within the easement for the TransGrid Transmission Line within the site (ie. Line 21 Span 97), the Proponent is required to obtain necessary approval/s under the Electricity Supply Act 1995.

11. Unless the Proponent and the applicable authority agree otherwise, the Proponent shall:
    (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and
    (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.

OPERATION OF PLANT AND EQUIPMENT

12. The Proponent shall ensure that all the plant and equipment used on site, or to transport sand products to and from the site, is:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF STRATEGIES, PLANS AND PROGRAMS

13. With the approval of the Director-General, the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.

    Notes:
    - *While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site 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 to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*

14. Until they are replaced by an equivalent strategy, plan or program approved under this approval, the Proponent shall implement the existing strategies, plans or programs for the site that have been approved under DA-94-4-2004.

PRODUCTION DATA

15. The Proponent shall:
    - provide annual quarry production data to DRE using the standard form for that purpose; and
    - include a copy of this data in the annual review (see condition 4 of schedule 5).

SCHEDULE 3
ENVIRONMENTAL PERFORMANCE CONDITIONS

GENERAL EXTRACTION AND PROCESSING

Identification of Boundaries

1. The Proponent shall:
   (a) prior to carrying out any extraction in Stage 3/3b, and/or in any subsequent quarrying stage:
   - engage an independent registered surveyor to survey the boundaries of the approved limit of extraction; and
   - submit a survey plan of these boundaries to the Director-General; and

   (b) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.

Note: The limit of extraction is shown on the plans in Appendix 1.

NOISE

Hours of Operation

2. The Proponent shall comply with the operating hours in Table 1.

Table 1: Operating Hours

Activity	Day	Time
Extraction and processing	Monday – Friday	6:00am to 10:00pm
	Saturday	6:00am to 6:00pm
	Sunday and Public Holidays	Nil
Delivery and distribution	Monday – Friday	5:00am to 10:00pm
	Saturday	5:00am to 10:00pm
	Sunday and Public Holidays	Nil
Maintenance (if inaudible at neighbouring residences)	Any day	Anytime

Notwithstanding the limits in Table 1, the Proponent shall only undertake extraction and processing activities between 6:00pm and 7:00am when extraction and processing operations are being undertaken in areas of the quarry that are at least 10 metres below the pre-existing natural ground level.

3. The Proponent shall only undertake construction activities, including construction of the acoustic barriers, between 7:00am to 6:00pm Monday to Friday, and 8:00am to 1:00pm on Saturdays. No construction activities are to be undertaken on Sundays or Public Holidays.

4. The following activities may be carried out at the premises outside the hours specified in Table 1:
   (a) the delivery of materials as requested by Police or other authorities for safety reasons; and
   (b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm.

   In such circumstances the Proponent shall notify the Director-General and affected residents prior to undertaking the works, or within a reasonable period in the case of emergency.

Noise Criteria

5. The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

Receiver Location	Day	Evening	Night	Morning Shoulder	
	$L_{Aeq(15\ min)}$	$L_{Aeq(15\ min)}$	$L_{Aeq(15\ min)}$	$L_{Aeq(15\ min)}$	$L_{A1\ (1\ min)}$
CN6 – 3 Jones Road	43	42	Inaudible	43	49
CN7 – 24 Jones Road	42	42	Inaudible	42	50
CN8 – 30 Jones Road	42	41	Inaudible	42	50
CN9 – Walkabout Park	41	41	Inaudible	41	48
All other privately-owned residences	35	35	Inaudible	35	45

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 noise criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

Note: To interpret the locations referred in Table 2, see the figure in Appendix 2.

Road Traffic Noise Criteria

6. The Proponent shall take all reasonable and feasible measures to ensure that the traffic noise generated by the project on public roads does not cause exceedances of the criteria in Table 3 at any existing residence on privately-owned land.

Table 3: Road traffic noise criteria dB(A)

Road	Day / Evening $L_{Aeq\ (period)}$	Night / Morning Shoulder $L_{Aeq\ (period)}$
Peats Ridge Road	60	55

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.

Attenuation of Plant

7. Prior to the commencement of quarrying operations in Stage 3/3b, the Proponent shall demonstrate that all plant and equipment on site has sound power levels that are equal to, or less than, the sound power levels identified in the EA, to the satisfaction of the Director-General.

Operating Conditions

8. The Proponent shall:
   (a) implement best management practice to minimise the construction, operational, low frequency and road traffic noise emissions of the project;
   (b) carry out regular noise monitoring to determine whether the project is complying with the relevant conditions of this approval;
   (c) regularly assess noise monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the noise criteria in this approval;
   (d) maintain the effectiveness of noise suppression equipment on plant and equipment on site;
   (e) minimise the noise impacts of the project during meteorological conditions under which the noise criteria in this approval do not apply; and
   (f) ensure that the 5 metre high acoustic bunds are constructed in accordance with the staging plans in the EA (and reproduced on the plans in Appendix 1), prior to the commencement of any extraction operations in the relevant stages,

   to the satisfaction of the Director-General.

Noise Management Plan

9. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:
   (a) be prepared in consultation with the EPA, and submitted to the Director-General for approval by the end of June 2014;
   (b) describe the measures that would be implemented to ensure:
      - compliance with the relevant conditions of this approval;
      - best management practice is being employed; and
      - the noise impacts of the project are minimised during meteorological conditions under which the noise criteria in this approval do not apply;
   (c) describe the proposed noise management system;
   (d) include a monitoring program that:
      - uses attended monitoring to evaluate the compliance of the project against the noise criteria in this approval;
      - evaluates and reports on the effectiveness of the noise management system and the best practice noise management measures; and
      - defines what constitutes a noise incident at the project, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

AIR QUALITY

Odour

10. Unless otherwise authorised by an EPL, the Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.

Air Quality Criteria

11. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are implemented so that particulate matter emissions generated by the project do not cause exceedances of the criteria in Tables 4, 5, 6 and 7 at any residence on privately-owned land.

Table 4: Long-term criteria for particulate matter

Pollutant	***Averaging Period***	[d] ***Criterion***
Total suspended particulate (TSP) matter	Annual	[a] 90 $\mu g/m^3$
Particulate matter < 10 µm (PM_{10})	Annual	[a] 30 $\mu g/m^3$

Table 5: Short-term criteria for particulate matter

Pollutant	***Averaging Period***	[d] ***Criterion***
Particulate matter < 10 µm (PM_{10})	24 hour	[a] 50 $\mu g/m^3$

Table 6: Long-term 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

Table 7: Impact assessment criterion for crystalline silica

Pollutant	***Averaging Period***	***Criterion***
[e] Chronic Reference Exposure Level (REL) (PM_4)	Annual	3 $\mu g/m^3$

References to Tables 4 to 6:

[a] Total impact (ie. incremental increase in concentrations due to the project plus background concentrations due to all other sources);

[b] Incremental impact (ie. 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 or any other activity agreed by the Director-General.

[e] Crystalline silica must be analysed in accordance with a test method approved by the Department of Health.

Operating Conditions

12. The Proponent shall:
    (a) implement best practice management to minimise the dust emissions of the project;
    (b) regularly assess air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this approval;
    (c) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d under Table 7); and
    (d) minimise the area of surface disturbance and maximise progressive rehabilitation of the site,

    to the satisfaction of the Director-General.

Air Quality Management Plan

13. The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with the EPA and submitted to the Director-General for approval by the end of June 2014;
    (b) describe the measures that would be implemented to ensure:
        - compliance with the relevant conditions of this approval;
        - best practice management is being employed; and
        - the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events;
    (c) describe the proposed air quality management system;
    (d) include an air quality monitoring program that:
        - uses a combination of real-time and supplementary monitors to evaluate the compliance of the project against the air quality criteria in this approval;
        - uses real time monitoring to support the proactive and reactive air quality management system;

- includes $PM_{2.5}$ monitoring;
- evaluates and reports on the effectiveness of the air quality management system and the best practice air quality management measures; and
- defines what constitutes an air quality incident at the project, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

METEOROLOGICAL MONITORING

14. For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

SOIL AND WATER

Discharges

15. The Proponent shall not discharge any water from the quarry or its associated operations, except as may be expressly provided by an EPL.

On-Site Sewage Management

16. The Proponent shall manage on-site sewage to the satisfaction of Council and the EPA.

Water Supply

17. The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of extraction operations on site to match its available water supply, to the satisfaction of the Director-General.

18. Prior to the commencement of extraction operations in Stage 3/3b, the Proponent shall demonstrate that it has adequate water access licences to account for the maximum predicted volume of water to be used by the project, to the satisfaction of NOW and the Director-General.

    Note: The predicted water demand shall be based on updated groundwater and water balance modelling that refines the groundwater inflows and other water use, based on monitoring data.

Compensatory Water Supply

19. The Proponent shall provide compensatory water supplies to any owner of privately-owned land where monitoring indicates that the project is causing a reduction in pumping yield from bores of more than 10%, in consultation with NOW, and to the satisfaction of the Director-General.

    The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified.

    If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

    If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Director-General.

Water Management Plan

20. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with OEH and NOW, and be submitted to the Director-General for approval by the end ofJune 2014 ; and
    (b) in addition to the standard requirements for management plans (see condition 3 of schedule 5), include a:
        (i) Site Water Balance, that includes:
            - details of:
                - o sources and security of water supply;
                - o water use and management on site;
                - o any off-site water transfers;
                - o reporting procedures; and
            - measures that would be implemented to minimise clean water use on site;

        (ii) Surface Water Management Plan, that includes:
            - detailed baseline data on surface water flows and quality in waterbodies (including creeks and swamps) that could potentially be affected by the project;

- a detailed description of the water management system on site, including the:
  - o clean water diversion system;
  - o erosion and sediment controls;
  - o dirty water management system;
  - o discharge limits in accordance with EPL requirements; and
  - o water storages;
- surface water and stream health impact assessment criteria;
- a program to monitor and report on surface water flows and quality in waterbodies (including creeks and swamps) that could potentially be affected by the project;
- a program to validate the surface water model, and comparison of monitoring results with modelled predictions; and

(iii) Groundwater Management Plan, that includes:

- detailed baseline data of groundwater levels, yield and quality in the local aquifer, privately-owned groundwater bores and in areas of groundwater dependent ecosystems that could be affected by the project;
- groundwater impact assessment criteria for monitoring bores, privately-owned bores and groundwater dependent ecosystems;
- a program to monitor and report on:
  - o groundwater inflows to the extraction operations;
  - o the impacts of the project on:
    - regional and local aquifers;
    - privately-owned groundwater bores;
    - groundwater dependent ecosystems and riparian vegetation,

  including provision for continuous groundwater monitoring;
- a program to validate the groundwater model for the project, and comparison of monitoring results with modelled predictions; and

(iv) a Surface and Ground Water Contingency Strategy, that includes:

- a protocol for the investigation, notification and mitigation of identified exceedances of the surface water and groundwater impact assessment criteria;
- measures to mitigate and/or compensate potentially affected landowners, including provision of alternative long-term supply of water to the affected landowner that is equivalent to the loss attributed to the project; and
- the procedures that would be followed if any unforeseen impacts are detected during the project.

