

# Development Consent

## Section 80 of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, approve the development 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 on-going environmental management of the development.

Frank Sartor, MP  
Minister for Planning

Sydney

2005

File: 9038942

### SCHEDULE 1

<b>Development Application:</b>	DA 128-5-2005.
<b>Applicant:</b>	Readymix Holdings Pty Limited.
<b>Consent Authority:</b>	Minister for Planning.
<b>Land:</b>	Refer to Appendix 1
<b>Proposed Development:</b>	Lynwood hard rock quarry and associated infrastructure.
<b>State Significant Development:</b>	The proposal is classified as State significant development under Section 76A (7) of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) as it meets the criteria in Schedule 1 of <i>State Environmental Planning Policy (State Significant Development) 2005</i>
<b>Integrated Development:</b>	The proposal is classified as integrated development under Section 91 of the EP&A Act as it requires additional approvals under the: <ul style="list-style-type: none"><li>• <i>Heritage Act 1977</i>;</li><li>• <i>National Parks and Wildlife Act 1974</i>;</li><li>• <i>Protection of the Environment Operations Act 1997</i>;</li><li>• <i>Rivers and Foreshores Improvement Act 1948</i>;</li><li>• <i>Roads Act 1993</i>; and</li><li>• <i>Water Act 1912</i>.</li></ul>
<b>Designated Development:</b>	The proposal is classified as designated development under Section 77A of the EP&A Act as it is for an extractive industry that meets the criteria in Schedule 3 of the <i>Environmental Planning and Assessment Regulation 2000</i> .

Note:

- To find out when this development consent becomes effective, see Section 83 of the EP&A Act;
- To find out when this development consent is liable to lapse, see Section 95 of the EP&A Act; and
- To find out about appeal rights, see Section 97 of the EP&A Act.

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**Red type represents April 2009 Modification**  
**Blue type represents March 2011 Modification**  
**Green type represents August 2011 Modification**  
**Aqua type represents May 2016 Modification**

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## DEFINITIONS

Annual Review Applicant	The review required by condition 10 of Schedule 5 Holcim (Australia) Pty Limited or any other person or persons who rely on this consent to carry out the development that is subject to this consent
ARTC	Australian Rail Track Corporation
BCA	Building Code of Australia
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in Schedules 2 to 5 inclusive
Council	Goulburn Mulwaree Council
DA	Development Application
Day	7.00am to 6.00pm, Monday to Saturday, and 8.00am to 6.00pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development described in the documents listed in condition 2(a) of Schedule 2
DPI Fisheries	Department of Primary Industries - Fisheries
DPI Water	Department of Primary Industries - Water
DRE	Division of Resources and Energy, within the NSW Department of Industry
EA	<b>Environmental Assessment</b>
EA (MOD 1)	Modification Application DA 128-5-2005 MOD 1 and the accompanying Statement of Environmental Effects titled <i>Proposed Minor Modifications to Lynwood Quarry, Marulan</i> , dated January 2009
EA (MOD 2)	Modification Application DA 128-5-2005 MOD 2 and the accompanying Environmental Assessment titled <i>Environmental Assessment Proposed Modifications to Lynwood Quarry, Marulan</i> , dated October 2010, prepared by Umwelt (Australia) Pty Limited, including the response to submissions dated January 2011
EA (MOD 3)	Modification Application DA 128-5-2005 MOD 3 and the accompanying letter titled <i>Holcim Lynwood DA128-5-2005; DA128-5-2005 Modification 1 and DA128-5-2005 Modification 2</i> , dated June 17 2011, prepared by Holcim (Australia) Pty Ltd
EA (MOD 4)	Modification Application DA 128-5-2005 MOD 4 and the accompanying Environmental Assessment titled <i>Environmental Assessment Lynwood Quarry Extraction Area Modification</i> , dated November 2015 and prepared by Umwelt Australia Pty Limited, including the Response to Submissions document dated February 2016 and additional information provided by Umwelt in the letter regarding the biodiversity offset strategy dated 1 April 2016
EIS	Environmental Impact Statement for the <i>Proposed Lynwood Quarry Marulan, Volumes 1 to 4</i> , dated May 2005
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the POEO Act
Evening	6.00pm to 10.00pm
Feasible	Feasible relates to engineering considerations and what is practical to build or carry out
GTA	<b>General Term of Approval</b>
Incident	A set of circumstances that: <ul style="list-style-type: none"> <li>• causes, or threatens to cause, material harm to the environment; and/or</li> <li>• breaches or exceeds the limits or performance measures/criteria in this consent</li> </ul>
INP	<i>NSW Industrial Noise Policy (NSW EPA, 2000)</i>
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 consent, 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 consent
Licence	Environmental Protection Licence issued by the EPA under the <i>Protection of the Environment Operations Act 1997</i>
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Night	10.00pm to 7.00am, Monday to Saturday, and 10.00pm to 8.00am on Sundays and Public Holidays.
OEH	<b>Office of Environment and Heritage</b>
POEO Act	<i>Protection of the Environment Operations Act 1997</i>

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.
Quarry products	Includes all saleable quarry products, but excludes tailings and other wastes
Quarrying operations	The extraction, processing, stockpiling and transportation of extractive materials on the site and the associated removal of vegetation, topsoil and overburden
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 development to a good condition, ensuring it is safe, stable, non-polluting environment and appropriately vegetated
Riparian Areas	land within 40 metres of the top of bank of defined drainage lines as agreed with the <a href="#">DPI Water</a>
RMS	<a href="#">Roads and Maritime Services</a>
Secretary	Secretary of the Department, or nominee
Site	Land to which the DA applies
Statement of Commitments	The Applicant's commitments set out in Appendix 11
TSC Act	<i>Threatened Species Conservation Act 1995</i>

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## SCHEDULE 2 GENERAL ADMINISTRATIVE CONDITIONS

### OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. The Applicant must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.

### TERMS OF APPROVAL

2. The Applicant must carry out the development:
  - (a) generally in accordance with the EIS, EA (Mod 1), EA (Mod 2), EA (Mod 3) and EA (Mod 4); and
  - (b) in accordance with the Development Layout Plan, the Statement of Commitments and the conditions of this consent.

*Notes:*

*The Development Layout Plan is included in Appendix 2.*

*The Statement of Commitments is included in Appendix 11.*

3. If there is any inconsistency between the documents identified in condition 2(a), the more recent document shall prevail to the extent of the inconsistency. The conditions of this consent shall prevail to the extent of any inconsistency with the documents identified in condition 2(a) or the Statement of Commitments.
4. The Applicant must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
  - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent (including any stages of these documents);
  - (b) any reviews, reports or audits commissioned by the Department regarding compliance with this consent; and
  - (c) the implementation of any actions or measures contained in these documents.

### LIMITS ON APPROVAL

5. The Applicant may carry out quarrying operations as part of the development until 1 January 2038.

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

6. *(deleted)*
7. The Applicant must not transport more than 5 million tonnes of product from the site in a year.
8. The Applicant must not transport more than 1.5 million tonnes of product from the site in a year by road.

### STRUCTURAL ADEQUACY

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

*Notes:*

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

### DEMOLITION

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

### PROTECTION OF PUBLIC INFRASTRUCTURE

11. The Applicant must:
  - (a) repair, or pay all reasonable costs associated with repairing any public infrastructure that is damaged by the development; and
  - (b) relocate, or pay all reasonable costs associated with relocating any public infrastructure that needs to be relocated as a result of the development.

## **OPERATION OF PLANT AND EQUIPMENT**

12. The Applicant must ensure that all plant and equipment at the site, or used in connection with the development are:
  - (a) maintained in a proper and efficient conditions; and
  - (b) operated in a proper and efficient manner.

## **PRODUCTION DATA**

13. The Applicant must
  - (a) provide annual quarry production data to DRE using the standard form for that purpose; and
  - (b) include a copy of this data in the Annual Review.

## SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

### GENERAL EXTRACTION AND PROCESSING PROVISIONS

#### Identification of Boundaries

1. Prior to carrying out any development, or as otherwise agreed by the [Secretary, the Applicant must](#):
  - (a) engage an independent registered surveyor:
    - survey the boundaries of the approved limit of extraction; and
    - submit a survey plan of these boundaries to the Department;
  - (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: (deleted)*

#### <sup>1</sup>Development in the Riparian Zone

2. [The Applicant must](#) not carry out any development in the riparian zone of Joarimin, Lockyersleigh or Marulan Creek without the written approval of [DPI Water](#). Any such development [must](#) be carried out in accordance with an approved Riparian Area Management Plan (see conditions 44 and 45).

#### <sup>2</sup>NOISE

##### Noise Impact Assessment Criteria

3. [The Applicant must ensure](#) that the noise generated by the development does not exceed the criteria in Table 1 at any residence on privately-owned land.

Noise Assessment Location	Day	Evening	Night	
	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>A1</sub> (1 minute)
1	35	35	35	45
2	35	35	35	45
3	35	35	35	45
4	35	37	35	46
5	35	35	35	46
6	35	37	36	46
7	38	38	35	55
8	39	38	36	55
9	39	39	37	56
10	42	42	40	53
11	35	35	36	47
12	37	37	36	47
13	40	38	37	47
14	35	35	35	47
15	35	35	35	47
16	35	35	35	45

Table 1: Noise Criteria dB(A)

*Note: Receiver locations are shown on the plan in Appendix 3.*

Noise generated by the development is to be measured in accordance with the relevant requirements of the INP (as may be updated from time-to-time). Appendix 10 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

<sup>1</sup> Incorporates [DPI Water](#) GTA.

<sup>2</sup> Incorporates [OEH](#) GTA.

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

### Operating Conditions

4. The Applicant must:
- implement best practice management to minimise the operational noise of the development;
  - implement all reasonable and feasible measures to minimise road transportation noise associated with the development;
  - minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 10);
  - carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent; and
  - regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary.

### Operating Hours

5. The Applicant must comply with the operating hours in Table 2:

Activity	Day	Time
Construction works	Monday - Friday	7am to 6pm
	Saturday	8am to 1pm
	Sunday and Public Holidays	None
Topsoil/ overburden removal/emplacement; drilling	Any day	7am to 6pm
Blasting	Monday - Saturday	9am to 5pm
	Sunday and Public Holidays	None
Extraction	Any day	7am to 10pm
Processing (crushing, screening, stockpiling); loading, delivery, and distribution; maintenance	Any day	Anytime

Table 2: Operating Hours

Notes:

- Table 2 only relates to construction works that are audible at any residential receivers on privately owned land. Construction works that are inaudible at any residential receiver may be carried out at any time.
- Construction works within the Hume Highway reserve may be undertaken outside the hours specified in Table 2 with the written approval of the RMS.

### Noise Management Plan

6. The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. In addition to the standard requirements for management plans (see condition 2 of Schedule 5) this plan must:
- be submitted to the Secretary for approval by 30 November 2016, unless otherwise agreed by the Secretary;
  - describe the measures that would be implemented to ensure:
    - compliance with the noise criteria in this consent;
    - best practice management is being employed; and
    - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 10);
  - describe the proposed noise management system; and
  - include a monitoring program that will be put in place to measure noise from the development against the noise criteria in Table 1, including noise monitoring to validate the predicted noise impacts for Location 11 contained in the EA (Mod 4), and which evaluates and reports on the effectiveness of the noise management system on site.

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

### <sup>3</sup>BLASTING AND VIBRATION

#### Airblast Overpressure Criteria

7. The Applicant must ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 3 at any residence on privately owned land.

Airblast overpressure level (dB(Lin Peak))	Allowable exceedance
115	5% of the total number of blasts over a period of 12 months
120	0%

Table 3: Airblast overpressure impact assessment criteria

#### Ground Vibration Impact Assessment Criteria

8. The Applicant must ensure that the ground vibration level from blasting at the development does not exceed the criteria in Table 4 at any residence on privately owned land, or the criteria in Table 5 for the nominated infrastructure.

Peak particle velocity (mm/s)	Allowable exceedance
5	5% of the total number of blasts over a period of 12 months
10	0%

Table 4: Ground vibration impact assessment criteria for residences on privately-owned land

Peak particle velocity (mm/s)	Infrastructure
25	Main Southern Railway Line Reservoir
100	Gas Pipeline

Table 5: Ground vibration impact assessment criteria on infrastructure

However, if the Applicant has a written agreement with the ARTC to vary the peak particle velocity for the Main Southern Railway Line in Table 5, and a copy of this agreement has been forwarded to the Department, then the Applicant may exceed the limit specified in Table 5 in accordance with the written agreement.

#### Operating Conditions

9. During the development, the Applicant must implement best blasting practice to:
- ensure that no flyrock leaves the site;
  - protect the safety of people, property, and livestock;
  - minimise the dust and fume emissions from blasting on the site, to the satisfaction of the Secretary.

#### Public Notice

10. During the development, the Applicant must:
- notify the landowner/occupier of any residence within 2 kilometres of the quarry pit who registers an interest in being notified about the blasting schedule on site;
  - operate a blasting hotline, or alternative system agreed to by the Secretary, to enable the public to get up-to-date information on blasting operations at the development; and
  - keep the public informed about this hotline (or any alternative system), to the satisfaction of the Secretary.

<sup>3</sup> Incorporates OEH GTA

## Blast Management Plan

11. The Applicant must prepare a Blast Management Plan for the development to the satisfaction of the Secretary. In addition to the standard requirements for management plans (see condition 2 of Schedule 5) this plan must:
- be submitted to the Secretary for approval by 30 November 2016, unless otherwise agreed by the Secretary;
  - describe the measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this consent;
  - include a monitoring program for evaluating and reporting on compliance with the blasting criteria in this consent; and
  - include a protocol for investigating and responding to complaints.

