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Strength. Performance. Passion.

Environmental Management Strategy

Jandra Quarry

Holcim Australia Pty. Ltd.

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GLOSSARY / ABBREVIATIONS

Aboriginal object	Any item that provides evidence of the use of an area by Aboriginal people, as defined under the *National Parks and Wildlife Act 1974.*
Compliance audit	Verification of how implementation is proceeding with respect to a construction environmental management plan (EMS) (which incorporates the relevant approval conditions).
CoA	Conditions of Approval for Modification Application No. DA-231-10-99 MOD 5.
Department, the	NSW Department of Planning and Environment.
DPI	The NSW Department of Primary Industries now part of NSW Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS)
DP&E	NSW Department of Planning and Environment
DTIRIS	Department of Trade and Investment, Regional Infrastructure and Services
EA	Environmental Assessment
Ecological sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992).
ECP	Environmental Compliance Planner (Guideline 4.1 Permits, Licences and Approvals, Attachment 4.1E, Issue Date: February 2014).
EPA	NSW Environment Protection Authority
EMS	Environmental management strategy
Environmental aspect	Defined by AS/NZS ISO 14001:2004 as an element of an organisation's activities, products or services that can interact with the
Environmental impact	Defined by AS/NZS ISO 14001:2004 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	A set of circumstances that causes, or threatens to cause, material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in the Conditions of Approval.
Environmental objective	Defined by AS/NZS ISO 14001:2004 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental policy	Statement by an organisation of its intention and principles for environmental performance.
Environmental target	Defined by AS/NZS ISO 14001:2004 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPL	Environment Protection Licence
WMS	Environmental Work Method Statements

Feasible	Feasible relates to engineering considerations and what is practical to build or carry out.
Minister, the	Minister for Planning and Environment, or delegate.
MOD 5	Modification Application No. DA 231-10-99 MOD 5.
Non-compliance	Failure to comply with the requirements of the Project approval or any applicable license, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of Project system documentation or supporting documentation.
NoW	NSW Office of Water
OEH	NSW Office of Environment and Heritage
PESCP	Progressive Erosion and Sediment Control Plans
PIN	Penalty Infringement Notice
POEO Act	*Protection of the Environment Operations Act 1997*
Quarrying operations	The extraction, processing and transportation of extractive materials on the site and the associated removal of vegetation, topsoil and overburden.
Quarry products	Includes all saleable quarry products, but excludes tailings and other wastes
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.
RL	Reduced level
RMS	Roads and Maritime Services
Secretary, the	Secretary of the NSW Department of Planning and Environment (or delegate).