HERITAGE

Protection of Aboriginal Sites

21. The Proponent shall ensure that the project does not cause any direct or indirect impact on the identified Aboriginal heritage sites located outside the approved disturbance area for the project.
22. A minimum 40m vegetation buffer must be kept around heritage item #43-3-0119.

Notes:

- *The identified Aboriginal heritage sites are shown on the relevant plan in Appendix 1.*
- *Only one identified Aboriginal site (ie. Site 7 – an artefact scatter) is located within the project disturbance area, and is approved to be impacted. 14 identified Aboriginal sites are located outside the project disturbance area, and are not approved to be disturbed.*

Heritage Management Plan

23. The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:

(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Director-General;

(b) be prepared in consultation with OEH and local Aboriginal stakeholders;

(c) be submitted to the Director-General for approval prior to the undertaking any extraction operations in Stage 3/3b;

(d) include:

- a detailed archaeological salvage program for Aboriginal sites/objects within the project disturbance area, including methodology and procedures/protocols for:
  - o salvage, excavation and/or management of sites within the disturbance area;
  - o pre-disturbance monitoring;
  - o site assessment and reporting;
  - o research objectives to inform knowledge of Aboriginal occupation;
  - o protection, storage and management of salvaged Aboriginal objects;
  - o addressing relevant statutory requirements under the *National Parks and Wildlife Act 1974*; and
  - o long term protection of salvaged Aboriginal objects;
- a description of the measures that would be implemented for:

- protecting, monitoring and managing Aboriginal sites outside the project disturbance area. Including final delineation details of the buffer around site #43-3-0119 with a potential to increase the buffer following consideration of the 'edge effect';
- monitoring and managing ground vibration levels in the vicinity of, and representative of, Sites #43-3-0119 and Calga SA 1 when undertaking extraction operations (involving ripping) within 100 metres of the sites;
- maintaining and managing reasonable access for Aboriginal stakeholders to cultural heritage items on site and in the biodiversity offset areas;
- managing the discovery of any human remains or previously unidentified Aboriginal objects on site, including (in the case of human remains) stop work provisions and notification protocols;
- ongoing consultation with the local Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage both on-site and in the biodiversity offset areas;
- ensuring any workers on site receive suitable heritage inductions prior to carrying out any activities which may disturb Aboriginal sites, and that suitable records are kept of these inductions; and
- the long term management of the Aboriginal cultural heritage values of the site post extraction operations and rehabilitation of the site.

LANDSCAPE

Biodiversity Offset Strategy

24. The Proponent shall implement the biodiversity offset strategy in consultation with the OEH described in the EA, as summarised and revised in Table 8, and shown conceptually in Appendix 4, to the satisfaction of the Director-General.

Table 8: Summary of the biodiversity offset strategy

Area	***Offset Type***	***Minimum Size (hectares)***
On-site Offset Area[1]	Existing vegetation to be enhanced	60
Off-site Offset Area	Existing vegetation to be enhanced	41
Rehabilitation Area (part)[2]	Native woodland vegetation communities to be re-established	8
Total[3]		109

Notes:

1 *The on-site offset area includes the Stage 5 extraction area which, as per condition 7 of schedule 2, has not been approved to be extracted.*

2 *The rehabilitation area includes part of the Stage 4 extraction area, as shown on the plan in Appendix 4, and referred to in Table 9 below.*

3 *The Department accepts that the final alignment of the Glenworth Valley road corridor (which is subject to separate development approval) may vary somewhat from the alignment shown on the figure in Appendix 4, subject to the area covered by the final alignment not exceeding the area covered by the alignment shown in Appendix 4.*

Long Term Security of Offset

25. The Proponent shall make suitable arrangements to provide appropriate long-term security for the offset areas:
    (a) prior to the commencement of extraction operations in Stage 3/3b unless otherwise agreed by the Director-General, for the On-site Offset Area and Off-site Offset Area; and
    (b) by 30 June 2028 unless otherwise agreed by the Director-General, for the woodland to be established in the Rehabilitation Area, as identified in Table 8,

    to the satisfaction of the Director-General.

Note: The preferred mechanism for the provision of long-term conservation security is via the transfer of the offset areas and rehabilitation area to the National Park Estate. Any conservation agreement shall remain in force in perpetuity.

Rehabilitation Objectives

26. The Proponent shall rehabilitate the site to the satisfaction of the Director-General. This rehabilitation must be generally consistent with the rehabilitation strategy in the EA, as shown and revised on the plans in Appendix 4 and Appendix 5, and comply with the objectives in Table 9.

Table 9: Rehabilitation objectives

Feature	***Objective***
Site (as a whole)	Safe, stable and non-polluting
Surface infrastructure (including Stage 4 acoustic bunds)	To be decommissioned and removed, unless the Director-General agrees otherwise
Benched quarry walls	Landscaped and revegetated using native tree and understorey species, ensuring that a tree canopy is restored to minimise visual impacts Backfilled in areas surrounding Aboriginal site 45-3-0119 to provide a natural-like final landform (as indicated on the figure in Appendix 5)
Quarry pit floors and silt ponds	Free draining final landform including reinstatement of creek lines. Establish a minimum of 8 hectares of native woodland in the area indicated on the figure in Appendix 4. Establish a minimum of 3 hectares of open heathland/sedgeland in low lying and drainage areas. Establish minimum Class 3 agricultural suitability land over the balance of the quarry floors.
Other land affected by the project	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: • local native plant species; and • a landform consistent with the surrounding environment
Community	Ensure public safety Minimise the adverse socio-economic effects associated with quarry closure

Progressive Rehabilitation

27. The Proponent shall 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 shall be employed when areas prone to dust generation cannot yet be permanently rehabilitated.

Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.

Landscape Management Plan

28. The Proponent shall prepare and implement a Landscape Management Plan for the project to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with OEH, DRE and Council, and submitted to the Director-General for approval prior to the end of June 2014;
    (b) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;
    (c) describe how the Aboriginal Heritage Plan would be integrated with Landscape Management Plan;
    (d) Identify the area within Stage 4 that will be rehabilitated similar to its natural landform;
    (e) describe the short, medium, and long term measures that would be implemented to:
        - manage the remnant vegetation and habitat on the site and in the offset areas; and
        - implement the biodiversity offset strategy; and
        - ensure compliance with the rehabilitation objectives (Table 9) and the progressive rehabilitation obligations in this approval;
    (f) include detailed performance and completion criteria for evaluating the performance of the biodiversity offset strategy and the rehabilitation of the site, including triggering remedial action (if necessary);
    (g) include a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
        - enhancing the quality of existing vegetation and fauna habitat;
        - landscaping the site (including the acoustic barriers) and along public roads to minimise visual and lighting impacts;
        - restoring native vegetation and fauna habitat within the biodiversity offset area and rehabilitation area;

- maximising the salvage of environmental resources within the approved disturbance area – including tree hollows, vegetative and soil resources – for beneficial reuse in the enhancement of the biodiversity offset area or rehabilitation area;
- collecting and propagating seed;
- ensuring minimal environmental consequences for the site and nearby Sandstone Hanging Swamp EEC, threatened fauna and flora species;
- minimising the impacts on fauna on site, including undertaking pre-clearance surveys;
- managing any potential conflicts between the proposed restoration works in the biodiversity offset area and any Aboriginal heritage values (both cultural and archaeological);
- controlling weeds and feral pests;
- controlling erosion;
- controlling access; and
- managing bushfire risk;

(h) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria, and the triennial review and updating of these measures;
(i) identify the potential risks to the successful implementation of the biodiversity offset strategy and rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate against these risks; and
(j) include details of who would be responsible for monitoring, reviewing and implementing the plan.

Conservation and Rehabilitation Bond

29. By 30 June 2014, the Proponent shall lodge a Conservation and Rehabilitation Bond with the Department to ensure that the biodiversity offset strategy and 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 shall be determined by:
(a) calculating the cost of implementing the biodiversity offset strategy over the next 3 years;
(b) calculating the cost of rehabilitating the site, taking into account the existing disturbance area and the likely surface disturbance over the next 3 years of quarrying operations; and
(c) employing a suitably qualified quantity surveyor to verify the calculated costs,
to the satisfaction of the Director-General.

If the offset strategy and rehabilitation of the site is completed generally in accordance with the completion criteria in the Landscape Management Plan to the satisfaction of the Director-General, the Director-General will release the bond.

If the offset strategy and rehabilitation of the site is not completed generally in accordance with the completion criteria in the Landscape Management Plan, the Director-General will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.

Notes: Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate can be used to reduce the liability of the conservation and biodiversity bond.

30. Within 3 months of each Independent Environmental Audit (see condition 9 of schedule 5), the Proponent shall review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Director-General. This review must consider the:
(a) effects of inflation;
(b) likely cost of implementing the biodiversity offset strategy and rehabilitating the site, taking into account the likely surface disturbance over the next 3 years of the project; and
(c) performance of the implementation of the biodiversity offset strategy and rehabilitation of the site to date.

TRANSPORT

Site Access Intersections

31. The Proponent shall:
(a) construct the southern site access intersection with Peats Ridge Road, and decommission the northern site access intersection with Peats Ridge Road (if and when required), to the satisfaction of the applicable roads authority;
(b) install and/or maintain wheel wash facilities on both the northern and southern site access roads, for as long as the access roads are used for exiting quarry-related traffic; and
(c) seal the internal access roads between the wheel wash facility and Peats Ridge Road, to the satisfaction of the Director-General.

Parking

32. The Proponent shall provide sufficient parking on-site for all quarry-related traffic, in accordance with Council's parking codes, and to the satisfaction of the Director-General.

Road Haulage

33. The Proponent shall ensure that:
    (a) all loaded vehicles entering or leaving the site are covered; and
    (b) all loaded vehicles leaving the site pass through the wheel wash facility and are cleaned of materials that may fall on the road, before they are allowed to leave the site.