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

## <sup>4</sup>AIR QUALITY

### Impact Assessment Criteria

12. The Applicant must ensure that dust generated by the development does not cause additional exceedances of the criteria listed in Tables 6-8 at any residence that exists on the date of this consent, or on more than 25 percent of any privately owned land.

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m <sup>3</sup>
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	30 µg/m <sup>3</sup>

Table 6: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	50 µg/m <sup>3</sup>

Table 7: Short term impact assessment criteria for particulate matter

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month

Table 8: Long term impact assessment criteria for deposited dust

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

## <sup>5</sup>Operating Conditions

13. The Applicant must:
- implement best practice management to minimise the dust emissions of the development;
  - carry out periodic air quality monitoring to determine whether the development is complying with the relevant conditions of this consent;
  - regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this consent;
  - minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events; and
  - minimise the area of surface disturbance and maximise progressive rehabilitation of the site, to the satisfaction of the Secretary.

<sup>4</sup> Incorporates OEH GTA.

<sup>5</sup> Incorporates OEH GTA.

## Quarry-owned Land

14. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Tables 6-8 at any occupied residence on quarry-owned land unless:
- the tenant has been notified of any health risks associated with such exceedances in accordance with the notification requirements under Schedule 4 of this consent; and
  - the tenant of any land owned by the Applicant can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice, to the satisfaction of the Secretary.

## Air Quality Management Plan

15. The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. In addition to the standard requirements for management plans (see condition 2 of Schedule 5) this plan must:
- be submitted to the Secretary for approval by 30 November 2016, unless otherwise agreed by the Secretary;
  - be prepared in consultation with the EPA;
  - describe the measures that would be implemented to ensure:
    - compliance with the relevant conditions of this consent;
    - best practice management is being employed; and
    - the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;
  - describe the proposed air quality management system; and
  - include an air quality monitoring program that:
    - is capable of evaluating the performance of the development;
    - includes a protocol for determining any exceedances of the relevant conditions of consent;
    - effectively supports the air quality management system; and
    - evaluates and reports on the adequacy of the air quality management system.

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

## Meteorological Monitoring

- 15A. For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating 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.

## Greenhouse Gas Emissions

- 15B. The Applicant must implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.

## <sup>6</sup>SURFACE AND GROUND WATER

*Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.*

### Pollution of Waters

16. Except as may be expressly provided by a Licence, the Applicant must comply with section 120 of the Protection of the Environment Operations Act 1997 during the carrying out of the development.

### Water Discharge Limits

17. Except as may be expressly provided by a Licence, the Applicant must ensure that any controlled discharge from the controlled discharge points at Sediment Dams A to F comply with the limits in Table 10.

Pollutant	Unit of measure	100 Percentile concentration limit
Total suspended solids	mg/L	50
PH	pH	6.5-8.5
Oil and grease	mg/L	10 or none visible

Table 10: Surface Water Discharge Limits

<sup>6</sup> Incorporates DPI Water and OEH GTAs.

Note: For more information on the location of Sediment Dams A to F see Appendix 4.

## Sediment Dams

18. The Applicant must ensure that:
- Sediment Dams A, B, and F are capable of treating the 90<sup>th</sup> percentile 5 day rainfall event;
  - Sediment Dams C, D and E are capable of treating the 1:20 year ARI Critical Duration Storm Event; and
  - Sediment Dams G1, G2, G3, G4, L2, L3 and L4 are constructed to manage the 95th percentile 5 day rainfall event.

Notes:

- Locations of the Sediment Dams referred to in this condition are shown on the plans in Appendix 4.
- Dams must be designed to be in accordance with "Managing Urban Stormwater: Soils and Construction (the Blue Book)", including Volume 1 (Landcom, 2004) and Volume 2 (OEH, 2008).

## Operating Conditions

19. The Applicant must:
- ensure that the water collected in the Sediment Dams is pumped to the supply dams as soon as practicable;
  - ensure that the accumulated sediment in all the Sediment Dams is kept below 30% of their design capacity;
  - construct impervious bunds around all fuel, oil, chemical storage areas that are large enough to contain 110% of the volume held in the largest container in accordance with the requirements in the EPA's *Bundling and Spill Management* manual; and
  - not use any flocculants on site for water pollution control treatment without the written approval of the EPA.

Note: The EIS indicated that flocculants maybe used for the treatment of collected stormwater. While the specific flocculant was not specified, some types of flocculants have the potential to cause ecotoxicological impacts on receiving waters.

- 19A. The Applicant must ensure it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations to match its licensed water entitlements, to the satisfaction of the Secretary.

## Management and Monitoring

20. The Applicant must prepare a Water Management Plan for the development to the satisfaction of the Secretary. In addition to the standard requirements for management plans (see condition 2 of Schedule 5) this plan must:
- be prepared in consultation with the EPA, WaterNSW, DPI Water and DPI Fisheries;
  - be submitted to the Secretary for approval by 30 November 2016, unless otherwise agreed by the Secretary;
  - include a Water Balance;
  - include an Erosion and Sediment Control Plan;
  - include a Surface Water Monitoring Program;
  - include a Ground Water Monitoring Program; and
  - include a Surface and Ground Water Response Plan to address any potential adverse impacts associated with the development.

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

21. The Water Balance must:
- include details of all water extracted (including water make), dewatered, transferred, used and/or discharged by quarry; and
  - describe measures to minimise water use by the development.
22. The Erosion and Sediment Control Plan must:
- be consistent with the requirements of the Landcom's *Managing Urban Stormwater: Soils and Construction* manual;
  - identify activities that could cause soil erosion and generate sediment;
  - describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
  - describe the location, function, and capacity of erosion and sediment control structures; and
  - describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.
23. The Surface Water Monitoring Program must include:

- (a) detailed baseline data on surface water flows and quality in Joarimin Creek, Lockyersleigh Creek, and Marulan Creek;
- (b) surface water impact assessment criteria;
- (c) a program to monitor surface water flows and quality;
- (d) a protocol for the investigation of identified exceedances of the surface water impact assessment criteria; and
- (e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.

*Note: Monitoring of surface flows to be completed by visual assessment.*

24. The Ground Water Monitoring Program **must** include:
- (a) detailed baseline data on ground water levels, flows, and quality, based on statistical analysis;
  - (b) groundwater impact assessment criteria for monitoring bores;
  - (c) a program to monitor regional ground water levels and quality; and
  - (d) a protocol for the investigation of identified exceedances of the groundwater impact assessment criteria.

*Note: The surface and ground water monitoring programs must be consistent with the current version of Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales (OEHL).*

### Waterway Crossings

25. The vehicular crossing of Lockyersleigh Creek as detailed in EA (MOD 4) must be designed and constructed in accordance with the *Policy and Guidelines for Fish Friendly Water Crossings* (DPI Fisheries, 2004) and *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (2004) to the satisfaction of DPI Fisheries. Design plans should be submitted to DPI Fisheries for approval prior to construction.

## <sup>7</sup>TRAFFIC AND TRANSPORT

### Construction Traffic

26. **The Applicant must** ensure that:
- (a) construction traffic on the temporary construction access is kept to a minimum;
  - (b) no construction traffic uses the temporary construction access once the proposed bridge over the Main Southern Railway Line has been commissioned;
  - (c) all other traffic uses the construction site access prior to the commissioning of the proposed Hume Highway Interchange;
  - (d) where practicable, no heavy vehicle construction traffic movements occur on George Street during school zone times (ie between 8:00am to 9:30am and 2:30pm to 4:00pm on school days);
  - (e) heavy vehicle construction traffic using George St does not exceed 40 kph; and
  - (f) no traffic uses the construction site access routes once the proposed Hume Highway Interchange has been commissioned.

*Note: The temporary construction access routes are shown in Appendix 5. The requirements of this condition are to be reflected in the Construction Traffic Management Plan required under condition 28 below.*

27. Prior to the commissioning of the proposed Hume Highway Interchange, **the Applicant must** maintain the public roads on the construction access routes, or pay all reasonable cost associated with maintaining these roads during the period these roads are used for construction access, to the satisfaction of Council and/or the Department of Lands.
28. Prior to carrying out any development, **the Applicant must** prepare (and following approval implement) a Construction Traffic Management Plan for the development, in consultation with the **RMS**, Council and the Department of Lands, and to the satisfaction of the **Secretary**. This plan must:
- (a) include a Road Dilapidation Report of the public roads on the construction access routes; and
  - (b) describe what measures would be implemented to:
    - maintain the public roads;
    - minimise the potential noise and safety impacts associated with the construction traffic; and
    - keep the community informed of any traffic disruptions that would be caused by the development.

### Hume Highway Interchange

29. **The Applicant must:**

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<sup>7</sup> Incorporates **RMS**, Council and Department of Lands GTAs

- (a) design and construct the proposed grade separated intersection at the existing junction of the Hume Highway (SH2) and Marulan South Road/Jerrara Road; and following the satisfactory completion of this development,
- (b) close the existing median and proclaimed access point on the Hume Highway, to the satisfaction of the RMS.

**Notes:**

- The design of these works *must* be in accordance with relevant RMS standards and specifications:
  - geometric road design in accordance with RMS Road Design Guide;
  - pavement design in accordance with the AUSTRROADS Pavement Design Guide;
  - bridge design in accordance with Australian Standard AS5100; and
  - grade separated interchange in accordance with NAASRA (AUSTRROADS) Grade Separated Interchanges – A Design Guide.
- The Applicant will be required to meet all the costs associated with this development, including design, land acquisitions, gazettal of new boundaries and access point, construction and project management.
- If other quarries or developments are approved that use this intersection, the applicants for such developments may be required to contribute to the cost of constructing the intersection, pro-rata on maximum usage rates. The Applicant must keep detailed records of the intersection design and construction costs and provide this information to the Secretary if requested to assist in levying costs on any such developments.

- 30. Prior to carrying out any development in the Hume Highway road reserve, the Applicant must prepare a Traffic Management Plan for the proposed development in the road reserve to the satisfaction of the RMS.

**Crown Roads/Land**

- 31. The Applicant must not carry out any development on Crown roads or land without the written approval of the Department of Lands.

**Road Haulage**

- 32. The Applicant must ensure that all loaded vehicles entering or leaving the site are covered at all times.
- 33. The Applicant must ensure that all loaded vehicles leaving the site are cleaned of materials that may fall on the road before they are allowed to leave the site.

**Monitoring of Quarry Product Transport**

- 33A. The Applicant must keep accurate records of all laden truck movements from the site (weekly, monthly and annually) and publish a summary of records in its Annual Review.

**<sup>8</sup>ABORIGINAL HERITAGE**

**Protection of Aboriginal Sites**

- 34. The Applicant must ensure that the development does not cause any direct or indirect impact on identified Aboriginal sites located outside the approved disturbance area of the development. Only those Aboriginal sites identified within the approved Aboriginal Cultural Heritage Management Plan (see condition 35) or an approved Aboriginal Heritage Impact Permit may be impacted within the approved disturbance area of the development.

**Aboriginal Cultural Heritage Management Plan**

- 35. The Applicant must prepare an Aboriginal Cultural Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
  - (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;
  - (b) be prepared in consultation with OEH and local Aboriginal stakeholders;
  - (c) be submitted to the Secretary for approval by 30 November 2016, unless the Secretary agrees otherwise;
  - (d) include the following:
    - a Conservation Management Plan that details how the Cultural Heritage Management Zones (shown conceptually on the plan in Appendix 6) are managed;
    - a detailed archaeological salvage program for Aboriginal sites/objects within the approved disturbance area, including details of how the salvaged Aboriginal objects will be managed and protected; and
    - a description of the measures that would be implemented for:
      - protecting, monitoring and managing Aboriginal sites outside the approved disturbance area;

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<sup>8</sup> Incorporates OEH GTAs

- maintaining and managing reasonable access for Aboriginal stakeholders to cultural heritage items on site;
- 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 local Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage; and
- 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.

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

36. *(Deleted)*

37. Unless the OEH approves otherwise, the Applicant must ensure that all ground disturbing works on the site are monitored at all times by a suitably qualified and experienced archaeologist and representatives of all the relevant Aboriginal community groups. If this monitoring detects any previously unrecorded Aboriginal objects, then the Applicant must immediately cease work in the area and notify the OEH.

Notes:

- This monitoring only relates to topsoil stripping, not quarrying operations.
- For safety reasons, topsoil stripping may be undertaken before the commencement of development.

## <sup>9</sup>HERITAGE

### Old Marulan Township

38. The Applicant may carry out the development in the area identified in the State Heritage Register as the Old Marulan Township (SHR No. 00127) with the written approval of the NSW Heritage Council.
39. Prior to seeking this approval, the Applicant must undertake a detailed investigation of the archaeological potential of the proposed development area in the Old Marulan Township, including archaeological testing, to the satisfaction of the NSW Heritage Council. This archaeological investigation must clarify the nature, extent, and significance of the relics in the proposed development area.