1 INTRODUCTION

1.1 Background

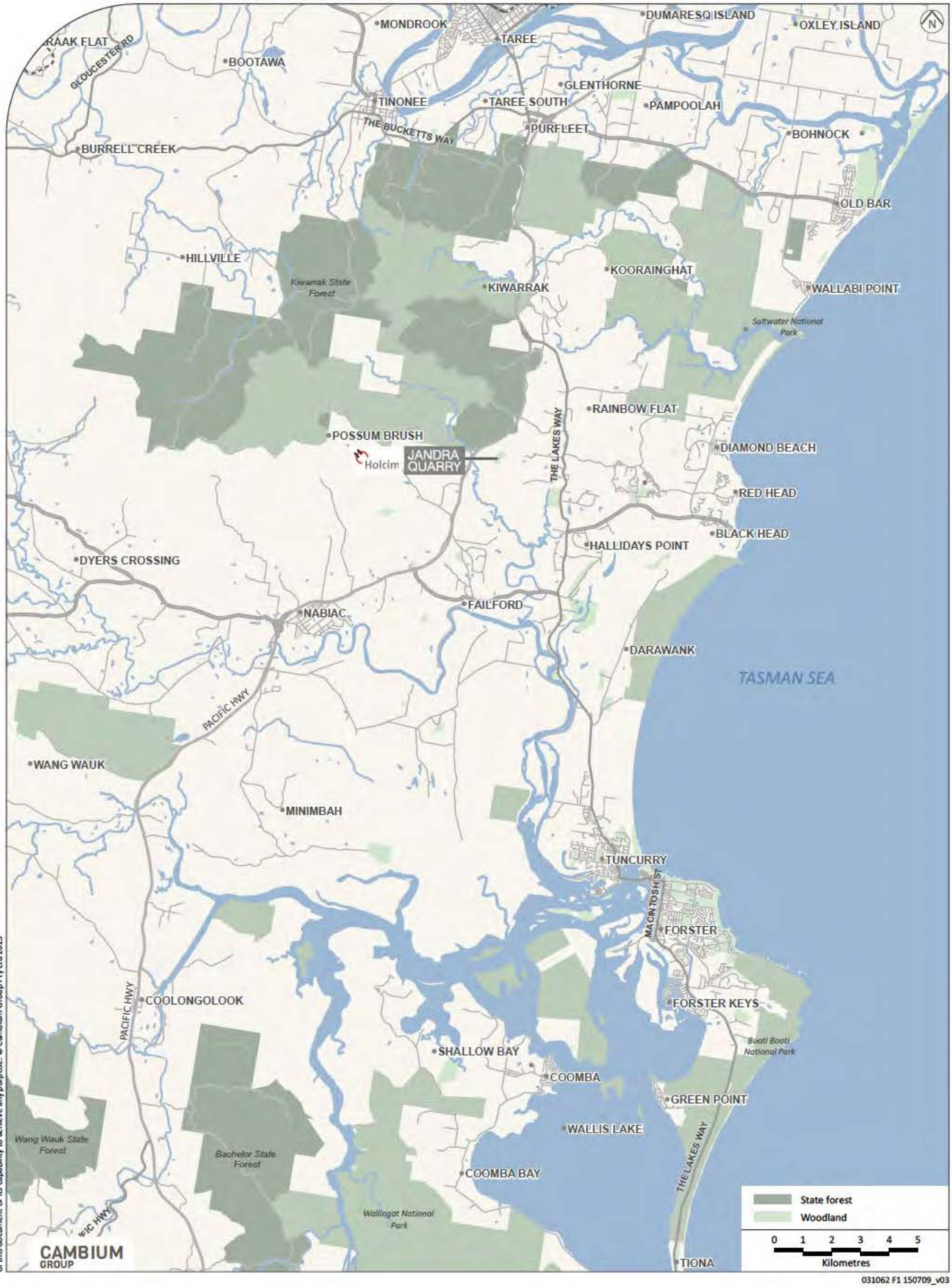
Holcim (Australia) Pty Ltd (Holcim) sought to modify the Jandra Quarry development consent (DA231-10-99) under Section 75W of the *Environmental Planning and Assessment Act 1979*, to provide for an increase in extraction of quarry products to a maximum limit of 490,000 tonnes per calendar year and transportation of finished quarry products to a maximum limit of 475,000 tonnes per calendar year (the Project).

Jandra Quarry is a hard rock quarry located on the Pacific Highway at Possum Brush approximately 17 kilometres south of Taree in the Greater Taree Local Government Area (refer **Figure 1**).

Element Environment Pty Ltd prepared an Environmental Assessment (EA) on behalf of Holcim to assess the potential environmental and social impacts of the proposed modifications associated with the intensification in production. The EA was submitted to the Department of Planning & Environment (DP&E) in July 2014. Approval of the Modification was granted by the Minister on 13 March 2015.

FIGURE 1
Regional context

JANDRA QUARRY - ENVIRONMENTAL MANAGEMENT STRATEGY



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1.2 Purpose of this Environmental Management Strategy

This Environmental Management Strategy (EMS) and associated management plans have been prepared in compliance with the Conditions of Approval (CoA) for *Modification Application No. DA-231-10-99 MOD 5* (MOD 5) to demonstrate the strategic framework for the environmental management of the Project. The EMS is applicable to all staff and sub-contractors associated with the lifecycle of the Project.