VISUAL

Operating Conditions

34. The Proponent shall:
    (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the project;
    (b) ensure no outdoor lights shine above the horizontal;
    (c) wherever possible, ensure that mobile equipment is appropriately designed and/or retrofitted to prevent light being directed above the horizontal;
    (d) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting* or its latest version;
    (e) establish, revegetate and subsequently maintain the acoustic barriers to minimise the visual impacts of the project, in accordance with the provisions of the Landscape Management Plan (see condition 27 of schedule 3); and
    (f) ensure that the visual appearance of all new buildings, structures, facilities or works (including paint colours and specifications) blends in as far as possible with the surrounding landscape,

    to the satisfaction of the Director-General.

EMEGENCY AND HAZARDS MANAGEMENT

Dangerous Goods and Hazardous Materials

35. The Proponent shall ensure that the storage, handling, and transport of dangerous goods and hazardous materials is conducted in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

Safety

36. The Proponent shall secure the site to ensure public safety at all times, to the satisfaction of the Director-General.

Bushfire Management

37. The Proponent shall:
    (a) ensure that the project is suitably equipped to respond to any fires on site; and
    (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.

WASTE

38. The Proponent shall ensure that only VENM is imported to the site for blending purposes in the production of sand products.

39. The Proponent shall prepare and implement a Waste Management Plan for the project, to the satisfaction of the Director-General. The plan shall be submitted to the Director-General for approval by the end of June 2014, and include:
    (a) VENM receival and acceptance procedures;
    (b) a description of the various waste streams of the project; and
    (c) procedures for minimising and managing all wastes generated by the project.

SCHEDULE 4
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS/TENANTS

1. As soon as practicable after obtaining monitoring results showing:
   (a) an exceedance of the relevant criteria in schedule 3, the Proponent shall notify the affected landowner in writing of the exceedance, and provide regular monitoring results to the landowner until the project is complying with the relevant criteria again; and
   (b) an exceedance of the relevant air quality criteria in schedule 3, the Proponent shall send to the affected landowners and/or existing tenants of the land (including the tenants of any quarry-owned land) a copy of:
   - the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time); and
   - the monitoring data, in an appropriate format so that a medical practitioner can assist the resident in making an informed decision on the health risks associated with occupation of the property.

INDEPENDENT REVIEW

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

   If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General’s decision, the Proponent shall:
   (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, 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 the relevant criteria, then identify measures that could be implemented to ensure compliance with the relevant criteria; and

   (b) give the Director-General and landowner a copy of the independent review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. The strategy must:
   (a) be submitted to the Director-General for approval by the end of June 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, record, handle, and respond to complaints;
      - resolve any disputes that may arise during the course of the project;
      - respond to any non-compliance;
      - 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 to be carried out in relation to the project.

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 steps to ensure that the exceedance ceases and does not reoccur;
   (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other courses of action; and
   (c) implement remediation measures as directed by the Director-General,
   to the satisfaction of the Director-General.

Management Plan Requirements

3. The Proponent shall 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;
      - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development 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;
      - 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 Director-General may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

4. By the end of June each year (or as otherwise agreed by the Director-General), the Proponent shall review the environmental performance of the project for the previous year to the satisfaction of the Director-General. 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 year, which includes a comparison of these results against the:
   - relevant statutory requirements, limits or performance measures/criteria;
   - monitoring results of previous years; and
   - 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 next year to improve the environmental performance of the project.

Revision of Strategies, Plans and Programs

5. Within 3 months of the submission of an:
   (a) annual review under condition 4 above;
   (b) incident report under condition 7 below;
   (c) audit under condition 9 below; or
   (d) any modification to the conditions of this approval,

   the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

   Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

Community Consultative Committee

6. The Proponent shall operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General. This CCC must be operated in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version), and be operating by the end of March 2014 .

   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 Department's guideline, the CCC should be comprised on an independent chair and appropriate representation from the Proponent, Council (if available) and the local community.*

Complaints Handling

7. Prior to the commencement of the project, the Proponent shall ensure that the following are available for community complaints and enquiries during construction and operation:
   a) a 24 hour contact number(s) on which complaints and enquiries about construction and operational activities may be registered;
   b) a postal address to which written complaints and enquiries may be sent; and
   c) an email address to which electronic complaints and enquiries may be transmitted.

   The telephone number, postal address and email address shall be published in a newspaper circulating in the local area prior to the commencement of the project. The above details shall also be provided on the website required by condition B9 of this approval.

8. The Proponent shall record the details of complaints received through the means listed under condition 7 (above) of this approval in a Complaints Register. The Register shall record, but not necessarily be limited to:
   a) the date and time of the complaint;
   b) the means by which the complaint was made (e.g. telephone, email, mail, in person);
   c) any personal details of the complainant that were provided, or if no details were provided a note to that effect;
   d) the nature of the complaint;
   e) the time taken to respond to the complaint;
   f) any investigations and actions taken by the Proponent in relation to the complaint;
   g) any follow-up contact with, and feedback from, the complainant; and

h) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register shall be included in the annual review.

REPORTING

Incident Reporting

9. The Proponent shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Director-General and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

10. The Proponent shall 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.

AUDITING

Independent Environmental Audit

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

12. Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

13. The Proponent shall:
    (a) within 3 months of the date of this approval, make the following information publicly available on its website:
        - the EA;
        - all current statutory approvals for the project;
        - approved strategies, plans and programs required under the conditions of this approval;
        - a comprehensive 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, which is to be updated on a monthly basis;
        - minutes of CCC meetings;
        - the last five annual reviews;
        - any independent environmental audit, and the Proponent's response to the recommendations in any audit;
        - any other matter required by the Director-General; and
    (b) keep this information up to date,

    to the satisfaction of the Director-General.