*Note: The Applicant will be required to submit an application to the NSW Heritage Council under Section 60 of the Heritage Act 1977 for this archaeological investigation.*

40. In seeking this approval, the Applicant must submit the following information to the NSW Heritage Council:
- (a) the final design of the proposed Hume Highway interchange, incorporating the results of the archaeological investigations (see condition 39), and including information on landscaping, lighting, and stormwater management;
  - (b) an Archaeological Assessment of the area to be impacted by the proposed interchange, that includes the:
    - nomination of an Excavation Director and archaeology team which will be approved by the Director of the NSW Heritage Office;
    - assessment of the significance of the archaeological remains to be impacted within the development area,
    - plans and details of the location and depth of excavation works and assessment of the exact impact on potential archaeological remains;
    - identification of research themes and identification of both site specific and general research questions,
    - details of the proposed on-site excavation methodology including details on philosophical approach to on-site work and the process and procedures proposed for recovery and recording of archaeological data, and details on how the archaeological research is proposed to be satisfactorily completed,
    - details of the proposed post-excavation methodology; and
    - details of the Interpretation Plan for the entire Old Marulan Township precinct.

### Lockyersleigh Homestead

- 40A. The Applicant must prepare a structural integrity report for the Lockyersleigh Homestead Property and Garden, subject to receiving the landowner's agreement, by 30 June 2016.

<sup>9</sup> Incorporates NSW Heritage Council GTAs.

## Operating Conditions

41. The Applicant must ensure that:
- the development does not have any impact on:
    - the archaeological remains within the former Lot 1, DP210885;
    - heritage items MRNH1, MRNH2, and MRNH3;
    - the section of the State Heritage Register curtilage located at the eastern side of the Hume Highway, other than the impact upon the timber lined cistern/well (MRNH8) except where undertaken in accordance with the written approval of the NSW Heritage Council;
  - as much fabric of the timber-lined cistern/well (MRNH8) and the archaeological remains uncovered through the archaeological excavation as possible is salvaged and incorporated as a key element in the interpretation of the site as part of the new development; and
  - the movement of machines across archaeologically sensitive areas is kept to a minimum.

## Archaeological Field Work/Excavations

42. The Applicant must comply with the detailed requirements in Appendix 7 to the satisfaction of the NSW Heritage Office.

## REHABILITATION AND LANDSCAPING

43. The Applicant must rehabilitate the site in a manner that is generally consistent with the conceptual final landform in Appendix 8, to the satisfaction of the Secretary.

## Rehabilitation and Landscape Management Plan

44. Within 6 months of this consent, the Applicant must prepare (and following approval implement) a Rehabilitation and Landscape Management Plan for the development, in consultation with OEH, DPI Water and Council, and to the satisfaction of the Secretary. This plan must:
- describe in general the short, medium, and long-term measures that would be implemented to:
    - rehabilitate the site;
    - implement the Habitat Management Area (shown conceptually in Appendix 9), unless this area is incorporated into a conservation area subject to a BioBanking agreement;
    - replace cleared hollow-bearing trees with durable and appropriate nest boxes that reflect the type, size, usability and condition of the hollows to be cleared;
    - manage the remnant vegetation and habitat on the site; and
    - landscape the site to mitigate any visual impacts of the development;
  - include Riparian Area Management Plan/s (see condition 45) for those riparian areas to be disturbed in the next 5 years, excluding areas within quarry pits or emplacement areas as agreed with the Secretary;
  - describe in detail the measures that would be implemented over the next 5 years to rehabilitate and manage the landscape on the site;
  - describe how the performance of these measures would be monitored over time; and
  - set completion criteria for the rehabilitation of the site.
45. The Riparian Area Management Plan/s must be prepared by a suitably qualified hydrologist; whose appointment has been approved by the Secretary, and include:
- baseline surveys of creeks, providing existing bed, bank and vegetation information (including representative cross and longitudinal sections), in the areas in which the development is located, excluding the quarry pits and emplacement areas;
  - detailed designs of the proposed works, including any proposed stabilization, scour protection, and/or enhancement works (including representative cross and longitudinal sections);
  - a description of the measures that would be implemented in the event of flooding during construction/rehabilitation.
  - details of proposed staging of the works;
  - completion criteria for the rehabilitation of the riparian area;
  - a protocol for monitoring the performance of the rehabilitation over time.
46. Within 3 months of the Independent Environmental Audit (see condition 11 of Schedule 5), the Applicant must update the Rehabilitation and Landscape Management Plan to the satisfaction of the Secretary.

## Rehabilitation Bond

47. Within 3 months of the first Independent Environmental Audit (see condition 11 in Schedule 5), the Applicant must lodge a rehabilitation bond for the development with the Secretary. The sum of the bond must be calculated at \$2.50/m<sup>2</sup> for the total area to be disturbed in each 5 year period, or as otherwise directed by the Secretary.

Notes:

- If the rehabilitation is completed to the satisfaction of the **Secretary**, the **Secretary** will release the rehabilitation bond.
- If the rehabilitation is not completed to the satisfaction of the **Secretary**, the **Secretary** will call in all or part of the rehabilitation bond, and arrange for the satisfactory completion of the relevant works.

48. Within 3 months of each Independent Environmental Audit (see condition 11 in Schedule 5) after the lodgment of the rehabilitation bond, the Applicant must review, and if necessary revise the sum of the bond to the satisfaction of the **Secretary**. This review must consider:
- the effects of inflation;
  - any changes to the total area of disturbance; and
  - the performance of the rehabilitation against the completion criteria of the Rehabilitation and Landscape Management Plan.

### Retirement of Biodiversity Credits

- 48A. The Applicant must retire the biodiversity credits specified in Table 11 to the satisfaction of the Secretary and OEH. The retirement of credits must be undertaken in accordance with the *Framework for Biodiversity Assessment - NSW Biodiversity Offsets Policy for Major Projects* by:
- acquiring or retiring credits under the Biobanking Scheme in the TSC Act;
  - making payments into an offset fund that has been developed by the NSW Government; or
  - providing supplementary measures.

Credits may be retired progressively as the vegetation to be offset by the credits is cleared. By 31 May 2017, the Applicant must retire the credits associated with the projected vegetation clearing for the following five years. Credits must continue to be obtained and retired in five-yearly increments prior to clearance of the area of vegetation expected to be cleared in the forthcoming five years. Each Annual Review required under condition 10 of Schedule 5 must record the number of credits retired in the reporting year (or previously) and the area of vegetation expected to be cleared in the forthcoming five years.

Credit Type	Credits to be Retired
<b>Ecosystem Credits</b>	
HN614 Yellow Box – Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	2124
HN570 Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	881
HN515 Broad-leaved Peppermint – Ribbon Gum grassy open forest in the north-east of the South Eastern Highlands Bioregion	33
<b>Total</b>	<b>3038</b>
<b>Species Credits</b>	
Squirrel Glider ( <i>Petaurus norfolcensis</i> )	1725
<b>Total</b>	<b>1725</b>

Table 11 – Biodiversity Credits to be retired

Note: The management actions used to generate credits will need to avoid impacting on Aboriginal cultural heritage unless these impacts are identified within an approved Aboriginal Cultural Heritage Management Plan (see condition 35) or an approved Aboriginal Heritage Impact Permit.

## VISUAL AMENITY

### Visual Amenity

49. The Applicant must minimise the visual impacts of the development to the satisfaction of the **Secretary**.

### Lighting Emissions

50. The Applicant must take all practicable measures to prevent and/or minimise any off-site lighting impacts from the development.
51. All external lighting associated with the development must comply with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.

## Advertising

52. **The Applicant must** not erect or display any advertising structure(s) or advertisements on the site without the written approval of the **Secretary**.

## WASTE MANAGEMENT

53. **The Applicant must:**
- (a) monitor the amount of waste generated by the development;
  - (b) investigate ways to minimise waste generated by the development;
  - (c) implement reasonable and feasible measures to minimise waste generated by the development; and
  - (d) report on waste management and minimisation in the **Annual Review** to the satisfaction of the **Secretary**.
54. <sup>10</sup>**The Applicant must** ensure that all wastes generated or stored at the site are assessed, classified and managed in accordance with the *Assessment, Classification and Management of Liquid and Non-liquid Wastes (OEH)* guideline, or its successor.

## EMERGENCY AND HAZARDS MANAGEMENT

### Dangerous Goods

55. **The Applicant must** ensure that the storage, handling, and transport of dangerous goods are conducted in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

### Safety

56. **The Applicant must** secure the development to ensure public safety to the satisfaction of the **Secretary**.

### Bushfire Management

57. **The Applicant must:**
- (a) ensure that the development 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 on-site.

58. *(Deleted)*

## QUARRY EXIT STRATEGY

59. At least 5 years prior to the cessation of quarry operations, **the Applicant must** prepare a Quarry Exit Strategy for the development, in consultation with the **DPI Water** and Council, and to the satisfaction of the **Secretary**. This plan must:
- (a) define the objectives and criteria for quarry closure;
  - (b) investigate options for the future use of the site, including any final void/s;
  - (c) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the development; and
  - (d) describe how the performance of these measures would be monitored over time.

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<sup>10</sup> Incorporates **OEH** GTA

## **SCHEDULE 4 ADDITIONAL PROCEDURES**

### **NOTIFICATION OF LANDOWNERS**

1. As soon as practicable after obtaining monitoring results showing:
  - (a) an exceedance of any relevant criteria in Schedule 3, the Applicant must notify the affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and
  - (b) an exceedance of any relevant air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately-owned).

### **INDEPENDENT REVIEW**

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.
3. If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant must:
  - (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
    - consult with the landowner to determine his/her concerns;
    - conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and
    - if the development is not complying with these criteria then identify measures that could be implemented to ensure compliance with the relevant criteria; and
  - (b) give the Secretary and landowner a copy of the independent review.

## SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

### ENVIRONMENTAL MANAGEMENT

#### Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
  - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
  - (b) provide the strategic framework for the environmental management of the development;
  - (c) identify the statutory approvals that apply to the development;
  - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
  - (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 development;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the course of the development;
    - respond to any non-compliance; and
    - respond to emergencies; and
  - (f) include:
    - copies of any strategies, plans and programs approved under the conditions of this development consent; and
    - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

#### Management Plan Requirements

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

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

3. Prior to approval of management plans required under Schedule 3, all existing management plans, monitoring programs, strategies, programs, protocols, etc approved as at the date of approval of Modification 4 must continue to have full force and effect, and may be revised under the requirements of condition 5 below as if subject to the conditions of this consent that applied prior to the approval of Modification 4, or otherwise with the approval of the Secretary.

## Updating & Staging Submission of Strategies, Plans or Programs

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

With the agreement of the Secretary, the Applicant may revise any strategy, plan or program approved under this consent without consulting with all the parties nominated under the applicable conditions of consent.

### Notes:

- *While any strategy, plan or program may be submitted on a progressive basis, the Applicant 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.*

## Revision of Strategies, Plans & Programs

5. Within 3 months of the submission of an:
  - (a) incident report under condition 8 below;
  - (b) Annual Review under condition 10 below;
  - (c) audit report under condition 11 below; and
  - (d) any modifications to this consent,the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary.

*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 development.*

## Adaptive Management

6. The Applicant must assess and manage development-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 consent 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 Applicant must, at the earliest opportunity:

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

## Community Consultative Committee

7. The Applicant must operate a Community Consultative Committee (CCC) for the development, to the satisfaction of the Secretary. 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)

### Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*
- *In accordance with the guideline, the committee should be comprised of an independent chair and appropriate representation from the Applicant, Council, and the local community.*

## REPORTING

### Incident Reporting

8. The Applicant must notify, at the earliest opportunity, the Secretary 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 development, the Applicant must notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7

days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

### Regular Reporting

9. The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

### ANNUAL REVIEW

10. By the end of September each year, or other timing as may be agreed by the Secretary, the Applicant must review the environmental performance of the development to the satisfaction of the Secretary. This review must:
- (a) describe the development (including rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against:
    - the relevant statutory requirements, limits or performance measures/criteria;
    - requirements of any plan or program required under this consent;
    - the monitoring results of previous years; and
    - the relevant predictions in the documents listed in condition 2(a) of Schedule 2;
  - (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 development;
  - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies;
  - (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.
  - (g) describe the area of vegetation cleared as part of the development and identify the area proposed to be cleared over the next 5 years;
  - (h) calculate the number of additional BioBanking (or equivalent) credits that will need to be purchased, before that clearing can be done; and
  - (i) report on the number of BioBanking (or equivalent) credits that have been purchased to allow ongoing clearing and completion of stages.

The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 7 of Schedule 5) and any interested person upon request.

### INDEPENDENT ENVIRONMENTAL AUDIT

11. By 30 September 2017, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
  - (b) include consultation with the relevant agencies and the CCC;
  - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
  - (d) review the adequacy of any approved strategy, plan or program required under the these approvals; and
  - (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals.

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

12. Within 6 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, Council, EPA and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report.

### ACCESS TO INFORMATION

13. By 30 November 2016, unless otherwise agreed by the Secretary, the Applicant must:
- a) make the following information publicly available on its website:
    - the documents listed in condition 2(a) of Schedule 2;
    - current statutory approvals for the development;

- approved strategies, plans or programs;
  - a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;
  - a complaints register, which is to be updated on a quarterly basis;
  - the Annual Reviews (over the last 5 years);
  - any independent environmental audit, and the Applicant's response to the recommendations in any audit;
  - any other matter required by the Secretary; and
  - keep this information up-to-date,
- to the satisfaction of the Secretary.