This EMS has been prepared in accordance with:

- the CoA and accompanying Environmental Assessment entitled *Jandra Quarry Intensification in Production* dated June 2014, and the Response to Submissions entitled *Jandra Quarry Intensification in Production Submissions Report* dated October 2014;
- Holcim Environmental Standards for Aggregate Operations dated May 2014;
- Jandra Quarry *Draft Environmental Management Plan* dated March 2000; and,
- AS/NZS ISO 14001.

The associated management plans have been prepared in accordance with:

- the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004);
- any relevant Australian guidelines and 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.

The purpose of this EMS is to provide a structured approach to the management of environmental issues during the development and operation of the Project. Implementing this EMS will ensure that the Project meets regulatory and policy requirements, including Holcim Environmental Standards and the Minister's CoA, in a systematic manner. Further details of the proposed Reporting, Review and Auditing Program are provided in **Section 9** of this EMS.

In particular, this EMS:

- describes the development in detail, including activities to be undertaken and indicative timing;
- identifies statutory approvals which apply to the development;
- provides specific mitigation measures and controls that can be applied on-site to avoid or minimise negative environmental impacts;
- provides specific mechanisms for compliance with applicable policies, approvals, licences, permits, consultation agreements and legislation;
- describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
- states objectives and targets for issues that are important to the environmental performance of the Project; and
- outlines a monitoring regime to validate the effectiveness of the implementation of controls.

The EMS addresses the specific requirements of CoA Schedule 5, Condition 1 as outlined in **Table 1**.

Table 1 Condition Compliance Cross-reference

CoA no.	Requirement	Reference
Schedule 5, Condition	The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:	This plan
(a)	be submitted to the Secretary for approval by 31 August 2015;	Section 1.4
(b)	provide the strategic framework for the environmental management of the development;	Section 3
(c)	identify the statutory approvals that apply to the development;	Section 4
(d)	describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Section 5.2
(e)	describe the procedures that would be implemented to:	
	(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;	Section 7.2
	(ii) receive, handle, respond to, and record complaints;	Section 7.3.2
	(iii) resolve any disputes that may arise during the course of the development;	Section 7.3.2
	(iv) respond to any non-compliance; and	Section 9.4
	(vi) respond to emergencies.	Section 8
(f)	include:	
	(i) copies of any strategies, plans and programs approved under the conditions of this development	Refer Appendices
	(ii) a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.	Section 9.2
Schedule 5, Condition	Within 3 months of the submission of an:	Section 10
(a)	annual review under condition 4 above;	
(b)	incident report under condition 6 below;	
(c)	audit report under condition 8 below; and	
(d)	any modifications to this consent,	
	the Applicant shall 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.*	

1.3 Consultation

Consultation commenced during the environmental assessment phase of the Project. The primary objective of the consultation was to keep stakeholders informed and involved during project development.

In accordance with the requirements of the CoA, consultation with the identified stakeholders and agencies has continued during the development of the respective management plans. The agencies and stakeholders consulted include:

- Greater Taree City Council;
- NSW Office of Water (NOW);
- NSW Office of Environment and Heritage (OEH);
- Forster Local Aboriginal Land Council (LALC); and
- Purfleet-Taree LALC.

The main comments and issues raised during the consultation are provided in **Appendix** A2 Stakeholder & Agency Consultation, inclusive of a response and cross-reference to where the issues raised have been addressed in the respective plans.

1.4 EMS approval

This EMS must be endorsed by the Holcim Jandra Quarry Manager and Planning & Environment Manager prior to submission to the Secretary of the DP&E.

Submission of the EMS for the approval of the Secretary is required no later than 31 August 2015..