APPENDIX 1
PROJECT LAYOUT PLANS

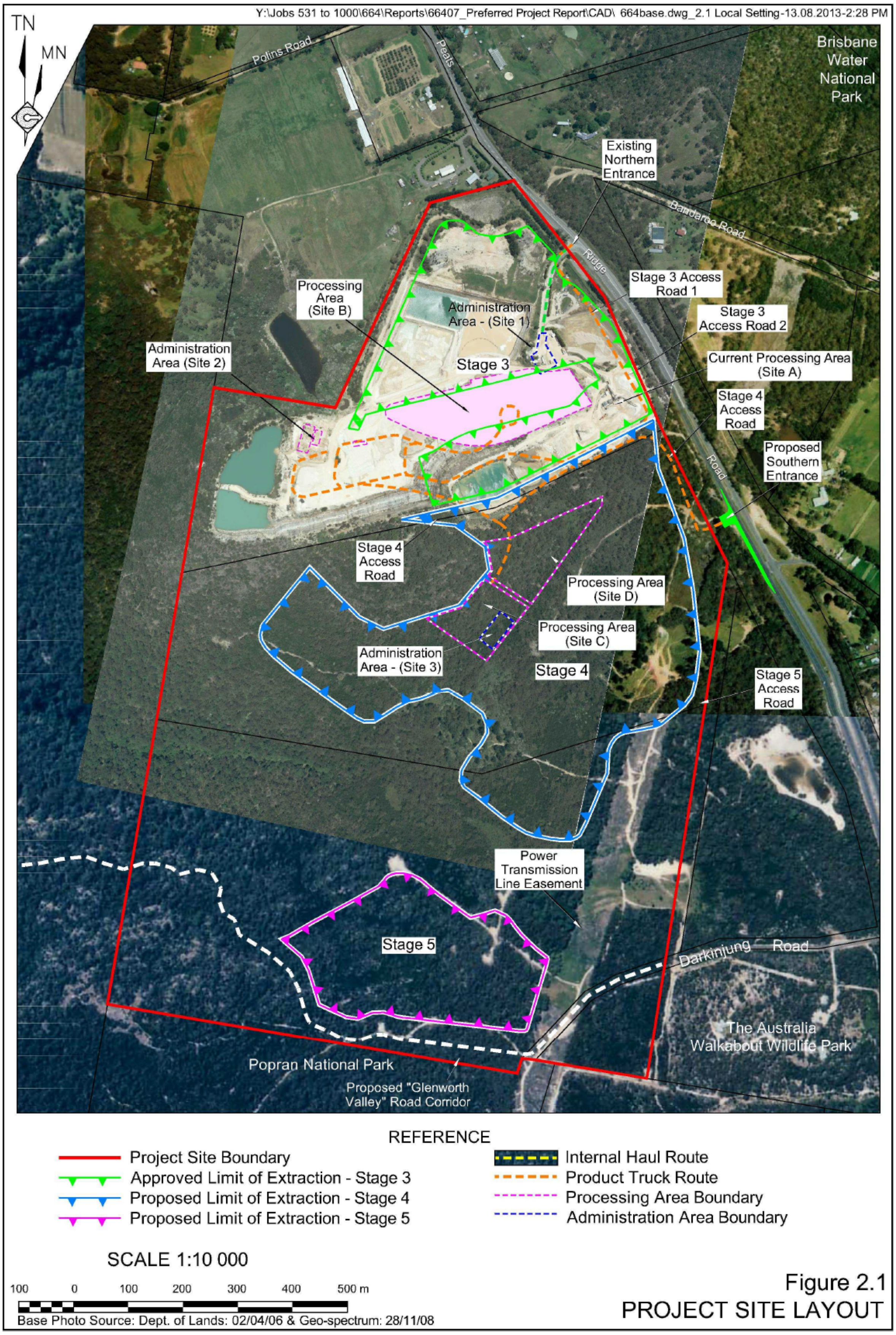

Figure 2.1
PROJECT SITE LAYOUT

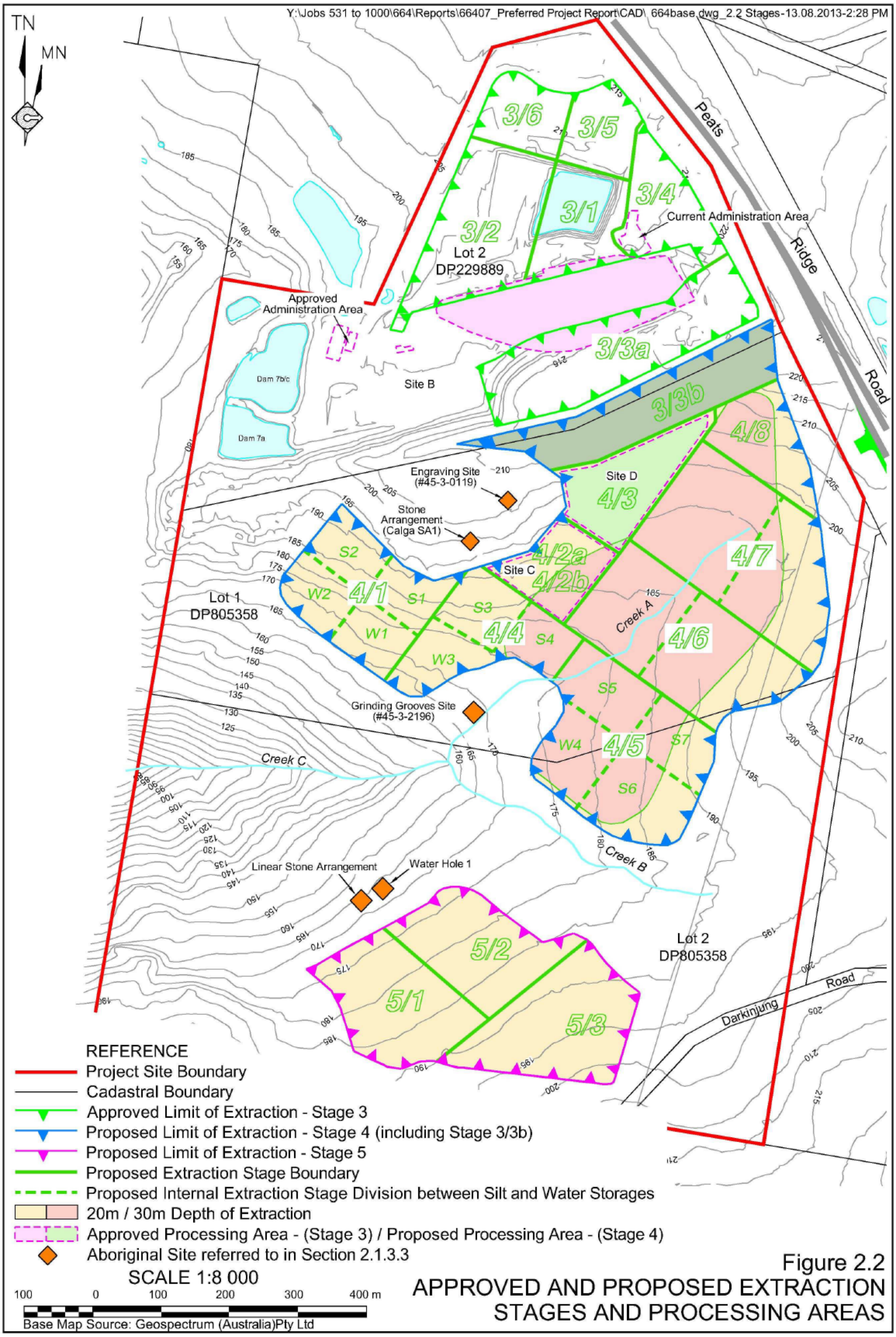

Figure 2.2
APPROVED AND PROPOSED EXTRACTION STAGES AND PROCESSING AREAS

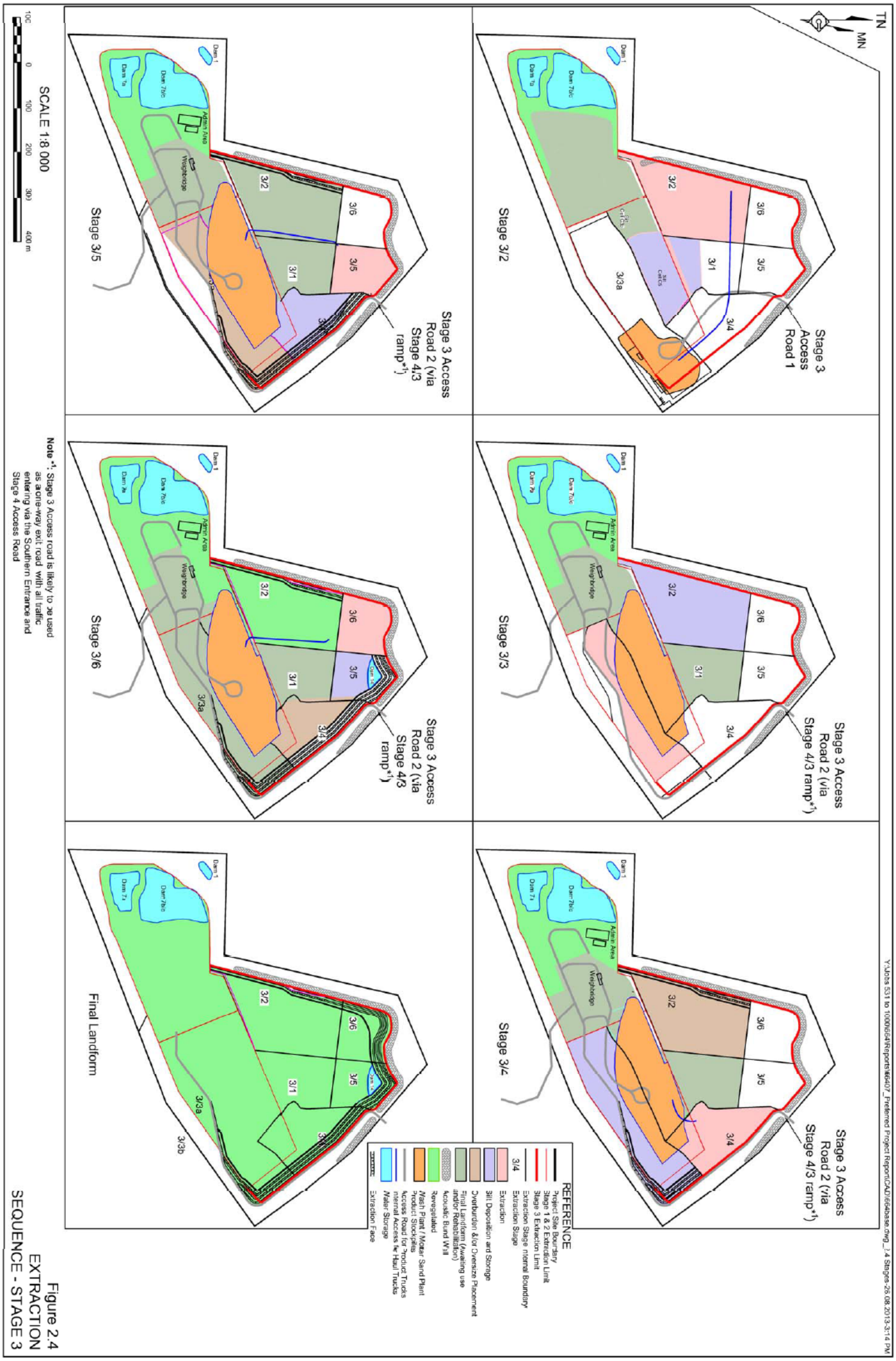

Figure 2.4
EXTRACTION
SEQUENCE - STAGE 3

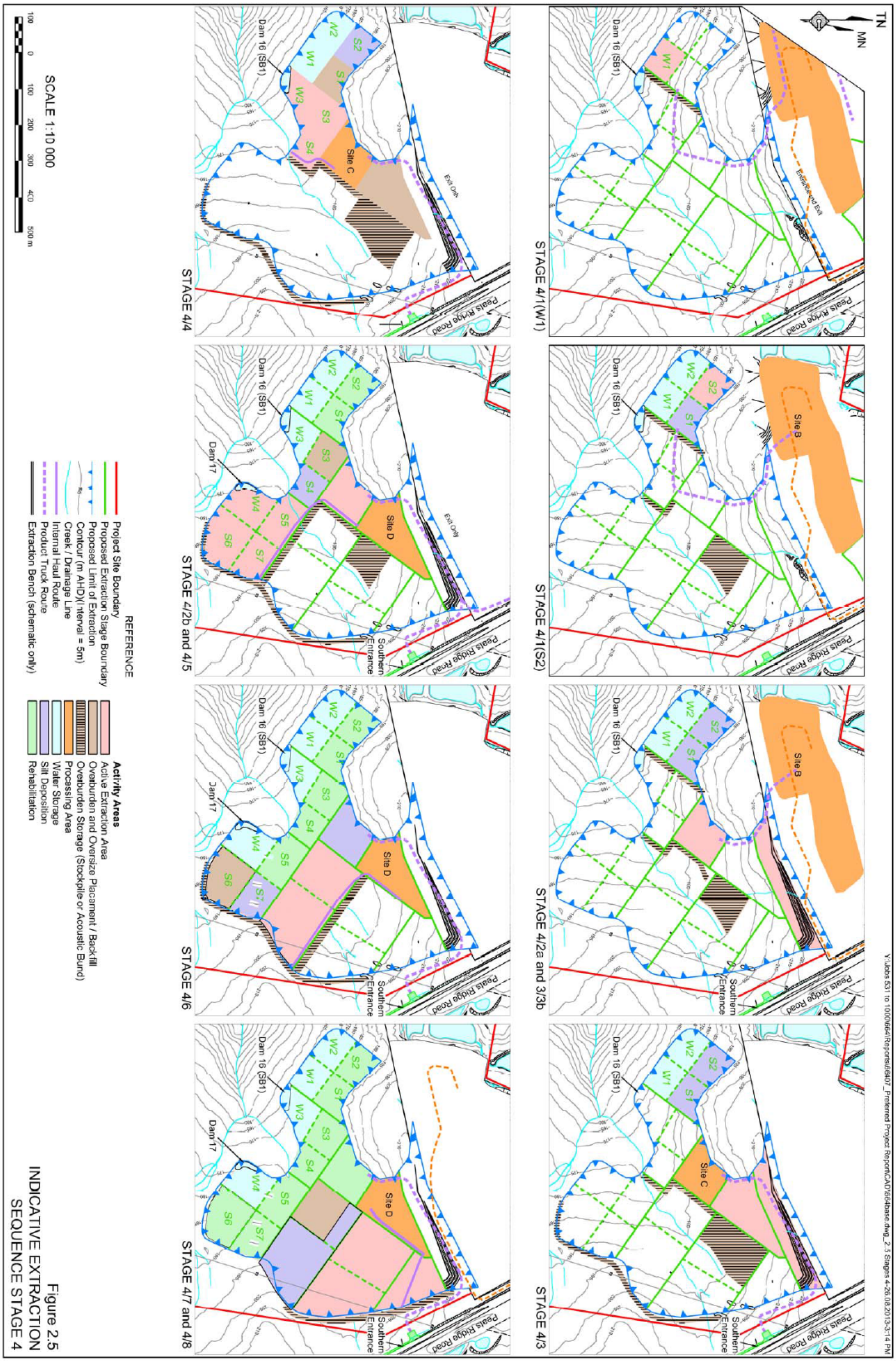

Figure 2.5
INDICATIVE EXTRACTION SEQUENCE STAGE 4

APPENDIX 2
RECEIVER LOCATION PLAN

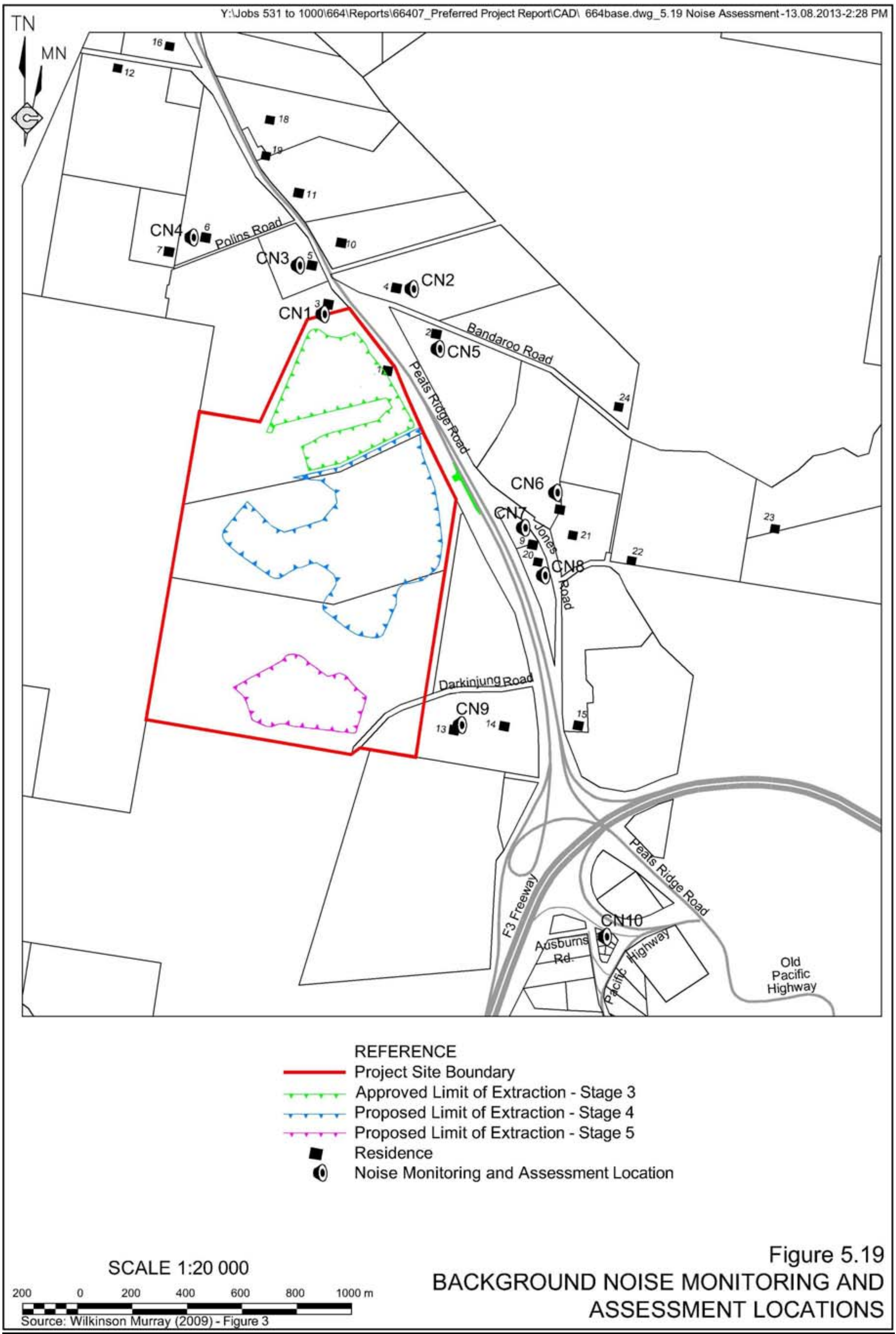

Figure 5.19
BACKGROUND NOISE MONITORING AND ASSESSMENT LOCATIONS

APPENDIX 3
STATEMENT OF COMMITMENTS

[Note: References to tables, sections, figures and appendices are references to the EA]

Desired Outcome	Action		Timing
1. Area of Activities and Operations			
All approved activities are undertaken in the area(s) nominated on the approved plans and figures (unless moved slightly to avoid individual trees).	1.1	Survey and mark the boundaries of the areas of disturbance on the ground.	Prior to any vegetation clearing.
	1.2	Fence the Aboriginal Sites #45-3-0119, Calga SA1 and #45-3-2196 and provide appropriate signage in accordance with Commitments 8.2 to 8.4.	Prior to any vegetation clearing.
	1.3	Survey and mark the location of the Southern Entrance and peg the centre line of the access road from the Southern Entrance to the Stage 4 Processing Area(s).	Prior to construction of the Southern Entrance and Stage 4 Access Road.
Satisfaction of the requirement of Industry and Investment NSW for production data.	1.4	Provide annual production data to Industry and Investment NSW (and include in the Annual Review).	Annually (July)
2. Operating Hours			
Management of operations in accordance with the approved operating hours.	2.1	Undertake extraction and processing activities between 6:00am and 10:00pm on Monday to Fridays and 6:00am to 6:00pm on Saturdays.	During operations (Monday to Saturday).
	2.2	Undertake product transportation activities between 5:00am and 10:00pm, Monday to Saturday.	During operations.
	2.3	Restrict activities undertaken outside the hours identified in Commitments 2.1 and 2.2 to routine, low noise activities such as oil changes, minor welding and servicing of equipment.	During operations.
3. Waste Management			
Minimisation of general waste creation and maximisation of recycling, wherever possible.	3.1	Place all paper and general wastes originating from the administration area, together with routine maintenance consumables from the daily servicing of equipment in garbage bins located adjacent to the various buildings.	Ongoing.
	3.2	Segregate waste into recyclable and non-recyclable materials for removal by a licensed contractor.	Ongoing.
Minimisation of the potential risk of environmental impact due to waste creation, storage and/or disposal.	3.3	Organise the regular collection of industrial wastes.	Fortnightly
	3.4	Store waste oils and greases within the workshop area in either self-bunding containers or within suitably contained areas.	Ongoing.
	3.5	Ensure waste oil and filters are collected and removed by licensed recycling operators.	Ongoing.
	3.6	Collect all parts and packaging and transfer to the workshop area for disposal or recycling.	As required.
	3.7	Store potentially hydrocarbon-contaminated water in the oil/water separator for regular removal from site by a licensed contractor.	As required.