## APPENDIX 1: SCHEDULE OF LAND

Land to which the Development Application refers:

<b>Lot</b>	<b>DP</b>	<b>Owner</b>
112	750029	Holcim
1	1116876	Essential Energy
2	1116876	Holcim
230	750029	Holcim
294	750029	Holcim
3 - 4	1036993	Holcim
1	1074819	Holcim
1	1117910	Holcim
1 and 3	1074107	Holcim
10	700579	Holcim
7001	1025603	Crown Land
7002	1025604	Crown Land
2 - 15	196132	Holcim
2 – 4/Section 5	758653	Holcim
1/Section 5	758653	Crown Land
Part 7 and Section 1	758653	Holcim
10/Section 10	758653	Privately Owned
10 - 11	111641	Holcim
2	214304	Holcim
1 - 14	797340	Holcim
1 – 6	1140546	Holcim
8	1112296	Holcim
3	111640	Holcim
1 - 2	1111583	Holcim

<b>Lot</b>	<b>DP</b>	<b>Owner</b>
2	1117910	Goulburn Mulwaree Council
2	1107232	Holcim
1 - 3	1155889	Crown
7308	1160864	Crown
103	1167866	Roads and Maritime Service
101	1167866	Crown
6	1140546	Privately Owned
		Part Joarimin Creek
		Part Main Southern Railway
		Part Hume Highway
		Part Marulan South Road
		Part Stoney Creek Road
		Part Jerrara Road
		Crown Land and Crown road reserves within the DA area

## APPENDIX 2: DEVELOPMENT LAYOUT

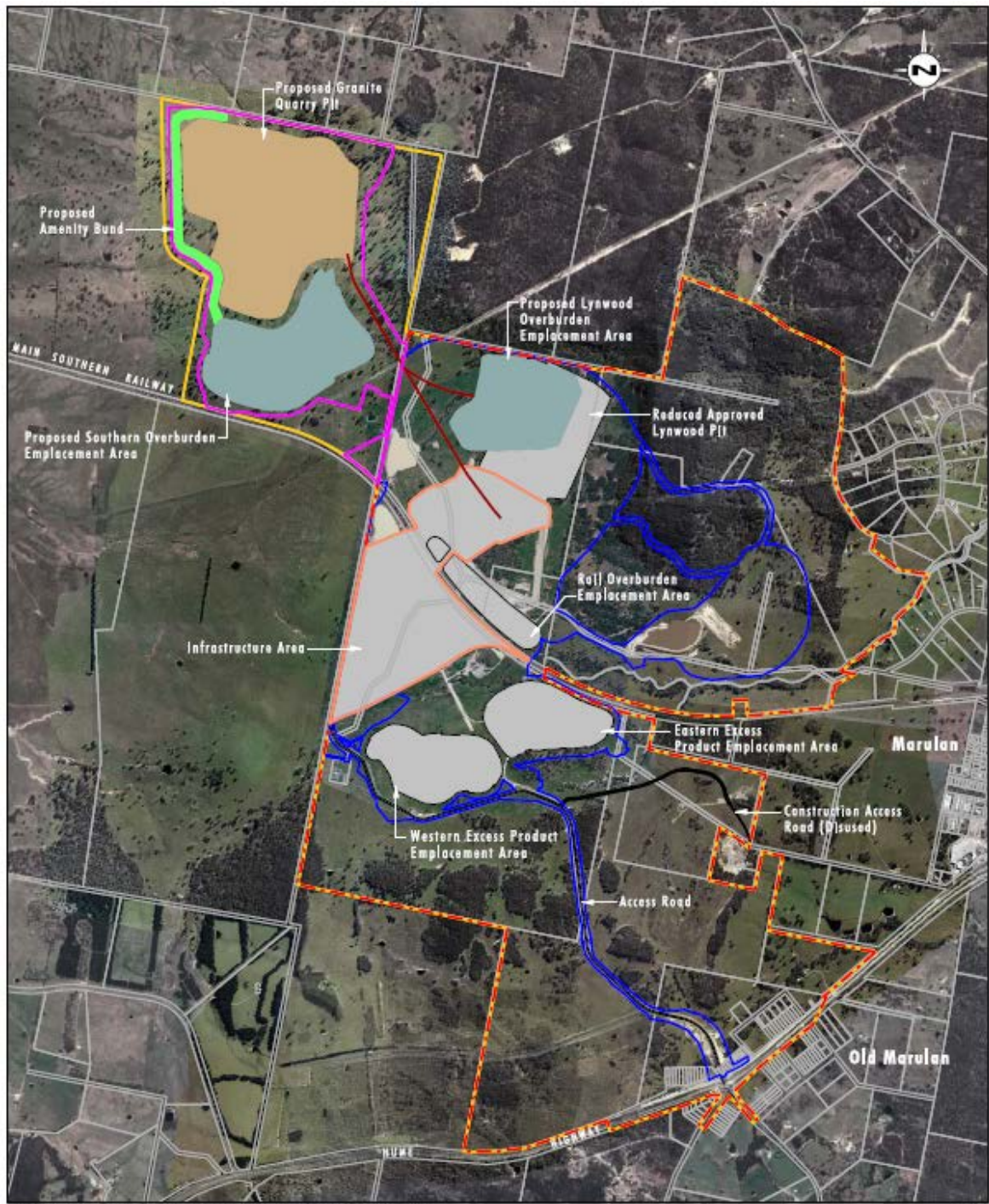
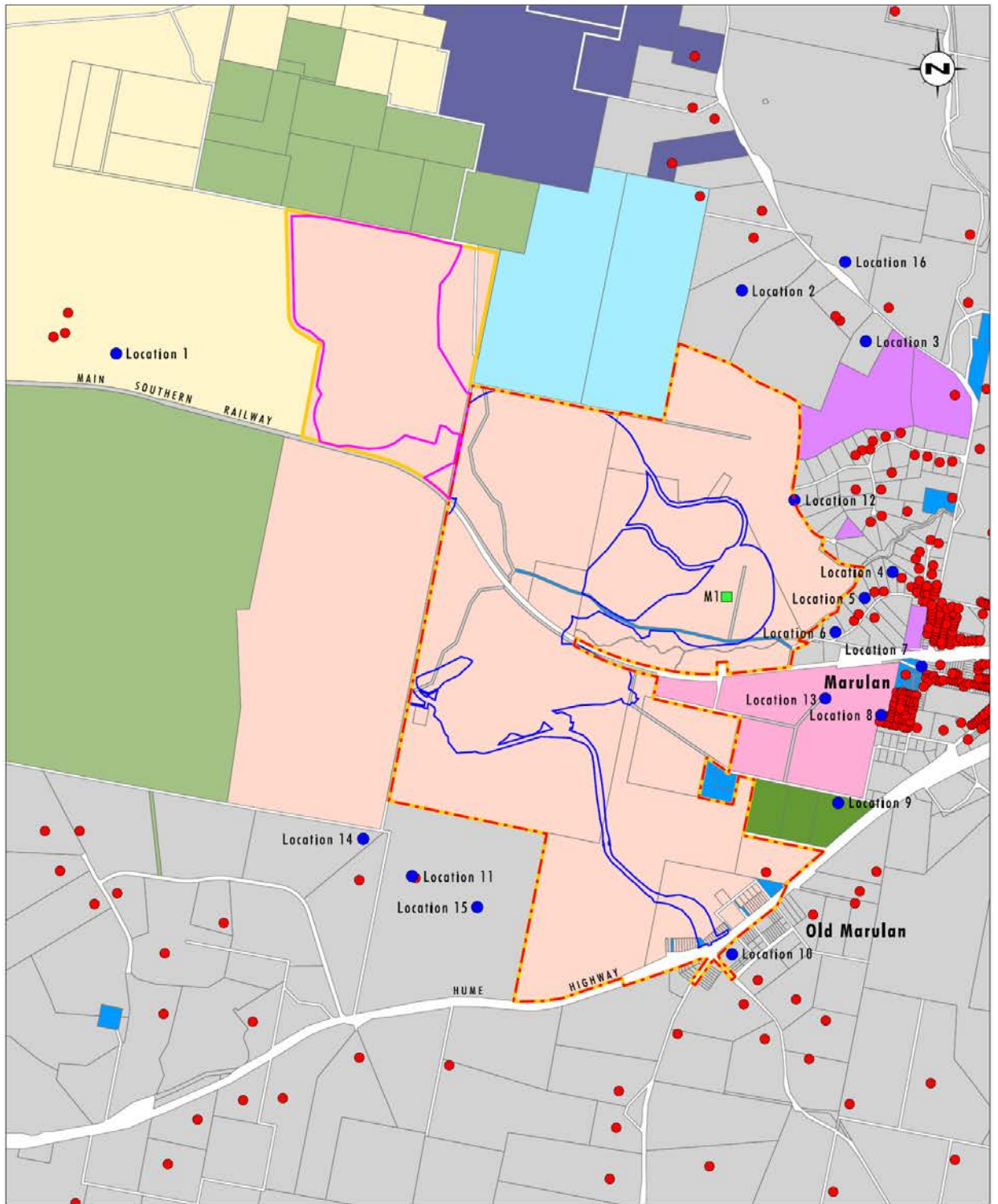


Image Source: Google Earth (2012), Helcim (2012, 2014)  
 Data Source: LPI (2014), Helcim Australia (2015)  
 Note: Generally in accordance with Lynwood Quarry Extraction Area Modification Environmental Assessment, November 2015

- |   |   |
|---|---|
| <p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="border: 1px dashed red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Approved Project Area</li> <li><span style="border: 1px solid yellow; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Modification Project Area</li> <li><span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Approved Disturbance Footprint</li> <li><span style="border: 1px solid purple; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Proposed Granite Pit Disturbance Footprint</li> <li><span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Existing and Approved Infrastructure Area</li> <li><span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Existing and Approved Lynwood Emplacement Areas</li> </ul> | <ul style="list-style-type: none"> <li><span style="background-color: #c08040; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Proposed Conceptual Quarry Pit</li> <li><span style="background-color: #4682b4; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Proposed Conceptual Overburden Emplacement Area</li> <li><span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Proposed Conceptual Amenity Bund</li> <li><span style="border-bottom: 1px dashed red; display: inline-block; width: 15px; margin-right: 5px;"></span> Indicative Alignment of Main Haul Road</li> </ul> |
|---|---|

**FIGURE 1**  
**Conceptual Lynwood Quarry Extraction Area Modification Project Layout**

### APPENDIX 3: NOISE RECEIVER LOCATIONS



Data Source: LPI (2014), Holcim Australia (2014)

0 0.5 1.0 2.0 km  
1:40 000

#### Legend

- |  |                   |                          |
|--|-------------------|--------------------------|
| Approved Project Area                      | Oliveri           | Residence Location       |
| Modification Project Area                  | Onions Investment | Residence/Noise Receiver |
| Approved Disturbance Footprint             | Private Land      | Holcim Weather Station   |
| Proposed Granite Pit Disturbance Footprint | Gunlake           |                          |
| Crown Land                                 | Ranken Investment |                          |
| Tailored Property                          | Rowson            |                          |
| Holcim Australia                           | South Creek Dairy |                          |