2 APPROVED DEVELOPMENT

2.1 General Features of Approved Modification

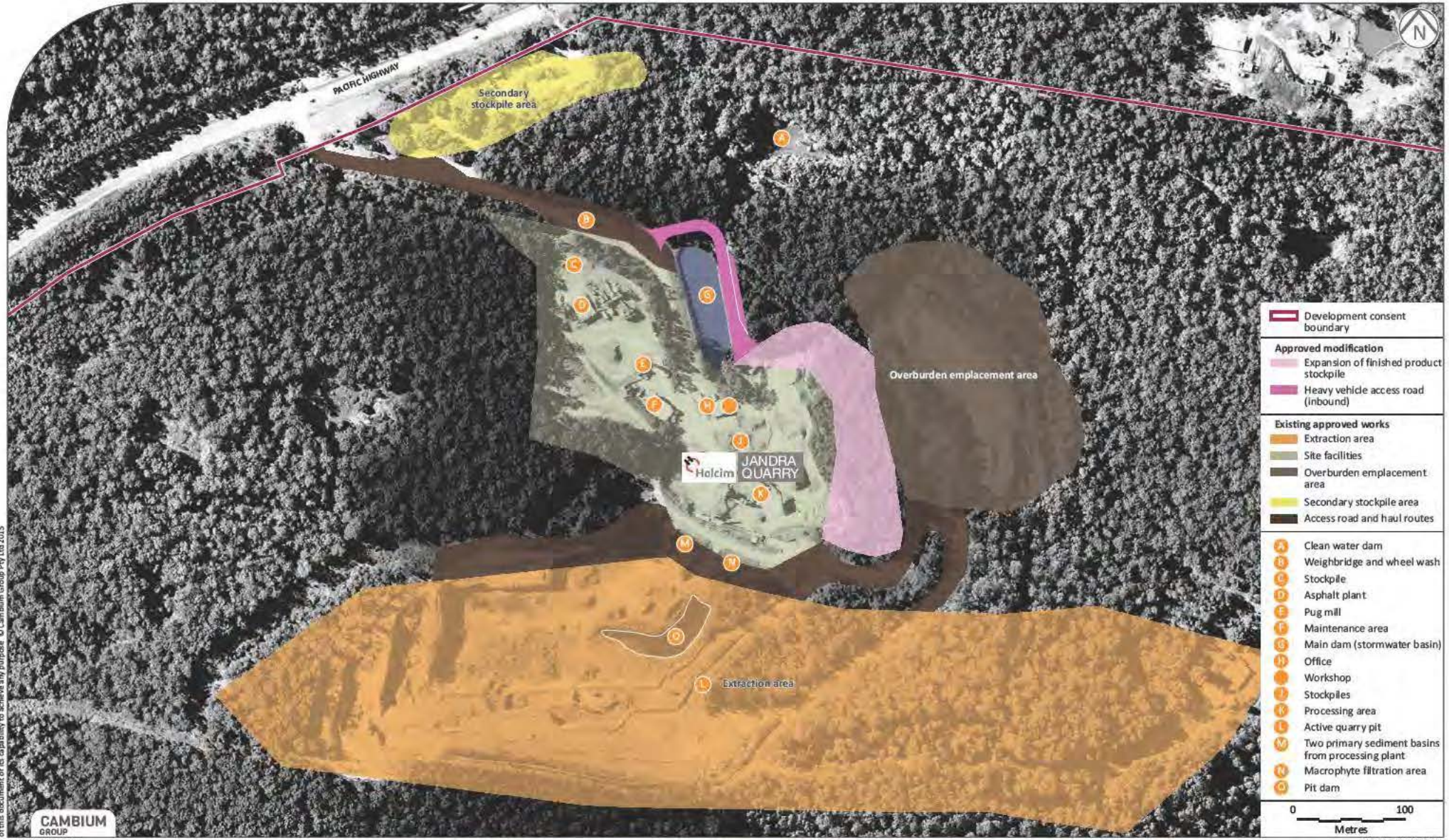
The intensification in production as approved by the CoA result in changes to the approved operations of Jandra Quarry, as summarised below:

- extension of operating hours to include weekday evenings (6:00 am to 10:00 pm Monday to Friday) and from 6:00 am to 6:00 pm Saturday, including the return of trucks from Newcastle haul to midnight. Refuelling, servicing and maintenance is extended from 9:00 pm to 10:00 pm on Saturdays (refer to **Table 2** for summary);
- asphalt production and associated transport on a 24 hour campaign basis;
- addition of a mobile crusher within the quarry pit to increase processing capacity;
- increasing blasting frequency from approximately one blast per month to approximately two blasts per month;
- increase in total vehicle movements;
- construction of a new heavy vehicle access road, requiring clearing of 0.25 hectares of native vegetation, to separate inbound heavy vehicles from outbound heavy and light vehicles; and
- expansion of the finished product stockpile area, requiring clearing of 1.034 hectares of native vegetation.