	3.8	Maintain a pump out septic system.	Ongoing.

Desired Outcome	Action		Timing
4. Rehabilitation and Biodiversity Offset Management			
The creation of a stable final landform, available for the proposed future use(s) of agriculture and/or nature conservation.	4.1	Adopt a progressive approach to rehabilitation to ensure that areas are shaped and vegetated as soon as practicable, i.e. following silt deposition, consolidation and stabilisation, to provide a stable final landform.	As areas become available.
	4.2	Retain all soil and suitable cleared vegetation resources for use in rehabilitation of the final landform. See Commitments 12.1 to 12.7 for detail on management of soil resources.	Ongoing.
	4.3	Stabilise earthworks, drainage lines and disturbed areas no longer required for quarry-related activities.	During first year of progressive rehabilitation.
	4.4	Blend the created landforms with the surrounding land fabric. Stages 3 and 4 are to create a free-draining landform diverting water to Dams 7a, 7b/c, 16 and 17 which discharge to the Cabbage Tree Creek catchment either as surface flows or recharged groundwater base flows. Stage 5 is to be water holding, which in turn would provide recharge to groundwater base flows of the Cabbage Tree Creek catchment.	Ongoing during rehabilitation activities.
	4.5	Utilise appropriate grass, shrub and tree species to revegetate the final landform, commensurate with the intended final land use. Revegetation of the quarry benches and drainage lines of the final Stage 3 and 4 landforms would use the species (or equivalent species) presented in Table 2.8.	Ongoing during rehabilitation activities.
	4.6	Include *Callistemon linearifolius* and species of *Allocasuarina* in the revegetation of the Project Site.	Ongoing during rehabilitation activities.
	4.7	Encourage the growth of *Hibbertia procumbens* and *Darwinia glaucophylla* on the final landform.	Ongoing during rehabilitation activities.
	4.8	Undertake weed spraying and/or other appropriate weed controls over rehabilitated areas as well as areas of the Project Site and "Glenworth Valley" property managed for conservation, i.e. Biodiversity Offset Areas.	Annually.
	4.9	Remove all infrastructure from the Project Site (at the completion of the extraction and processing operations). Close, rip and cover with previously cleared, broken and stockpiled vegetation all internal roads and tracks not required for the ongoing management of the property.	At the completion of all extraction and processing activities on the Project Site.
	4.10	Document completed and planned rehabilitation work against the KPIs established in the VMP in each Annual Review.	Annually (July).
	4.11	Fence the biodiversity offset areas of the Project Site and "Glenworth Valley" property to prevent unauthorised access to these areas and erect signage identifying these areas as "areas managed for conservation".	Prior to commencement of the Project.
	4.12	Implement a legally binding arrangement on the land titles on which the biodiversity offsets occur such that these remain as conservation areas for as long as the titles remain valid. **Figure C** displays the proposed biodiversity offset – which includes Stage 5, i.e. until an offset can be located for that proposed area of extraction.	Within 12 months of the commencement of the Project.