File Name (A4): R12/3330\_235.dgn

FIGURE 4.4

Land Ownership, Residence Location and Background Noise Monitoring Locations

APPENDIX 4: LOCATION OF SEDIMENT DAMS

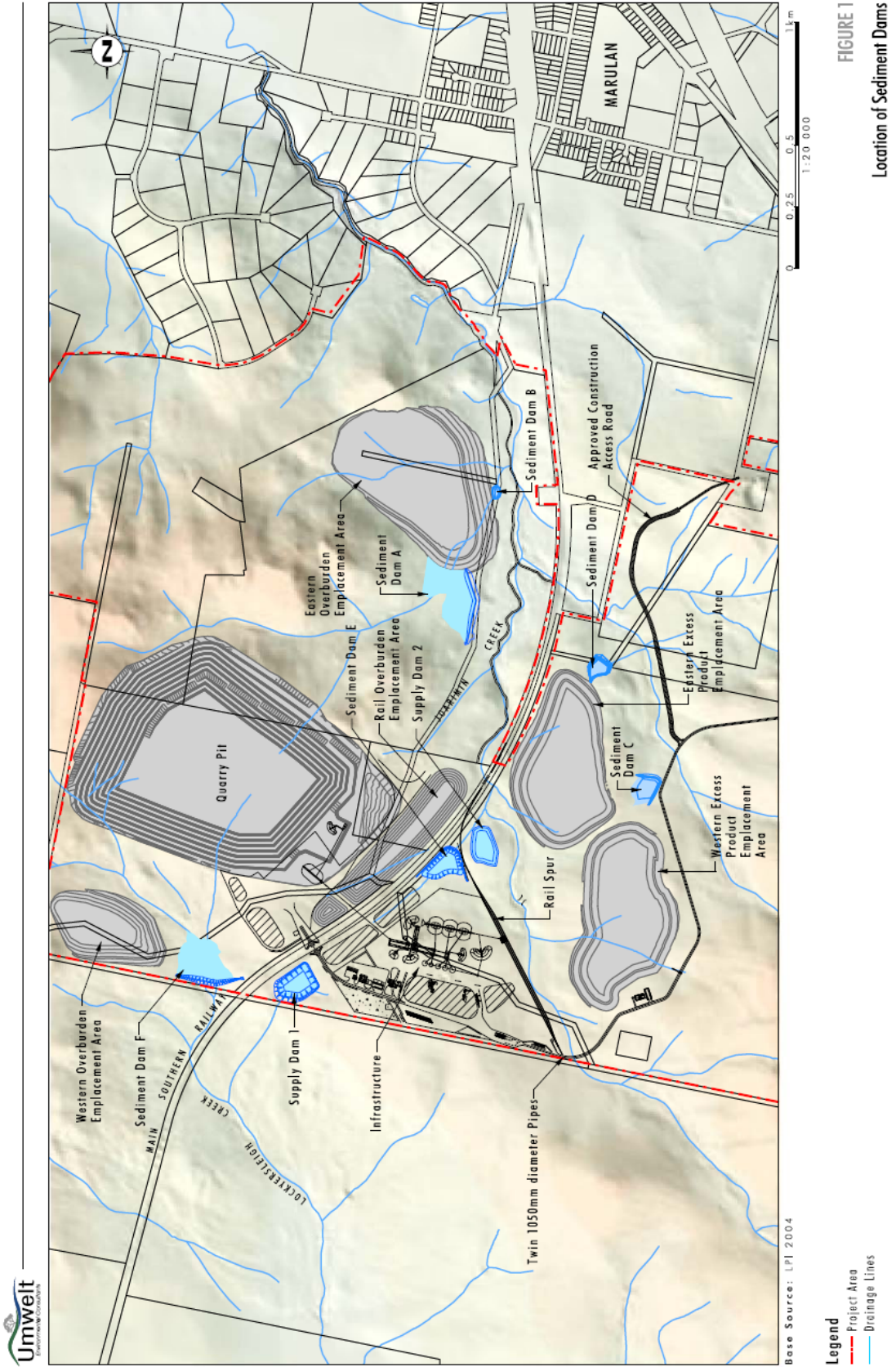


FIGURE 1  
Location of Sediment Dams

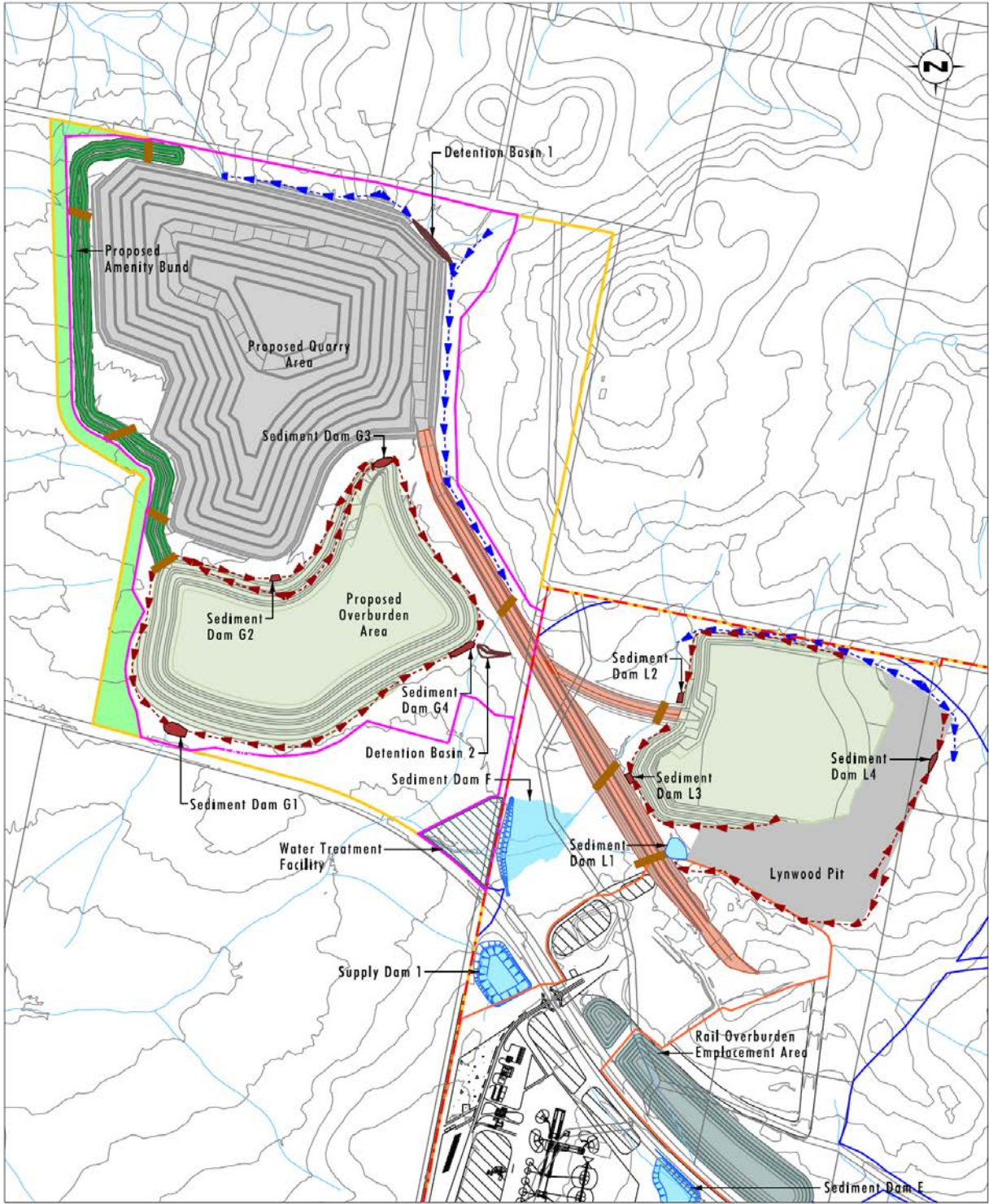


Image Source: Google Earth (2014)  
 Data Source: LPI (2009), Holcim Australia (2014)  
 Notes: 5m Contour Interval. Conceptual only and subject to detailed design.

0 250 500 750m  
 1:15 000

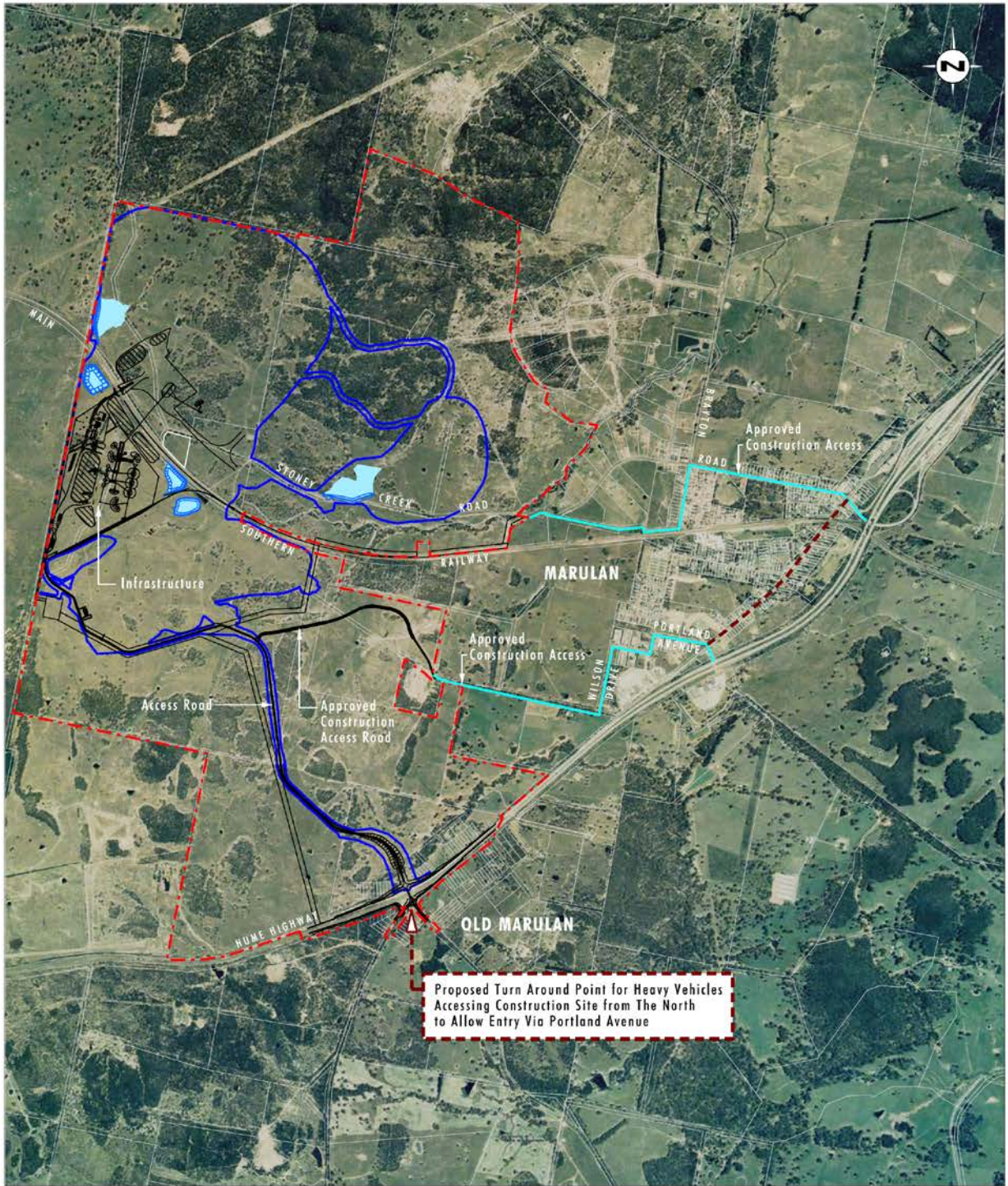
**Legend**

- |  |                                      |             |
|--|--------------------------------------|-------------|
| Approved Project Area                      | Existing Dam                         | Dirty Drain |
| Modification Project Area                  | Proposed Overburden Emplacement Area | Culvert     |
| Lynwood Infrastructure Area                | Proposed Vegetation Buffer Zone      |             |
| Approved Disturbance Footprint             | Proposed Amenity Bund                |             |
| Proposed Granite Pit Disturbance Footprint | Proposed Haul Road                   |             |
| Lynwood Infrastructure Layout              | Clean Dam                            |             |
| Quarry Pit                                 | Diversion Drain                      |             |
| Approved Emplacement Area                  | Sediment Dam                         |             |

FIGURE 6.16

Conceptual Water Management System - Stage 6

APPENDIX 5: CONSTRUCTION TRAFFIC ROUTES



Source: LPI 2004, Readymix Holdings Pty Ltd (Aerial Photo March 2005)

0 0.5 1.0 1.5km  
1:32 000

Legend

- - - Project Area
- ▬ Disturbance Footprint
- ▬ Approved Construction Access
- - - Proposed Construction Access

FIGURE 1

Construction Traffic Routes Through Marulan Township

APPENDIX 6: CULTURAL HERITAGE MANAGEMENT ZONE

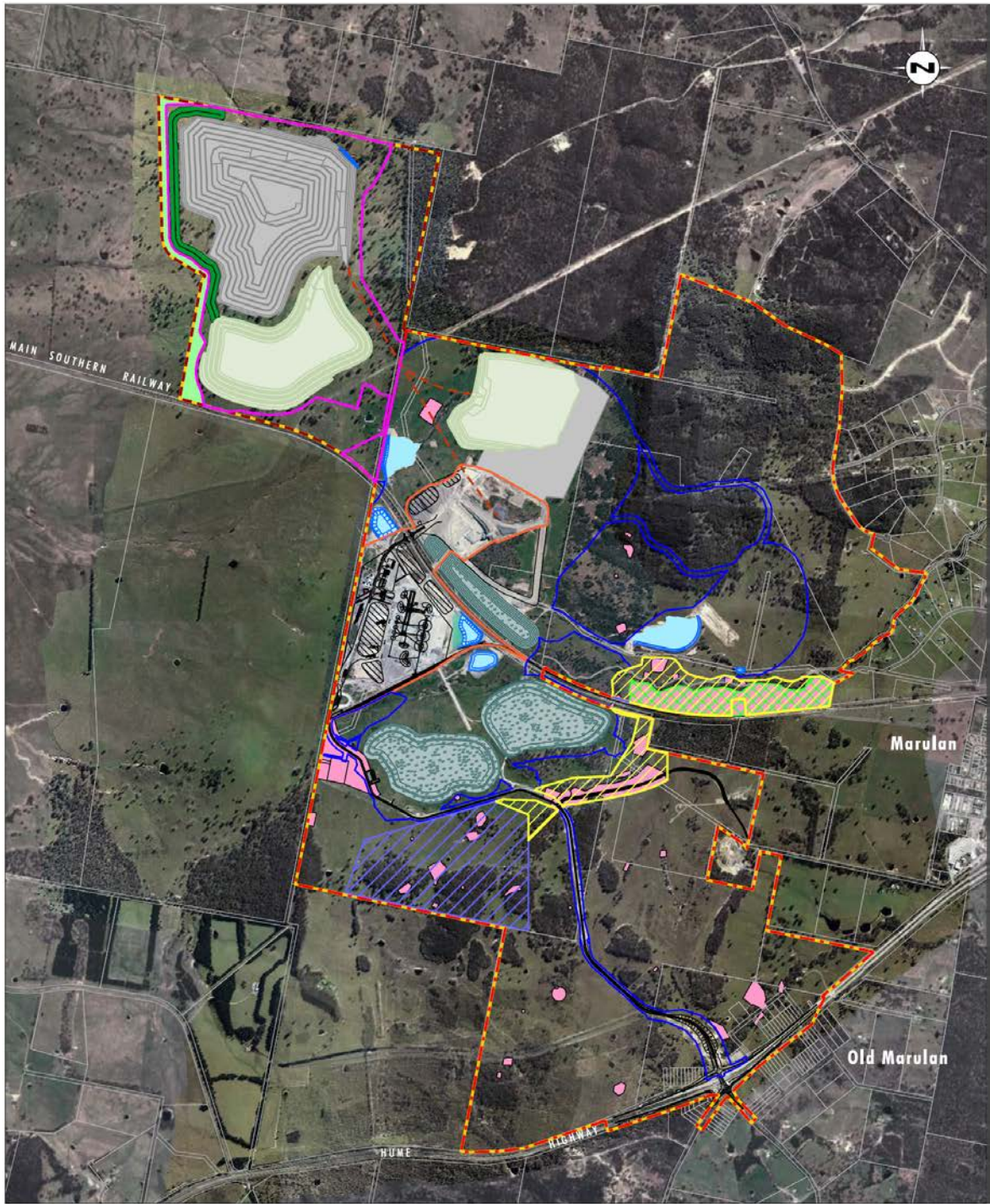


Image Source: Google Earth (2012), Holcim (2012, 2014)  
 Data Source: LPI (2014), Holcim Australia (2015)