The approved modifications result in a total new disturbance footprint of approximately 1.28 hectares as presented in Figure 2.

FIGURE 2
Approved modification to disturbance area

JANDRA QUARRY - ENVIRONMENTAL MANAGEMENT STRATEGY



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Hours of operation specified in the CoA are summarised in **Table 2**.

Table 2 Approved Hours of Operation

Day	Extraction and processing operations	Transportation operations	Asphalt Plant and associated transport (on a campaign basis)
Monday – Friday	6 am to 10 pm	6 am to 10 pm	24 hours a day
Saturday	6 am to 6 pm	6 am to 10 pm	24 hours a day
Sundays and Public Holidays	None	None	24 hours a day

The following activities may be carried out on the site outside the hours specified in **Table 2**:

- return of trucks to the site prior to 12 midnight Monday to Saturday;
- delivery or dispatch of materials as requested by Police, Fire Brigade or other similar authorities; and
- emergency work to avoid the loss of lives, property and/or to prevent environmental harm.

Holcim is required to notify the Secretary and affected residents prior to undertaking the activities described in dot points two and three above, or as soon as is practical thereafter.

2.2 Limits of Consent

MOD 5 did not propose to increase the overall extraction volume of the quarry nor was the quarry depth limit proposed to be modified. Subsequently, the CoA limit the development as listed below:

- Holcim may carry out quarrying operations on the site until 31 March 2045;
- Holcim shall not carry out quarrying operations below a level of Reduced Level (RL) 20 metres Australian Height Datum (AHD);
- Holcim shall not extract more than 16.5 million tonnes of quarry products from the site;
- Holcim shall not extract more than 490,000 tonnes of quarry products from the site in any calendar year; and
- Holcim shall not transport more than 475,000 tonnes of quarry products from the site in any calendar year.

2.3 Quarry Development

As outlined in **Section 2.2**, there is no change to the approved extraction area or the approved depth of extraction of RL 20.

Existing benches have been developed at 12 metre heights and it is proposed to continue with 12 metre separation down to RL 50. From this level it is proposed to develop two 15 metre high benches. Terminal bench widths are half the face height and the final face angle is 75°.

2.3.1 Current Status

Since the original development consent was granted, extraction has been focused in the western part of the quarry pit to avoid disturbing the main haul roads to the upper benches, which were established on the eastern side of the quarry during early pit development.

Overburden and topsoil was placed on benches RL 98 and RL 86, where terminal faces were developed on the southern limits of the pit. Bench RL 98 was revegetated with a mixture of grasses, shrubs and trees as part of the staged rehabilitation process, while Bench RL 86 was planted with grasses, to be followed with woody vegetation. Additional overburden and topsoil that is stripped from the western part of the approved extraction area, that is not required for rehabilitation of terminal benches, is hauled primarily along the northern RL 62 bench to the overburden emplacement area.

After blasting and loading, dump trucks haul shot rock to the processing plant along designated haul roads.

A sump exists in the floor of the quarry to capture stormwater runoff from the pit.

2.3.2 Extraction Staging

During MOD 5, Holcim revisited the four stage quarry development schedule as presented in the original development consent and the revised staging plans for extraction of the remaining resource over the next 30 years are explained in more detail below.

Stage 1

This stage involves expanding the quarry to the western extent of the approved extraction area and developing a new 15 metre high bench to increase the quarry depth to RL 35 (refer to **Figure 3**).