Desired Outcome	Action		Timing
5. Groundwater			
Prevention of groundwater contamination.	5.1	Securely store all hydrocarbon products within designated and bunded areas.	Ongoing.
	5.2	Refuel all earthmoving equipment within designated areas of the Project Site.	Ongoing.
	5.3	Undertake all maintenance activities within designated areas of the Project Site, i.e. workshop area.	Ongoing.
	5.4	In the event of a spillage of a potentially contaminating material, e.g. oil, a 3-phase remedial action plan would be followed. – **Phase 1 – Initial Recovery:** Recover as much as possible at the source by pumping free material from the surface and excavating other contaminated materials. – **Phase 2 – Source Control:** Begin hydraulic control of the source to prevent spreading of contamination. – **Phase 3 – Recovery:** If necessary, install boreholes to remove and treat contaminated groundwater.	Ongoing.
Continuous monitoring of groundwater throughout the life of the project and effective communication of results to landowners within 1km of the Project Site.	5.5	Maintain and monitor the monitoring piezometers on and surrounding the Project Site (CQ1 to CQ13 and MW1 to MW17) and the private bores on surrounding properties (CP1 to CP8).	
	5.6	Update the Site Water Management Plan currently implemented for the approved Calga Sand Quarry to include all the monitoring locations identified in Commitment 5.5.	Within 6 months of receiving Project Approval.
	5.7	Provide the results of monitoring on Rocla's website (http://quarry.rocla.com.au/).	Monthly - within 1 month of receiving results.
	5.8	Provide the results of monitoring to respective bore owners (if requested) together with a comparison of groundwater levels and those predicted in GeoTerra (2009).	On request from the relevant landowner.
Validation of the site groundwater model.	5.9	Assemble all relevant monitoring data and validate the groundwater model to review potential groundwater impacts.	Every 2 years unless deemed unnecessary.
Ensure no local groundwater user is adversely affected by groundwater drawdown impacts attributable to the Project.	5.10	Develop replacement and/or compensatory measures in consultation with the affected landowner. These measures may include: - deepening of the affected bore to increase the available saturated thickness; - drilling and installation of a replacement bore outside the area of drawdown impact; - construction of surface water capture and containment structures such as dams or rainwater tanks to supplement reduced groundwater source; or - transfer of groundwater drawn from a Rocla-owned bore or the void itself.	As required.
	5.11	Update the Calga Sand Quarry Groundwater Contingency Plan to formalise these replacement and/or compensatory measures.	Within 6 months of receiving Project Approval.
Maintenance of healthy, robust groundwater dependent ecosystems down-slope from extraction areas.	5.12	Undertake surveys of down-slope GDEs to identify any impacts suggesting reduced water availability – in conjunction with monitoring of down-slope flows and seepage.	Annually.

Desired Outcome	Action		Timing
All Water Access Licences are in place for the predicted groundwater inflows.	5.13	Ensure that Water Access Licence(s) for the predicted volume of groundwater inflow are in place at the end of each five year period.	At the commencement of each 5 year period.
6. Flora and Fauna			
Minimisation of long term impact on flora and fauna on and around the Project Site.	6.1	Limit disturbance to the footprint identified on **Figure 2.1**. In particular, ensure the disturbance avoids: - the sandstone hanging swamp vegetation community along Creek B; - the two identified locations of *Callistemon linearifolius*; and - the habitat areas for the Red-crowned Toadlet and Giant Burrowing Frog (see **Figure 5.17**).	For the life of the Project.
	6.2	Clearly identify the biodiversity offset areas on quarry plans and fence and sign these areas in accordance with Commitment 4.11.	Prior to commencement of disturbance on Stage 4.
	6.3	Construct the access road between Stages 4 and 5 to utilise, as far as practicable, the cleared easement for the transmission lines which traverse the Project Site.	Prior to commencement of disturbance on Stage 5.
	6.4	Clearly define all areas to be cleared and conduct all soil stripping campaigns on an as-needs basis.	Prior to clearing in each substage.
	6.5	Limit vegetation clearing to that required for no more than the ensuing 12 months quarry development.	During clearing.
	6.6	Whenever possible, directly transfer stripped soil resources onto rehabilitation areas to maximise the opportunity for retention of the natural seed stock, and thereby maximise the revegetation of the final landform with endemic species.	Ongoing.
	6.7	Carry out, where possible, vegetation clearing, especially the mature trees in late spring and early autumn to avoid spring nesting birds and over-wintering bats.	Ongoing.
	6.8	Collect seed from felled vegetation for use in future re-vegetation programs.	Following clearing.
	6.9	Replant cleared areas of the Project Site not required for Project-related activities with *Allocasuarina* species to increase the available foraging habitat for the Glossy Black-cockatoo.	Following clearing (as relevant).
	6.10	Commence progressive rehabilitation of the Project Site as soon as possible.	Within 12 months of Project Commencement.
	6.11	Control noxious weeds at all times.	Ongoing.
	6.12	Fence the extraction area to prevent native fauna from entering and being harmed.	Ongoing.
	6.13	Complete targeted field surveys for threatened flora and fauna species within the proposed biodiversity offset areas.	Spring 2009.

Desired Outcome	Action	Timing
	7. Surface Water	
Diversion of clean water flows away from areas of project related disturbance.	7.1 Construct diversion banks DB1 to DB6 in accordance with the design specifications provided in Section 5.2.4.3.2 of the *Environmental Assessment*.	Prior to disturbance in the relevant catchment of the Project Site.
	7.2 Inspect the diversion banks and undertake maintenance work as necessary.	Monthly or following rainfall of >25mm/24hours.
Capture of dirty water flows from areas of project related disturbance.	7.3 Construct sediment basins SB1 and SB2, and sediment dam SD1, in the locations identified on **Figures 5.9** to **5.12,** and in accordance with the design specifications provided in Section 5.2.4.3.2 of the *Environmental Assessment*.	Prior to disturbance in the relevant catchment of the Project Site.
	7.4 Inspect the sediment basins and maintain as necessary.	Monthly or following rainfall of >25mm/24hours.
	7.5 Review general performance of catchment and settlement structures and upgrade the existing structures or install additional structures to ensure all dirty water is captured and settled prior to discharge.	Ongoing.
Ensure water is discharged at non-erosive velocities.	7.6 Install 3 x 600mm diameter pipes at a grade of 1% from Dams 16, 17 and 18.	Prior to commencement of extraction activities on Stage 4.
Discharged water quality to meet nominated criteria.	7.7 Ensure drainage paths between the catchment and settlement structures are well grassed.	Ongoing.
	7.8 Ensure the quality of any water discharged from the Project Site meets the Environment Protection Licence 11295 criteria and falls within the natural variation measured at surface water monitoring sites to date.	Ongoing.
Prevention of hydrocarbon contamination of water on the Project Site.	7.9 Securely store all hydrocarbon products.	Ongoing.
	7.10 Refuel all but the less mobile equipment which would be refuelled within the active extraction area, within designated areas.	Ongoing.
	7.11 Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and have a capacity to contain a minimum 110% of the largest storage tank capacity.	When constructed or installed.
	8. Aboriginal Heritage	
Provide appropriate protection to existing identified Aboriginal artefacts.	8.1 Erect a security fence adjacent to Aboriginal Site #45-3-2196 providing a buffer of at least 20m from the proposed area of disturbance.	Prior to commencement of disturbance on Stage 4.
	8.2 Erect a security fence along the alignment displayed in **Figure A** around Aboriginal Site #45-3-0119 and Calga SA1.	Prior to commencement of disturbance on Stage 4.
	8.3 Install signage on fences of Aboriginal Sites #45-3-0119, Calga SA1 and #45-3-2196 identifying them as culturally significant and prohibiting unauthorised access.	Prior to commencement of disturbance on Stage 4.
	8.4 Identify the locations of all identified Aboriginal sites of the Project Site on quarry plans and inform site personnel of their location, significance and the requirement for all activities to remain at least 20m from these sites.	Prior to commencement of disturbance on Stage 4.

Desired Outcome	Action		Timing
	8.5	Install appropriate erosion and sediment controls upstream of the identified sites.	Prior to commencement of disturbance on Stage 4.
Employees who are sensitive and respectful of possible identified Aboriginal sites and artefacts.	8.6	Conduct a Cultural Heritage Awareness Induction Course for staff, contractors and any heritage monitors working on the Project Site. This induction would include making all staff and contractors aware of their responsibilities with respect to Aboriginal heritage under the *National Parks and Wildlife Act 1974.*	Within 7 days of commencement of employment / contract activities at the Calga Sand Quarry.
Equity of Aboriginal involvement in the identification and management of Aboriginal Cultural Heritage Issues.	8.7	Inform the three Aboriginal stakeholder groups if and when any Aboriginal sites are found within the Quarry Site.	As required.
	8.8	Maintain and continue equitable communication and involvement in the management of Aboriginal cultural heritage by all registered Aboriginal parties.	Ongoing.
Achieve appropriate protection of any future identified Aboriginal artefacts.	8.9	Invite Aboriginal stakeholders to observe approved soil removal activities near areas of high archaeological or cultural significance (as defined in the Cultural Heritage Management Plan).	At least 30 days prior to commencement of each construction period.
	8.10	Abide by the requirements of the *National Parks and Wildlife Act 1974* (as amended), which requires all earthmoving activities to cease in the event that any bone or stone artefacts, or discrete distributions of shell, or any objects of cultural association, being unearthed during earthmoving. Work should not recommence in the area of the find, until both the police (if bone has been found) and those officials or representatives have given their permission to do so.	Ongoing.
9. Noise and Vibration			
The Project is designed to minimise and/or mitigate noise emissions received at surrounding residences and other sensitive receivers.	9.1	Commence extraction within Stage 4/1, located at the lowest elevation on the Project Site and is most distant from the surrounding residences.	During the first year of the Project.
	9.2	Commence extraction within Stage 5 only after it is demonstrated that the noise levels from Stage 4 operations at the closest sensitive receivers complies with the noise criteria for these residences.	Prior to commencement of Stage 5.
	9.3	Position the processing sites below natural surface level (such that natural acoustic shielding is provided) and where distance between these operations and the assessment locations is maximised.	Prior to relocation of processing plant.
	9.4	Complete construction of 5m high acoustic bund wall around each extraction stage prior to commencement of extraction activities in that stage as identified.	Prior to the commencement of extraction in each extraction stage.
All activities are undertaken in such a manner as to reduce the noise level generated and minimise impacts on surrounding landholders and/or residents.	9.5	Construction of acoustic bund walls is to undertaken during the day time only.	During construction of the acoustic bund walls.
	9.6	Extraction activities to be completed at least 10m below surface in adjacent stages when the acoustic bund wall is being constructed.	During construction of the acoustic bund walls.
	9.7	Adhere to the hours of operation of Commitments 2.1 to 2.3.	Ongoing.
	9.8	Regularly service all equipment on site to	Ongoing.