0 0.5 1.0 1.5km  
 1:30 000

- Legend**
- Approved Project Area
  - Modification Project Area
  - Lynwood Infrastructure Facilities
  - Approved Disturbance Footprint
  - Proposed Granite Pit Disturbance Footprint
  - Lynwood Infrastructure Layout
  - Quarry Pit
  - Dam
  - Proposed Overburden Emplacement Area
  - Proposed Vegetation Buffer Zone
  - Proposed Amenity Bund
  - Proposed Haul Road
  - Cultural Heritage Management Zone
  - Cultural Heritage Management Zone Extension
  - Jaarimin Creek South
  - Areas Identified as PAD
  - Emplacement Area

FIGURE 6.47  
 Proposed Extended Cultural Heritage Management Zone and Areas Recorded as PAD within the Approved Project Area

## APPENDIX 7: DETAILED HERITAGE CONDITIONS

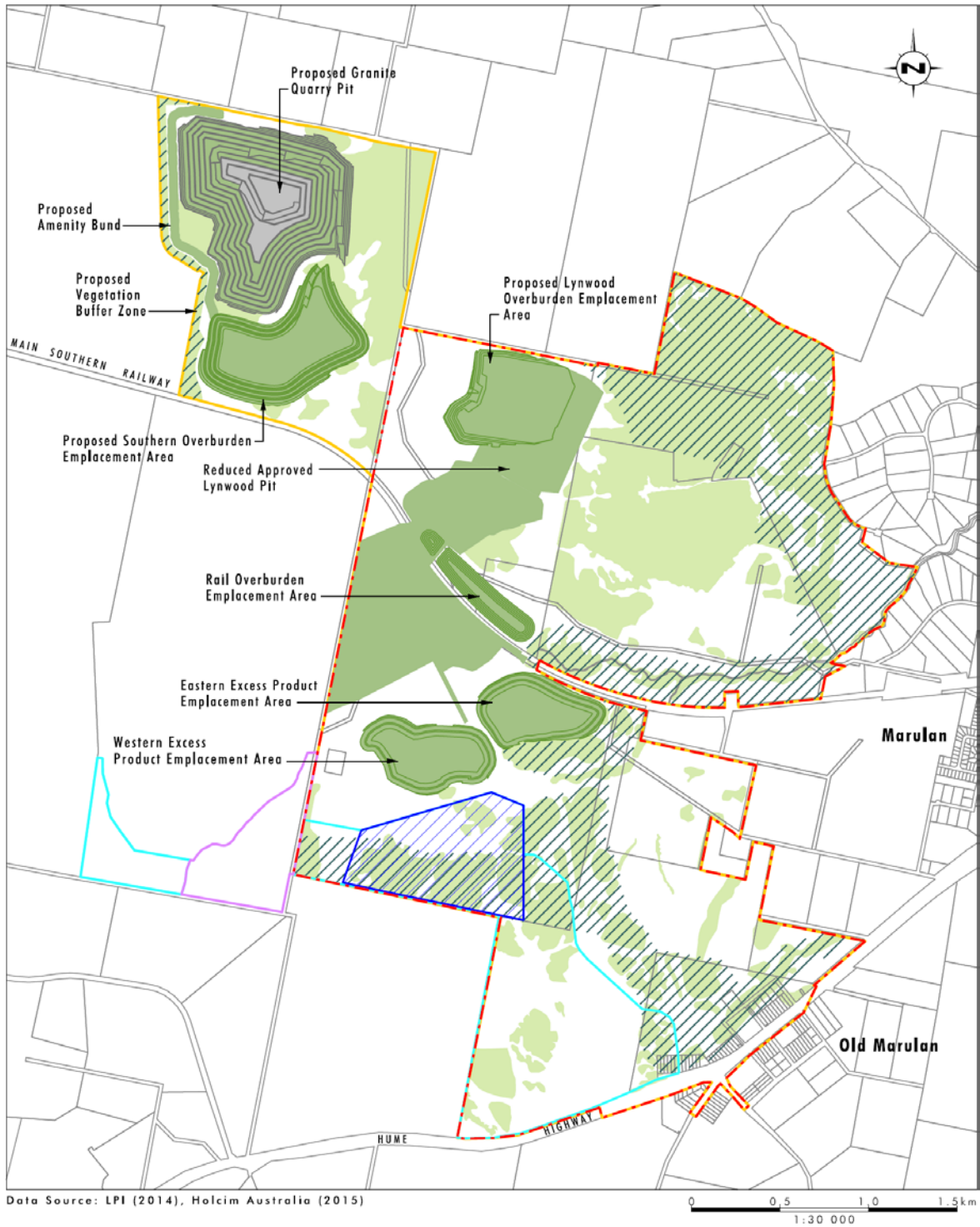
These conditions apply to the portion of the State Heritage Register Area within the site that is impacted by the development.

1. The NSW Heritage Office must be informed in writing of the start of the archaeological investigation at least five (5) days prior to the commencement of, and within five (5) days of the completion of on-site archaeological work.
2. The Heritage Council and staff of the NSW Heritage Office authorised under section 148(1) of the 'Heritage Act, 1977' reserve the right to inspect the site and records at all times, as well as access any relics recovered from the site.
3. **The Applicant must** ensure that all personnel involved in excavation works attend a comprehensive briefing on the requirements of the 'Heritage Act, 1977' in relation to archaeological relics and the proposed archaeological programme. The briefing is to be presented by the Excavation Director nominated in the section 60 application and is to be undertaken prior to the commencement of on-site works. A copy of this approval and conditions of consent should be made available to all archaeological on-site staff.
4. **The Applicant must** ensure that if substantial intact archaeological deposits and/or State significant relics not identified in *Environmental Impact Statement, Readymix Holding Pty Ltd Proposed Lynwood Quarry, Marulan*, prepared by Umwelt Environmental Consultants, are discovered, work must cease in the affected area(s) and the Heritage Council of NSW must be notified. Additional assessment and approval may be required prior to works continuing in the affected area(s) based on the nature of the discovery.
5. The Heritage Council of NSW must approve any substantial deviations from the approved research design outlined in *Environmental Impact Statement, Readymix Holding Pty Ltd Proposed Lynwood Quarry, Marulan*, prepared by Umwelt Environmental Consultants, including extent and techniques of excavations, as an application for the variation of an approval under section 65A or a new application under section 60 of the 'Heritage Act, 1977'.
6. **The Applicant must** ensure that the nominated Excavation Director is present at the site supervising all archaeological fieldwork activity likely to expose significant relics 100% of the duration of the archaeological activity. Should this not be possible, then **the Applicant must** forward for the approval of the Heritage Council or Director of the NSW Heritage Office the details of a Site Director in charge for this period.
7. At all times during periods of archaeological excavation **the Applicant must** comply with any directions of the nominated Excavation Director in relation to works likely to impact on this resource. Where major issues arise the Excavation Director must consult with the Director of the heritage Office prior to issuing directions.
8. Given the exceptional significance of the archaeological remains of the Old Marulan Township, **the Applicant must** ensure that the nominated Excavation Director, and archaeological excavation team, are given priority when allocating resources to allow thorough archaeological excavation and full and detailed recording to be undertaken to the satisfaction of the Heritage Council. Where necessary, work schedules shall be adjusted to accommodate the approved archaeological works.
9. Throughout the archaeological excavation works and post-excavation analysis, **the Applicant must** ensure that:
  - (a) Appropriate signage to explain the history of the site and the archaeological excavation works is placed at the site during the work,
  - (b) A local public information program is implemented including press releases to ensure the public is informed about the project and its outcomes,
  - (c) Community participation in the archaeological works on the site is allowed for through the inclusion of volunteers on the archaeological team under the supervision of the Excavation Director,
  - (d) A website addressing the archaeological works on the site must be created. This website must feature a history of the site, archaeological methodology, updated information on the archaeological works, photographs of the site and significant archaeological remains uncovered, links to the archaeological reports and links to other relevant sites. Public feedback must also be allowed for in this section of the website. Updated information on the Open Day to be held during archaeological works at Old Marulan Township and an on-line booking service must also be included,
  - (e) The progress on the archaeological works on site is systematically video recorded,
  - (f) The services of a conservator must be utilised for conservation of significant artefacts,
  - (g) The Heritage Office is notified weekly, in writing, of the progress of work during excavation and monthly during post excavation analysis,

- (h) All affected areas of the site are signed off by the Heritage Office prior to commencement of bulk excavation in those identified locations, and
  - (i) At the completion of the archaeological works on site the results of the archaeological programme are interpreted as part of an interpretation programme for the Old Marulan Township precinct.
10. It is essential that the Applicant and nominated Excavation Director allow for and present opportunities for interpretation, public education and public access to the results of the archaeological investigation during and upon completion of the works programme. A number of Public Open Days (to be determined based on public demand) must be conducted at the site. These Public Open Days must be scheduled to take place during a weekend to facilitate public attendance and must be advertised at least one week ahead to facilitate greater public awareness of the opportunity. Visits need to be pre-booked to better organise the groups and on-site activities. **The Applicant must** ensure that local historical societies and other relevant cultural organisations are formally notified and invited to the Public Open Days.
  11. An interpretation programme for the entire Old Marulan Township heritage precinct incorporating the results of the archaeological excavation must be implemented. This interpretation should help the public understand the history and significance of the site. Final design details of the interpretation plan, including information on the display and housing of artefacts and other relevant materials, and interpretation of the structural remains, is to be submitted to the Director of the Heritage Office for written approval before implementation of the interpretation.
  12. **The Applicant must** ensure that an archaeological publication for the general public of Old Marulan Township incorporating the results of the archaeological programme at the site is prepared. Final design details of this publication are to be submitted to the Director of the NSW Heritage Office for approval within six months of the completion of the excavation programme. The publication is to be completed within one (1) year of the conclusion of the project unless an extension of time is approved by the Heritage Council of NSW.
  13. **The Applicant must** ensure that the nominated Excavation Director takes adequate steps to record in detail relics, structures and features discovered on the site during the archaeological works in accordance with current best practice. This work must be undertaken in accordance with the NSW Heritage Office guidelines, 'How to Prepare Archival Records of Heritage Items' (1998) and 'Guidelines for Photographic Recording of Heritage Items' (2004). One (1) copy of the photographic and archival recording shall be submitted to the Heritage Council of NSW. A further copy shall be lodged with the local library and/or another appropriate local repository in the area in which the site is located
  14. The Applicant is responsible for the safe-keeping of all relics recovered from the site..
  15. **The Applicant must** ensure that the site under archaeological investigation is made secure and that the unexcavated artefacts, structures and features are not subject to deterioration, damage or destruction during and after fieldwork.
  16. **The Applicant must** ensure that the nominated Excavation Director cleans, stabilises, labels, analyses, catalogues and stores any artefacts recovered from the site in a way that allows them to be retrieved according to both type and provenance.
  17. **The Applicant must** ensure that a summary of the results of the field work, up to 500 words in length, is submitted to the Heritage Council of NSW for approval within one (1) month of completion of archaeological field work. This information is required in accordance with section 146(b) of the 'Heritage Act, 1977'.
  18. **The Applicant must** ensure that a final excavation report is prepared by the nominated Excavation Director, to publication standard, within one (1) year of the completion of the field based archaeological activity unless an extension of time or other variation is approved by the Heritage Council of NSW.
  19. **The Applicant must** ensure that one (1) electronic copy of the final excavation report is submitted on CD to the Heritage Council of NSW together with two (2) printed copies of the final excavation report. These reports are required in accordance with section 146(b) of the 'Heritage Act, 1977'. **The Applicant must** also ensure that further copies are lodged with the local library and/or another appropriate local repository in the area in which the site is located.
  20. **The Applicant must** ensure that the information presented in a final excavation report includes the following:
    - (a) An executive summary,
    - (b) Due credit to the client paying for the excavation on the title page,
    - (c) An accurate site location and site plan,
    - (d) Historical research, references, and bibliography,

- (e) Detailed information on the excavation including the aim, the context for the excavation, procedures, treatment of artefacts (cleaning, conserving, sorting, cataloguing, labelling, scale photographs and/or drawings, location of repository) and analysis of the information retrieved,
- (f) Detailed response to research questions,
- (g) Nominated repository for the items,
- (h) Conclusions from the archaeological programme. This information must include a reassessment of the site's heritage significance, statement(s) on how archaeological investigations at this site have contributed to the community's understanding of the site and recommendations for the future management of the site, and
- (i) Details of how this information about this excavation has been publicly disseminated.