As terminal faces are developed on the southern and western limits, overburden and topsoil will be placed on the benches and rehabilitated. The methods for rehabilitation are detailed in the Biodiversity and Rehabilitation Plan (refer **Appendix B1**). Additional overburden and topsoil that is stripped from the western part of the approved extraction area that is not required for rehabilitation of terminal benches will be hauled to the overburden emplacement area. Excess topsoil would be stockpiled separately to overburden for later use in rehabilitation.

Shot rock will be hauled to the processing plant from new western benches created at RL 74, RL 62 and RL 50, along either the northern or southern RL 62 and RL 50 benches. Access to the RL 35 bench will be via a ramp developed along the northern face from the site facilities level of RL 50. This ramp will be used to haul shot rock from the western section of the pit, to the processing plant.

All stormwater runoff from the quarry pit will be captured in the pit dam created below RL 35. After settling, water will be pumped out of the quarry pit sump to the RL 50 level, from where

it will drain via gravity into the main dam (refer to **Appendix B3** *Soil and Water Management Plan*).

Stage 2

This stage involves developing a final 15 metre high bench in the western section of the quarry to increase the quarry depth to the approved terminal pit floor level of RL 20 (refer to **Figure 4**). This stage also includes the extension of the pit eastwards to a depth of RL 35.

Early in Stage 2 the existing haul roads will need to be relocated. Two ramps are proposed to be constructed within the quarry pit to provide access to the RL 35 and RL 20 benches. Access from the site facilities level of RL 50 to the RL 35 bench will be via an eastwards facing ramp, developed along the northern pit face. Access to the terminal pit floor level of RL 20 will be via a west-facing ramp developed through the centre of the pit from RL 35. These ramps will be used to haul shot rock from the pit to the processing plant. The eastern extension of the quarry pit during Stage 2 involves the removal of the original main haul roads that provided access to the southern benches. A new 'out of pit' haul road will be constructed within the far eastern section of the approved extraction area (refer to **Figure 4**), to provide access to the eastern RL 62, RL 74 and RL 86 benches. A third access ramp will be constructed within the pit, from the eastern RL 62 bench to the site facilities level of RL 50.

As further terminal faces are developed on the southern, western and northern limits, overburden and topsoil will be placed on benches above RL 50 for progressive rehabilitation. Additional overburden and topsoil that is stripped during the eastern extension of Stage 2, that is not required for rehabilitation of terminal benches, will be hauled to the overburden emplacement area from the RL 86, RL 74 and RL 62 benches along the new haul road. Excess topsoil would be stockpiled separately to overburden for later use in rehabilitation.

All stormwater runoff from the quarry pit will be captured on the RL 20 level. After settling, water will be pumped out of the quarry pit dam to the RL 50 level from where it will drain via gravity into the main dam (refer to **Appendix B3**).

Stage 3

This stage involves expanding the quarry to the eastern extent of the approved extraction area and increasing the quarry depth to the approval limit of RL 20 (refer to **Figure 5**). At no stage will the pit cut through the eastern ridge.