Desired Outcome	Action		Timing
		ensure sound power levels remain at or below the levels specified in the noise assessment for the *Environmental Assessment*.	
All activities are undertaken in such a manner as to reduce the noise level generated and minimise impacts on surrounding landholders and/or residents.	9.9	Undertake all maintenance work on equipment away from noise sensitive areas and confine these activities to standard daytime operational hours.	Ongoing.
	9.10	Instruct all truck drivers to avoid the use of engine brakes when approaching the Project Site entrance and transport route intersections and whilst on site.	Ongoing.
	9.11	Upgrade the Calga Sand Quarry Noise Monitoring Program (NMP), in consultation with the DECCW (EP&RG), to allow noise modelling predictions to be validated and noise levels compared to the Project noise criteria. The NMP would include a noise monitoring protocol which would include the contingent measures to be followed should non-compliant noise levels be measured.	Within 6 months of Project Approval.
10. Traffic and Transport			
Intersections with public roads operate efficiently and without adversely impacting on existing road users.	10.1	Manage any construction related traffic in accordance with the relevant Australian Standards, including a short term reduction in the speed limit approaching and adjacent to road construction works.	Prior to commencement and during any road works on or adjacent to Peats Ridge Road.
	10.2	Construct an entrance to Lot 1, DP 805358 and intersection with Peats Ridge Road ("the Southern Entrance") to meet the requirements of the *Road Design Guide* (RTA, 1999) and "*Part 5: Intersections at Grade*" of Austroads (2005), and to the satisfaction of the NSW RTA.	Prior to commencement of Phase 2 transport operations.
	10.3	Upgrade the northern entrance to Lot 2, DP 229889 such that it operates as an exit only, and meets the requirements of the *Road Design Guide* (RTA, 1999) and "*Part 5: Intersections at Grade*" of Austroads (2005), and is to the satisfaction of the NSW RTA.	Prior to commencement of Phase 2 transport operations.
	10.4	Upgrade the southern entrance to Lot 1, DP 805358 and intersection with Peats Ridge Road ("the Southern Entrance") to a two-way entrance/exit such that it meets the requirements of the *Road Design Guide* (RTA, 1999) and "*Part 5: Intersections at Grade*" of Austroads (2005), and is to the satisfaction of the NSW RTA.	Prior to commencement of Phase 3 transport operations.
Internal roads are constructed and operated to minimise risks of traffic or other environmental incident.	10.5	Construct all internal roads with a horizontal alignment which complies with the maximum grades and changes of grade outlined in the Australian Standards for Off-Street Commercial Vehicle Facilities (approximately 10%).	Ongoing.
	10.6	Construct the Stage 3 and Stage 4 access ramps with a minimum width of 10m, i.e. combined width of 20m, to ensure two-way traffic can be undertaken safely on both ramps. Bollards or other markers would be installed between the Stage 3 and 4 ramps with signage erected at the top and bottom of each ramp identifying the correct direction of vehicle travel.	As required.
	10.7	Construct earth bunds at least ½ the height of a standard road truck tyre on the outside edge of any ramp constructed within or between Stages 3 and 4.	Ongoing.

Desired Outcome	Action		Timing
Transport operations are undertaken with minimal impact on other road users and local residents.	10.8	Contact all potentially affected landowners and surrounding residents prior to any road works or intersection construction to inform / discuss the proposed works.	Prior to commencement of construction activities.
	10.9	Undertake all transport activities strictly in accordance with the project approval and environment protection licence.	Ongoing.
	10.10	Adhere as closely as possible to the proposed transport schedule, i.e. minimise the volume of traffic movements during Sydney peak periods.	Ongoing.
	10.11	Undertake all deliveries of "oversize" loads in accordance with RTA and Council restrictions on transport hours and safety / warning requirements.	Ongoing.
	10.12	Ensure all exiting product carrying trucks pass over the site weighbridge, thereby preventing the exit of any overweight vehicles onto Peats Ridge Road, i.e. all vehicles to have a GVM of less than 50t unless varied by the RTA.	Ongoing.
	10.13	Ensure all vehicles exiting the Project Site pass through a wheel-wash facility to remove dust-generating material from the vehicles.	Ongoing.
	10.14	Adopt a covered load policy to all trucks transporting quarry products.	Ongoing.
	10.15	Ensure all truck drivers operate in accordance with a Drivers Code of Conduct adopted for the Project.	Ongoing.
	10.16	Immediately investigate any complaints received regarding driver behaviour or transport operations generally and act decisively on substantiated incidents, which could include the banning the offending driver(s) from the Project Site.	Ongoing.
11. Air Quality			
Site activities are undertaken without exceeding DECC air quality criteria or goals.	11.1	Minimise clearing ahead of extraction activities.	Ongoing.
	11.2	Minimise the construction of minor roads and access tracks for soil stripping, extraction operations and rehabilitation.	Ongoing.
	11.3	Operate a 12 000L water cart (or equivalent) to water internal roads and exposed areas. Based on experience, watering of the unsealed roads would occur at least 5 times per day with an application of at least 2L/m^2 per application.	Ongoing.
	11.4	Avoid stripping soil in periods of high wind.	Ongoing.
	11.5	Minimise the drop heights between front-end loader buckets and trucks carrying sand, soil or overburden through operator training and education on the management of dust.	Ongoing.
	11.6	If required, water sandstone and sand stockpiles to prevent dust lift off during high winds.	As required.
	11.7	Install bund walls and wind breaks as required.	Ongoing.
	11.8	Seed topsoil stockpiles, acoustic bund walls and areas where landform preparation is complete with either native or pasture species to assist in stabilising the exposed surface.	Within 3 months of construction.
	11.9	Operate a wheel-wash facility within the Project Site to minimise the tracking of mud onto Peats Ridge Road which in turn could generate dust.	Ongoing.
	11.10	Commence progressive rehabilitation on available areas as soon as available.	As soon as areas available for rehabilitation.

Desired Outcome	Action		Timing
Site activities are undertaken without exceeding DECC air quality criteria or goals.	11.11	Temporarily cease operation in the event of protracted dry periods, high winds and significant dust generation and dispersal towards the surrounding residences.	Ongoing.
	11.12	Update the existing Air Quality Monitoring Program to demonstrate compliance with the nominated goals. - Deposited dust on the boundaries of the Project Site. - PM_{10} at the Gauci Residence. - Personal PM_{10} samplers for all site employees.	Within 6 months of Project Approval. Annual basis
Personnel do not suffer adverse health impact as a consequence of exposure to particulate matter.	11.13	Provide enclosed cabs on all mobile equipment used for ripping and loading of friable sandstone.	Ongoing.
	11.14	Undertake annual monitoring of personal exposure to particulate matter and silica.	Annual.
12. Soils			
Maintenance of soil value for rehabilitation and minimisation of soil loss though erosion.	12.1	Place stripped soil directly onto an area prepared and awaiting rehabilitation (when practicable).	Whenever possible.
	12.2	Limit topsoil and subsoil stockpiles to 2m and 3m in height respectively.	Ongoing.
	12.3	Seed any stockpiles retained for over three months with a non-persistent cover crop.	Within 3 months of stockpile construction.
	12.4	Avoid handling the soils when wet to protect any structure that may have developed.	Ongoing.
	12.5	Avoid driving on the topsoil and subsoil stockpiles, as well as the respread soil, to maximise soil aggregation and prevent compaction, particularly when the stockpiles are moist.	Ongoing.
	12.6	Divert surface water flow away from soil stockpile areas.	Prior to commencement of stockpiling.
	12.7	Install silt-stop fencing or similar immediately down-slope of stockpiles, until stable vegetation cover is established,	Immediately following stockpile construction.
13. Visibility			
Reduce the impact of the Project on the visual amenity of private and public vantage points.	13.1	Minimise the extent of land disturbance / clearing in advance of extraction.	Complete.
	13.2	Commence progressive rehabilitation of the Project Site.	As soon as areas available for rehabilitation.
	13.3	Maintain a high standard of housekeeping to achieve a visually attractive site.	Ongoing.
	13.4	Maintain the vegetated acoustic bund wall and colorbond fence around the Stage 3 extraction area.	Ongoing.
	13.5	Retain the existing vegetation along the eastern boundary of the Project Site.	Ongoing.
	13.6	Retain at least 80m of the existing vegetation along the southern boundary of the Project Site to restrict views onto the Project Site from the Australia Walkabout Wildlife Park to the south.	Ongoing.
	13.7	Enhance the vegetation between the transmission line easement and the southern boundary of the Project Site to limit visibility of on-site activities from the south.	Commence within the first year following project approval.

Desired Outcome	Action		Timing
	13.8	Clad new buildings with dark, non reflective material, e.g. dark green colour-bond cladding or similar.	Ongoing.
To limit light spillage and observation beyond the Project Site.	13.9	Ensure all lighting is directed away from the closest site boundary and faces downwards as much as practicable.	Continuous.
	13.10	Ensure all lights (other than security lighting) are turned off between 10:00pm and 5:00am.	Continuous.
	13.11	Liaise with surrounding landowners when relocating internal lighting to ensure impacts are avoided / minimised.	When the proposed lighting may be visual from locations external to the Project Site.
	13.12	Maximise the use of roadside reflectors to clearly define internal roads (and limit lighting).	Ongoing.
14. Bushfire Hazard			
Minimise potential for initiation of fire.	14.1	Undertake refuelling within designated fuel bays or within cleared area of the Project Site.	Ongoing.
	14.2	Turn vehicles off during refuelling.	Ongoing.
	14.3	Enforce no smoking policy in designated areas of the Project Site.	Ongoing.
	14.4	Maintain fire extinguishers within all site vehicles.	Ongoing.
Manage potential and actual bushfire occurrences in accordance with local bushfire control plans.	14.5	Regularly liaise with Gosford City Council and DECCW (NPWS) personnel in relation to bushfire hazard posed Popran National Park.	Ongoing.
15. Socio-Economic			
Adverse impacts on members of the local community are minimised.	15.1	Ensure all of the commitments 1.1 to 14.5 are adhered to.	Ongoing.
	15.2	Continue and expand if necessary the Calga Sand Quarry Community Consultative Committee (CCC) and ensure that the community is appropriately represented on the CCC.	Following receipt of Project Approval.
	15.3	Implement a complaint management procedure or protocol to ensure that any complaint received is dealt with decisively and appropriately.	In place.
16. Documentation			
A systematic set of documents are in place to guide the planning and implementation of all environmental management strategies.	16.1.	Incorporate the environmental procedures in an on-site management system.	Prior to relevant activity.
	16.2.	Incorporate relevant environmental data / information in Annual Environmental Reports.	Annually.
	16.3.	Prepare or update the following environmental plans for the Project. - Air Quality Monitoring Program. - Noise Monitoring Program. - Cultural Heritage Management Plan. - Site Water Management Plan incorporating a Groundwater and Surface Water Contingency Plan. - Groundwater Monitoring Program. - Rehabilitation and Landscape Management Plan incorporating a Biodiversity Offset Management Plan and Threatened Species Management Plan.	Variously.