## APPENDIX 8: CONCEPTUAL REHABILITATION PLAN

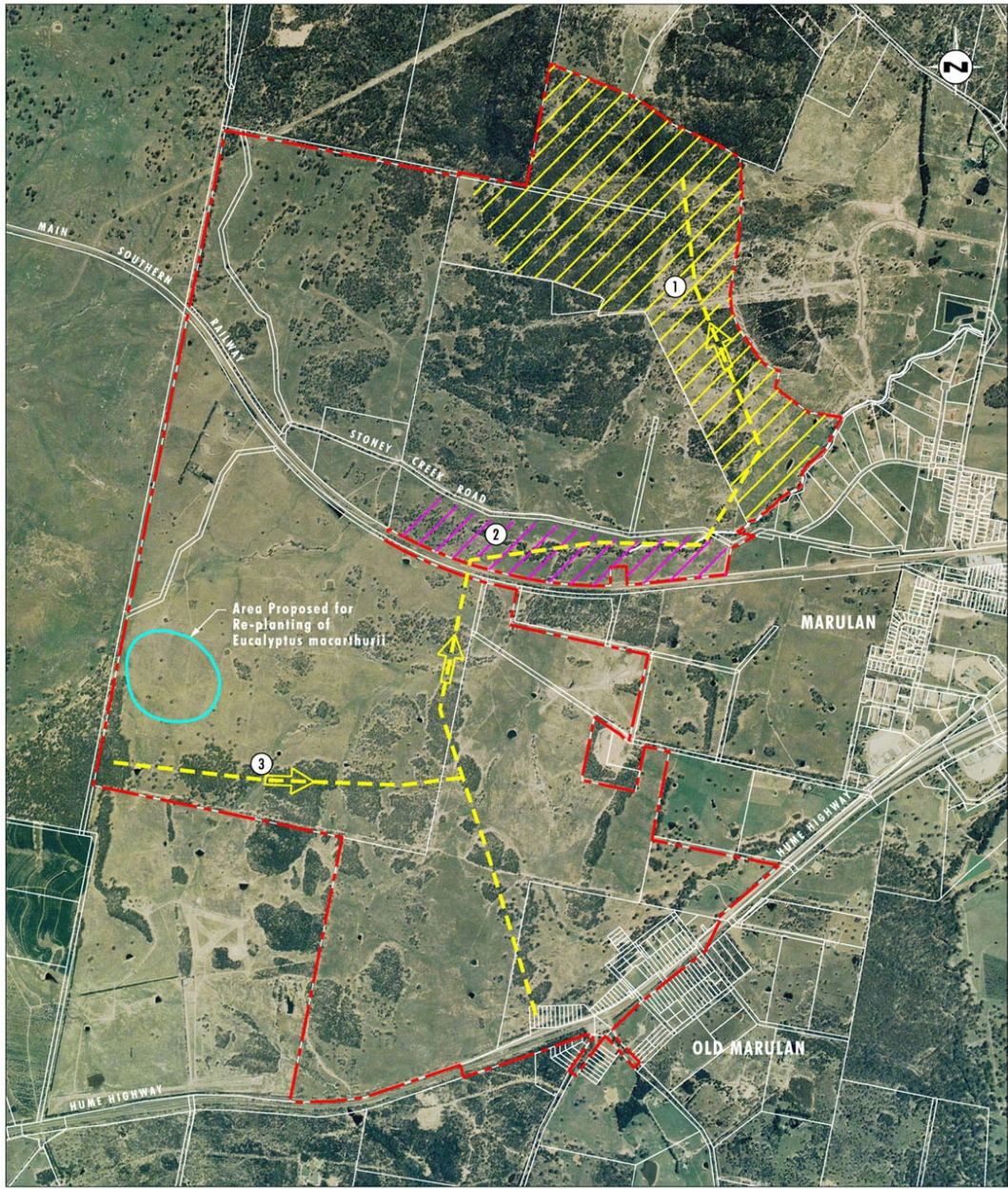


### Legend

- |  |  |
|--|--|
| <span style="border: 1px dashed red; padding: 2px;"> </span> Approved Project Area   | <span style="border: 1px solid blue; padding: 2px;"> </span> Cultural Heritage Management Zone |
| <span style="border: 1px solid orange; padding: 2px;"> </span> Modification Project Area   | <span style="border: 1px solid cyan; padding: 2px;"> </span> Biodiversity Offset Area          |
| <span style="background-color: #90EE90; padding: 2px;"> </span> Existing Vegetation  | <span style="border: 1px solid magenta; padding: 2px;"> </span> Habitat Management Area        |
| <span style="background-color: #66CDAA; padding: 2px;"> </span> Rehabilitated Area   |  |
| <span style="border: 1px solid grey; padding: 2px;"> </span> Rehabilitated Quarry Batter   |  |
| <span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); padding: 2px;"> </span> Assisted Natural Regeneration |  |

FIGURE 6.52  
Conceptual Final Rehabilitation

## APPENDIX 9: HABITAT MANAGEMENT AREAS



Base Source: LPI 2004, Readymix Holdings Pty Ltd (Aerial Photo March 2005)

0 0.5 1 1.25km

### Legend

- - - Project Area
- ▨ Proposed Habitat Management Area
- - - Vegetation Corridor
- ▨ Riparian Zone Rehabilitation
- ① Proposed Monitoring Areas

FIGURE 5.1

Areas Proposed for Biodiversity Management and Monitoring

File Name (A4): R01\_V1/1829\_132.dgn

## APPENDIX 10: NOISE COMPLIANCE ASSESSMENT

### Applicable Meteorological Conditions

1. The noise criteria in Table 1 apply under all meteorological conditions except the following:
  - (a) monitoring locations for the collection of representative noise data;
  - (b) wind speeds greater than 3 metres/second at 10 metres above ground level; or
  - (c) stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
  - (d) stability category G temperature inversion conditions.

### Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 15A of Schedule 3.

### Compliance Monitoring

3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.
4. Unless otherwise directed by the Secretary, attended quarterly monitoring is to be used to evaluate compliance with the relevant conditions of this consent.

*Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.*

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

## APPENDIX 11: STATEMENT OF COMMITMENTS

(Final May 2016)

The Environmental Assessment for Modification Application DA 128-5-2005 MOD 4 (EA (MOD 4)) in its entirety is the guiding document which provides context to the following commitments made by in relation to the Lynwood Extraction Area Modification Project. The EA (MOD 4) is to be used as the reference for interpreting how Holcim Australia will operate to implement these commitments.

### Modification Project Management and Mitigation Measures

#### Management Plans

The approved Lynwood Quarry Environmental Management Strategy and environmental management plans will be revised and updated as part of the implementation of the Modification Project.

#### Noise

The design of the Modification Project incorporates the measures proposed in the 2004 Noise Impact Assessment (Heggies Australia, 2004) and 2010 modification (Umwelt, 2009a), where they are still applicable noting the proposed changes to Lynwood Quarry.

In addition to the noise management measures (outlined in Appendix 4 of the EA (MOD 4)), the following measures are proposed to be incorporated into the routine operation of the quarry over the life of the Modification Project to further minimise noise impacts:

- The use of broad band reversing alarms instead of beeper style alarms on all mobile equipment.
- The management of mobile machines during adverse weather conditions when wind conditions or inversion conditions enhance the noise propagation towards sensitive receiver locations. This could include, but not be limited to:
  - ensuring the sales loader operates behind the product stockpile during adverse weather conditions in the evening and night time period; and/or
  - moving quarrying activities to locations deeper in the quarry pit during adverse weather conditions and ceasing operations in exposed areas (e.g. on the face of the overburden emplacement areas).
- Regular inspection and maintenance of noise attenuation systems on quarry equipment.
- Implementation of a process for periodic review of noise performance of equipment.

#### Blasting

Holcim Australia has an existing blast management and monitoring system in place at Lynwood Quarry which will be implemented for the Modification Project including:

- design of each blast to meet the required criteria and considering the particular needs, location, geological conditions of each blast. Appropriate blast initiation sequences will be used to minimise impacts with blast MIC limited as required to meet vibration and overpressure criteria
- a pre-blast review of environmental conditions (including weather conditions) to avoid blasting in conditions which may significantly increase blasting impacts or dust impacts
- blasts are typically undertaken between 10 am and 3 pm noting that blasting is permitted to be undertaken between 9 am and 5 pm Monday to Saturday
- a blast monitoring system is in place at Lynwood Quarry with the results of monitoring used to assess compliance and feedback into the site blast model to provide for ongoing refinement of blast design. The blast monitoring program will be updated as part of the implementation of the Modification Project
- a blast notification process in accordance with Condition 10 of Schedule 3 of the development consent which requires Holcim Australia to notify residents of upcoming blasts, operate a blasting hotline and keep the community informed about this hotline.

Holcim Australia will, subject to agreement of the landowner, commission a structural assessment of Lockyersleigh Homestead and the associated heritage structures to confirm the suitability of blast limits for these structures.

#### Air quality

Holcim Australia will continue to implement the existing air quality management and monitoring system in place at Lynwood Quarry which includes both engineering and operations controls measures as outlined in Section 6.5.5 of the EA (MOD 4).

The existing air quality monitoring program will be revised as operations commence in the Granite Pit with monitoring locations revised as indicated in Figure 2.5 of the Response to Submissions report. This

monitoring program may be revised over the life of the Project with any changes outlined in the Air Quality Management Plan.

## **Biodiversity**

Holcim Australia will implement the following biodiversity controls:

- a robust tree felling procedure as outlined in Appendix 7 of the EA (MOD 4) will be implemented to minimise the potential for impacts on native fauna species (focusing on threatened species) as a result of the clearing of hollow-bearing trees
- nest boxes will be established in retained vegetation in proximity to the proposed disturbance footprint to mitigate the loss of hollow-bearing trees
- targeted weed management measures including regular weed inspections and weed control and eradication techniques such as herbicides, physical removal and prompt revegetation of bare areas will be implemented in the Modification Project Area
- targeted feral animal management measures will be implemented in accordance with Holcim Australia's existing Landscape Management Plan
- traffic control measures/speed limits/signage will be implemented on haul roads to minimise fauna injury/road kills, as much as possible.

Holcim Australia will deliver a Biodiversity Offset Strategy for the Modification Project in accordance with the NSW Biodiversity Offsets Policy for Major Projects.

## **Surface Water**

Holcim Australia will update the Lynwood Quarry Water Management Plan. This will include an update to the Lockyersleigh Creek Riparian Area Management Plan.

Key surface water management controls for the Modification Project will include:

- Erosion and sediment controls will set out and monitored during construction and operation in accordance with the Blue Book (Landcom, 2004 and DECC, 2008).
- Monitoring of water imported to site, water used on site and water discharged following the guidelines for *Water Reporting Requirements for Mines* (NSW Office of Water, undated), where applicable.
- The existing surface water monitoring program will be updated to include four additional sites as shown in Figure 2.2 of the Response to Submissions report. The final details of the proposed surface water monitoring program will be contained within the updated Water Management Plan.
- The water quality parameters and frequency of sampling will remain as for the existing approved operations. Flow monitoring will continue to be undertaken by visual observation of the flows during water quality sampling (flow, no-flow).

## **Groundwater**

Holcim Australia will extend the current groundwater monitoring program, which includes both groundwater level and quality, to include the new monitoring piezometers that were constructed for the Granite Pit during the exploration drilling phase. Details of these locations are provided in Appendix 9 of the EA (MOD 4). These bores will be monitored until they are progressively removed by the progression of the Granite Pit or as otherwise refined via the Water Management Plan.

## **Social Impact and Opportunities**

Holcim Australia will implement the following measures in relation to mitigating social impacts and maximising opportunities:

### Visual

- Ongoing liaison with interested members of the Towrang community with regard to lighting and other visual impacts as appropriate.
- Ongoing discussion with key residents in Marulan and surrounds.
- Implementation of the visual management measures outlined later in this section.

### Land Management

- Where appropriate, consult with neighbouring landholders when undertaking pest and weed management activities.

### Population Change (infrastructure and services)

- Continue implementation of the community fund.

### Land Use and Industry Diversity

- Consider potential benefits to the local tourist industry when determining community contributions, in consultation with relevant community and business stakeholders as relevant throughout the life of operations.

#### Trust and Reputation

- Existing engagement to continue as appropriate, with a focus on respectful, honest and open communications.
- Continue to communicate regularly with nearby and interested stakeholders regarding:
  - ongoing operations on site
  - residents' experience of impacts such as dust, noise, blasting, traffic, heritage and impacts to water
  - visual impacts, particularly with interested members of the Towrang community
- Holcim Australia will periodically review the operation and membership of the CCC, in line with the 2007 *Guidelines for establishing and operating Community Consultative Committees for Mining Projects*, to ensure that membership is appropriate for the issues discussed and that matters discussed and minutes are distributed (for example via email) to all interested community stakeholders more widely
- Utilise additional communication channels such as local newsletter, updates and local blogs.

#### Monitoring

- Undertake social monitoring as outlined in Table 6.14 of the EA (MOD 4).

#### **Visual Amenity**

The following measures will be implemented as part of the Modification Project to minimise visual impacts:

- Amenity Bund – an approximately 12 metre high amenity bund (and 14 metres in spot locations, as required) will be constructed along the western boundary of the Granite Pit Area. This bund will be constructed as part of the initial establishment phases of the Granite Pit so that it is in place for the life of the quarry operations. The outer face of the bund will be revegetated (through direct seeding or tube stock) as quickly as possible so that trees, over time, will contribute to the overall visual screening of the quarry operations.
- Lighting – there will be no fixed lighting in the Granite Pit Area.
- Lighting – quarry operations on the surface including topsoil stripping, overburden extraction and overburden emplacement will be daytime operations only (consistent with current development consent conditions) and therefore do not have any potential to result in lighting impacts.
- Lighting – quarrying within the Granite Pit will occur in the evening period (up to 10 pm, consistent with current development consent conditions) but will be managed so that extraction activities are undertaken in areas that are not visible from the potential viewing locations to the west (i.e. on lower benches or on the western face of the quarry), with mobile lighting plant kept low and pointing down, facing away from western residences and kept to the minimum needed for operational safety.
- Lighting – a bund will be constructed along the western and southern faces of the haul road from the Granite Pit to the infrastructure area. The purpose of this bund will be to seek to screen the headlights of vehicles operating on the haul during the evening period (6pm to 10pm). The bunding will be approximately 5 metres high.
- Overburden emplacement – Holcim Australia will seek to construct the outer edges of the overburden emplacement areas first, creating an approximate 5-10 metre high bund behind which overburden emplacement activities will continue. This will provide visual screening of ongoing emplacement activities and allow timely rehabilitation of the outer face of the emplacement area to minimise visual impacts (noting that once rehabilitated the emplacement areas will start to blend into the existing environment and not be as visually prominent).
- Overburden emplacement – emplacement areas will be rehabilitated as soon as practicable after final shaping, with progressive rehabilitation to be undertaken over the life of the quarry so that the externally visible disturbed area is kept as small as practicable. Revegetation will be undertaken as discussed in Section 6.15 of the EA (MOD 4) to result in mixed grassland and woodland vegetation that will be similar in visual character to the surrounding natural landscape.
- Overburden emplacement - the surface of the Southern Overburden Emplacement Area and the Lynwood Overburden Emplacement area will be shaped to have swales, small drainage hollows and a locally irregular landform to resemble, where practicable, the natural surrounding landform.
- Quarry operations – the upper western facing benches of the Granite Pit (which are in overburden material) will be shaped and rehabilitated progressively as the quarry progresses. These areas will be visible from a small number of elevated properties in Towrang and so will be rehabilitated as soon as practicable to reduce visibility.
- Maintenance – Holcim Australia will maintain the amenity bund and its vegetative cover so that it remains effective for the duration of the quarry operations.

Note: as discussed in the EA, the priority for emplacement of overburden will be 1 - construction of haul roads to allow quarrying, 2 - construction of the visual bund, 3 - construction of the outer faces of the overburden emplacement areas.

## Aboriginal Cultural Heritage

Holcim Australia will update the Aboriginal Cultural Heritage Management Plan (ACHMP) for Lynwood Quarry. Holcim Australia will implement the Aboriginal Cultural Heritage management actions detailed in Section 6.9.9 of the EA (MOD 4).

## Historic Heritage

The historic heritage management measures to be implemented for the Modification Project are as follows:

- Blasting is to be designed so that vibration does not exceed 5 mm/s at the Lockyersleigh Homestead and outbuildings with blasts monitored to confirm compliance.
- Subject to agreement of the landowner, an inspection will be undertaken to confirm the structural integrity of Lockyersleigh Homestead and associated outbuildings to confirm that a maximum ground vibration limit with a peak particle velocity of 5 mm/s is appropriate.
- In the unlikely event that unexpected archaeological remains or potential heritage items not identified as part of this report are discovered during the Modification Project, all works in the immediate area will cease. The remains and potential impacts will be assessed by a qualified archaeologist or heritage consultant and, if necessary, the Heritage Branch, OEH notified in accordance with Section 146 of the *Heritage Act 1977*.
- If potential human remains are located following any surface disturbance, all works will halt in the immediate area to prevent any further impacts to the remains. The NSW Police will be contacted immediately.

## Gas Pipeline Hazards

The key technical control measures to be implemented as part of the Modification Project include:

- pipelines will be designed in accordance with relevant standards
- geotechnical assessment will be undertaken to determine soil stability at pipeline crossing location prior to construction activities
- civil design of the haul road/pipeline crossing will be undertaken so that the installed road meets load bearing capacity requirements and relevant standards
- use of appropriate equipment to minimise the impact on the pipes in the event of contact
- use of process and design controls including limited excavation depths, buffer distances and designated crossings to limit potential for contact with or overstress of the pipes during haul road construction.

The key non-technical safeguards and procedures to be implemented as part of the Modification Project for works in the vicinity of the gas pipeline will include:

- assessment of process designs, site layout and design changes
- procedural control including APA Group's Daily Permit System, site inductions and other procedures
- operating procedures, including awareness and training
- cessation of operations in adverse weather conditions and where practical covering of exposed pipelines
- implementation of site speed limit, driver training, route selection and physical barriers where appropriate
- provision of physical controls including fencing of site during construction
- limiting access to authorised personnel only and implementation of security patrol if necessary
- appropriate training and supervision of operations
- provision of ongoing maintenance and operation procedures.

## Greenhouse Gas and Energy

As part of the Modification Project Holcim Australia will review opportunities for reducing energy consumption on an ongoing basis during the detailed design process and once the operation has commenced including:

- setting energy use and greenhouse emission reduction targets
- using energy monitoring and auditing as a management tool
- providing training on energy management to site personnel
- monitoring the fuel efficiency of diesel equipment
- considering the energy efficiency of new equipment when making purchasing decisions
- using high efficiency electric motors.

## Rehabilitation

The key elements of the rehabilitation strategy for the Modification Project will include:

- the timely and progressive rehabilitation of disturbed areas
- the surface of the Southern Overburden Emplacement Area and the Lynwood Overburden Emplacement area will be shaped to have swales, small drainage hollows and a generally irregular landform to resemble the natural surrounding landform
- stripped topsoil will be placed in stockpiles in depths of up to approximately three metres and will be seeded with a cover crop if they are to remain in place for longer than approximately six months
- shaped areas will be covered with topsoil where practicable

- areas where topsoil has been replaced will be seeded with a native species and cover crop mix with intent of achieving mixed grassland and woodland native vegetation communities
- selected surface habitat features consisting of large rocks, logs and trees from clearing undertaken in the Modification Project Area will also be placed across the rehabilitated area, where practicable
- upon closure of the quarry, unless an alternative use of the quarry infrastructure is identified, the infrastructure will be removed and the areas containing the surface infrastructure will be recontoured. The reshaped areas will then be seeded with a native species and cover crop mix with the intent of achieving mixed grassland and woodland native vegetation communities
- upon closure of the quarry, the haul roads would also be removed and water management controls either removed or modified to assist in stabilisation of the final landform and to capture any sediment runoff from the rehabilitated areas.

## Towrang Working Group Objectives and Commitments

As part of the stakeholder engagement program for the Modification Project, a working group was formed between members of the Towrang community and Holcim Australia. An outcome of this working group is a set of objectives and commitments proposed to mitigate the impacts to the Towrang Valley and its surrounds (Towrang NSW 2580). The objectives and commitments have been agreed between the Towrang community representatives and Holcim Australia.

These objectives and associated commitments apply to the operations in the Granite Pit Area only and are not intended to be applied to the Approved Operations with the exception of the *Off Site Lighting Impacts Objective* and associated commitments.

The *Off Site Lighting Impact Objective* has been made with the intent of minimising or preventing off site lighting impacts generated at the administration buildings, administration car park area, car park entry road, weighbridge, refueling areas and conveyor lights which exist below the height of the lighting screens. The associated commitments have been drafted to reflect the intention of the Off Site Lighting Impact Objective.

The outcomes of the Towrang working group process, including the commitments that will be implemented as part of the Modification Project are provided below. Holcim recognise that while the commitments were made to address the concerns of the Towrang community they will also provide benefits to communities to the east and south of the quarry.

The outcomes of the Towrang working group process, including the commitments that will be implemented as part of the Modification Project are provided below.

*Holcim Australia Pty Ltd (Holcim) operates the Lynwood Quarry. Holcim is proposing to modify the Lynwood development consent through Modification 4 and open a new granite pit on Holcim owned land. The granite pit will replace the ignimbrite material currently being extracted. The granite material is better suited to providing consistent aggregate products for the life of the quarry. Throughout the assessment process Holcim has actively engaged with the surrounding communities to present the proposed changes contained in Modification 4 and listened to community feedback and concerns.*

*In response to concerns raised by members of the Towrang community regarding aspects of the operations at the Lynwood Quarry and potential impacts from the Modification 4, Holcim has developed a set of objectives and commitments which we believe will minimise potential impacts to the Towrang community. Holcim recognise that it is up to Holcim to develop the systems to achieve the objectives*

*Holcim propose the following;*

*Proposed Granite Pit*

*Objectives*

*Holcim will do everything practicable to ensure operational elements for the proposed granite quarry pit and associated works, including haul roads, trucks, plant and machinery are fully screened from sight from all existing residences in the Towrang Valley and surrounds.*

*Holcim will do everything practicable to ensure operational elements of the proposed granite quarry pit and associated works, including haul road traffic, plant and machinery do not impact the existing residences in the Towrang Valley and surrounds as far as is practicable in relation to noise, dust and vibration.*

*It is understood that the building of the bunds, haul roads, and overburden mounds will be visible during construction and maintaining vegetation, however Holcim will undertake these activities in a way to limit the offsite visual, noise and dust impacts.*

*Holcim's Commitments*

*Holcim proposes to achieve the objectives through commitments included in our Environmental Assessment and project description lodgement to the State Government.*

*These commitments include:*

- *A 12 metre high amenity bund will be constructed adjacent to the western boundary of the proposed granite pit. A 12 metre high amenity bund connecting with the western amenity bund will be constructed adjacent the northern boundary of the proposed granite pit. The northern*

*amenity bund will extend from the western boundary and will terminate before it intersects with the tributary which flows from the northern extent of the project area toward Lockyersleigh Creek. At spot locations the bund may be extended to 14 metres in height if required.*

- *Holcim will re-vegetate the granite pit eastern overburden bench as soon as practicable.*
- *Holcim will plant suitable native species to thickly vegetate the western and northern faces of the amenity bunds to grow to a height of 2-3 metres above the bund height.*
- *Holcim will engage a suitably qualified botanist/horticulturalist to ensure appropriate plants are chosen to ensure a thick, evergreen, robust screen can be achieved.*
- *In addition to the amenity bund, where required, Holcim propose to use semi-permanent visual screens to shield the overburden removal activities. The screens will be of sufficient height to obscure vision of mobile plant undertaking top soil and overburden removal activities. The screens will be repositioned as the overburden removal activities progress through the development stages.*
- *Holcim will construct bunding along the western and southern faces of the haul road to screen vehicle movements leaving the pit and traveling to the established primary crusher. The proposed bunding will be of a height of 5 metres where required to screen vehicle movements, entering and leaving the pit and travelling to and from quarry processing facilities.*
- *Holcim will ensure that noise escaping from the granite pit operation will be minimised as far as practicable and will undertake noise attenuation measures as required, including, if necessary, the use of rubberised liners in the truck bodies.*
- *All crushing of material from the granite pit will be conducted at the existing crushing facilities. Holcim will only use machinery required to undertake extraction as per our development conditions, including drilling, blasting, loading, hauling, dust suppression, overburden removal and activities related to these operations.*
- *Overburden will only be removed during daylight hours.*

#### *Required Maintenance:*

- *Holcim will ensure that the amenity bund is properly maintained to ensure its efficacy for the duration of the quarry license.*
- *Holcim will ensure all bund vegetation is appropriately maintained, watered, fertilized and where required replaced or replanted from time to time to ensure the objective of the bund and vegetation is continually achieved.*
- *When from time to time during the quarry license period improved technical innovations emerge that would deliver an improved outcome to the above objective Holcim will promptly adopt those innovations where practicable.*
- *Trucks will be maintained to ensure noise reduction measures do not diminish over time.*

#### *Off Site Lighting Impacts*

##### *Objective*

*Holcim will do everything practicable to prevent and or minimise any off site lighting impacts from the Lynwood Quarry to all existing residences in the Towrang Valley and surrounds.*

##### *Holcim's Commitments*

- *Holcim will build a light proof fence with a minimum height of 9 metres along the full length of the western boundary of the car park access road and car park, shielding from view all road lighting and car park lighting fittings.*
- *Holcim will reduce the height of all light fittings used to illuminate the car park access road and car park to a height no greater than 8.5 metres above ground level. Holcim will cut off the surplus length of all light poles along the car park access road and in the car park just above the light fittings at 8.5 metres and ensure the light fitting cannot be moved to a greater height.*

- *All conveyor lights above the lighting screens are to be by default turned off and only illuminate when required maintenance or repair. When such maintenance or repair has been completed the conveyor lights will be turned off again.*
- *All conveyor lights above the lighting screen will be fitted with appropriate screens or light shades to reduce as far as is practicable any off site lighting impacts*
- *Holcim has committed to re-examine the Webb lighting report and to review the lights on the upper sections of the conveyor system. If additional screening is possible and practicable Holcim will modify accordingly.*
- *The list of recommendations made by Webb, presented and discussed at meeting 24 April 2015, includes a number of activities including adjusting light angles, reducing some 400w luminaires with 150w luminaires etc. Holcim will update the list of adjustments and attached to the Statement of Commitments with agreement that these light reduction modifications not be diminished or reduced, but they can be, by agreement, improved upon when the opportunity arises.*

*Maintenance:*

- *Holcim will maintain and repair when necessary the light proof fence so that for the duration of the licence period, and during any renewed licence period, the fence will achieve the stated objective.*
- *Holcim will ensure that at no time light fittings are mounted at a height greater than that of the light proof fence, with the exception of the current conveyor lights which exist above the lighting screen. Holcim have committed to installing switches controlling the upper half of the conveyor lights which exist above the lighting screens. Holcim commit to only using the lights to undertake emergency maintenance at night time as required.*
- *When from time to time during the quarry license period improved technical innovations emerge that would deliver an improved outcome to the above objective Holcim will promptly adopt those innovations where practicable.*