Desired Outcome	Action	Timing
17. Environmental Monitoring		
Groundwater		
Regular monitoring of groundwater throughout the life of the project and effective communication of results to landowners within 1km of the Project Site.	17.1. Monitor standing water levels in the piezometers on and surrounding the Project Site (CQ1 to CQ13 and MW7 to MW10, MW13 & MW16) and the private bores on surrounding properties (CP1 to CP11).	Monthly.
	17.2. Monitor water chemistry parameters in the piezometers on and surrounding the Project Site (CQ1 to CQ13 and MW7 to MW10, MW13 & MW16) and the private bores on surrounding properties (CP1 to CP11).	Six monthly.
	17.3. Update the Site Water Management Plan currently implemented for the approved Calga Sand Quarry to include all the monitoring locations identified in Commitment 17.1.	Following Project Approval.
	17.4. Provide the results of monitoring on Rocla's website (http://quarry.rocla.com.au/).	Ongoing.
	17.5. Provide the results of monitoring to respective bore owners (if requested) together with a comparison of groundwater levels and those predicted in GeoTerra (2009).	As requested.
	17.6. Update the Calga Sand Quarry Groundwater Monitoring Program.	As required by Project Approval.
Surface Water		
Monitor and record environmental impacts on the local environment	17.7. Monitor surface water at the locations identified on **Figure 5.7** and others to be determined through consultation with the DECCW.	Quarterly.
	17.8. Prepare and implement a surface water monitoring program, in consultation with the DECCW (NOW) and DoP.	As required by Project Approval.
Noise		
Monitor and record environmental impacts on the local environment	17.9. Complete attended monitoring at Residences CN-1 to CN-4 and CN-6 to CN-9.	Quarterly or as modified in consultation with DECCW.
	17.10. Complete unattended monitoring at Residences CN-1 to CN-4 and CN-6 to CN-9.	Annually or as modified in consultation with DECCW.
	17.11. Update the Calga Sand Quarry Noise Monitoring Program.	As required by Project Approval.
Air Quality		
Monitor and record environmental impacts on the local environment	17.12. Monitor wind speed and direction at the Project Site weather station.	Continuous.
	17.13. Continue to monitor deposited dust at gauges CD-1, CD-2c and CD-3 to CD-6.	Monthly.
	17.14. Update the Calga Sand Quarry Noise Air Quality Monitoring Program.	As required by Project Approval.

APPENDIX 4
BIODIVERSITY OFFSET STRATEGY

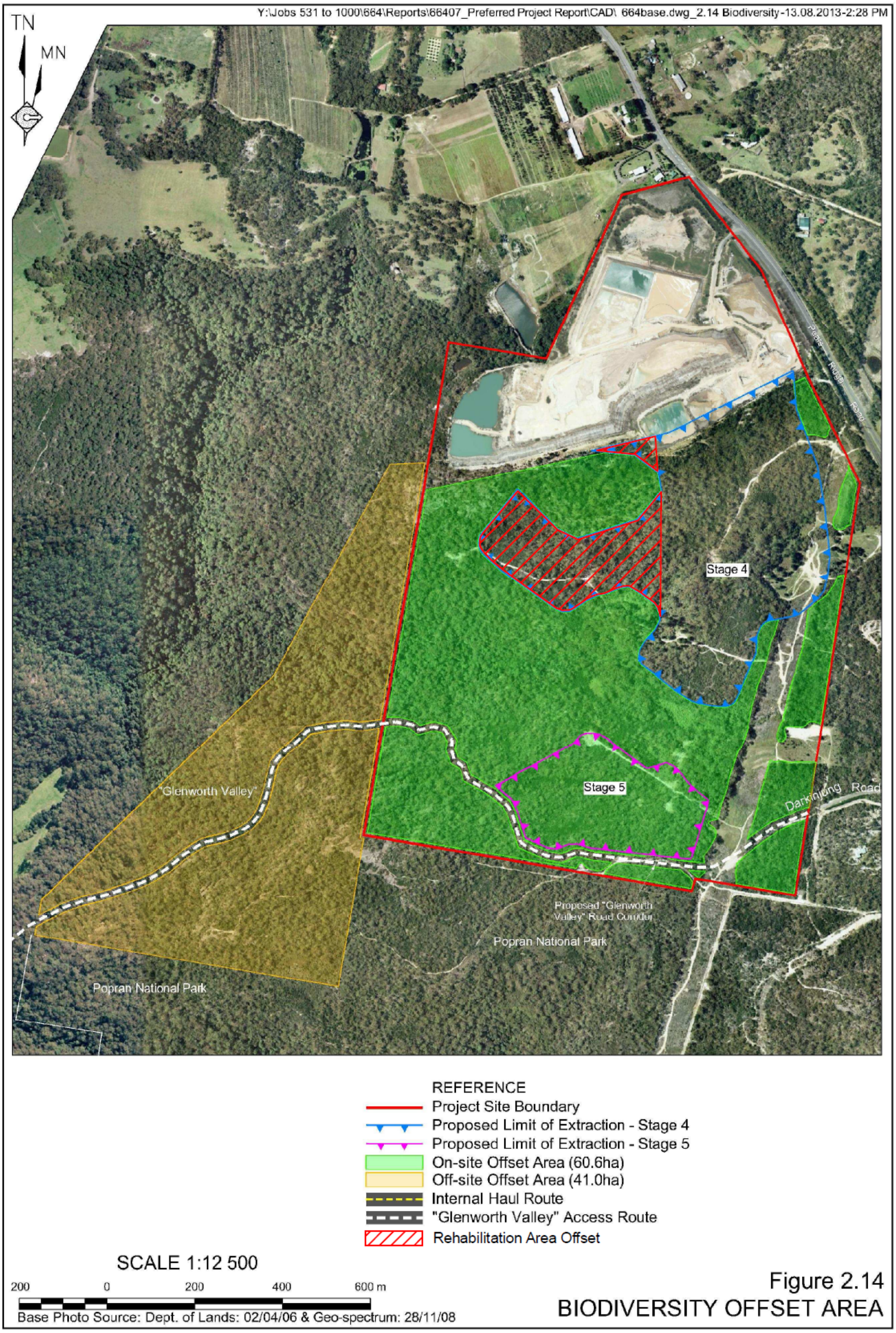

Figure 2.14
BIODIVERSITY OFFSET AREA

APPENDIX 5
CONCEPTUAL FINAL LANDFORM

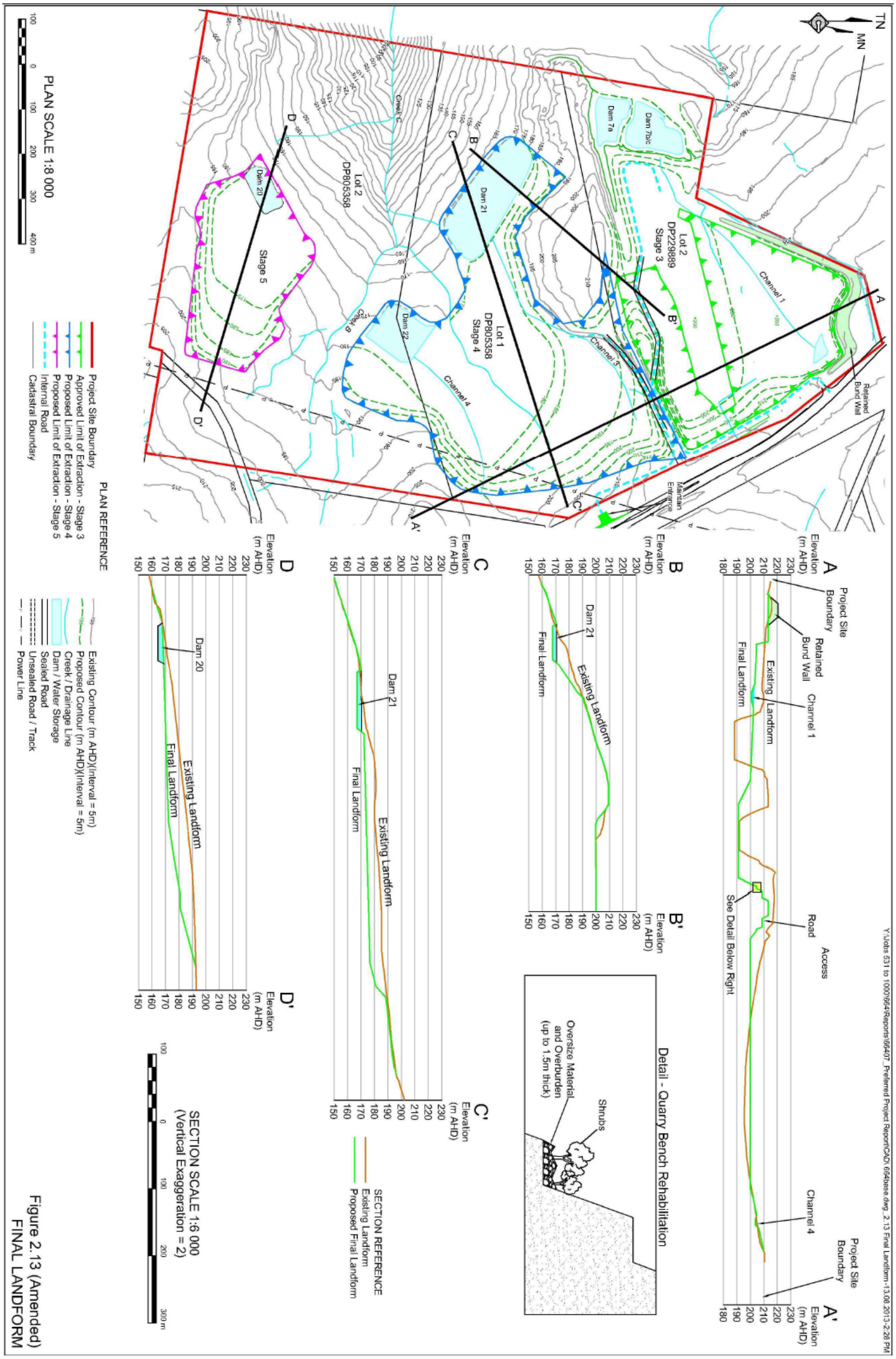

Figure 2.13 (Amended)
FINAL LANDFORM

APPENDIX 6
NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 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 5 m/s;
   c) wind speeds greater than 3 m/s measures at 10 m above ground level; or
   d) temperature inversion conditions greater than 3^{o}C/100m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.

Compliance Monitoring

3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.
4. Unless otherwise agreed with the Director-General, 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 the 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.