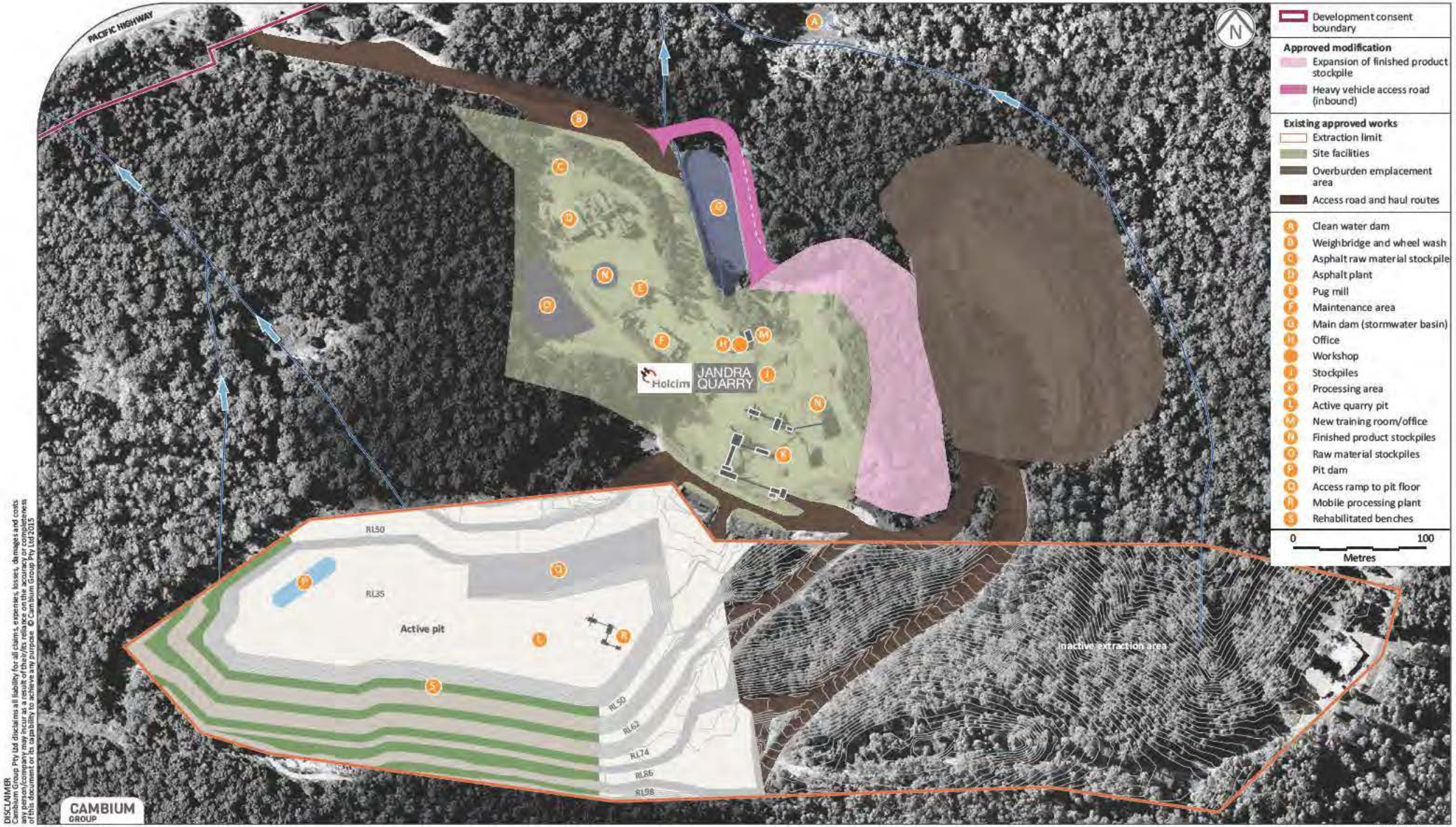
Access from the site facilities level of RL 50 to the terminal pit floor level of RL 20 will be via a single east-facing ramp, developed along the northern pit face. This ramp will be used to haul shot rock from the eastern section of the pit, to the processing plant.

Again, as final terminal faces are developed on the southern, western, northern and eastern limits, overburden and topsoil will be placed on benches above RL 50 and rehabilitated. Additional overburden and topsoil that is stripped during the eastern extension of Stage 3, that is not required for rehabilitation of terminal benches, will be hauled to the overburden emplacement area from the RL 86, RL 74 and RL 62 benches.

All stormwater runoff from the quarry pit will continue to be captured on the RL 20 level in the western half of the pit. After settling, water will be pumped out of the quarry pit dam to the RL 50 level, from where it will drain via gravity into the main dam (refer to **Appendix B3**).On completion of this stage, the quarry pit will be fully developed to the maximum approved depth and extent.

FIGURE 3
Stage 1 extract on

JANDRA QUARRY - ENVIRONMENTAL MANAGEMENT STRATEGY



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Source: EDH 2014

FIGURE 4
Stage 2 extract on

JANDRA QUARRY - ENVIRONMENTAL MANAGEMENT STRATEGY

CAMBIUM GROUP

Source: EDH 2014

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FIGURE 5
Stage 3 extract on

JANDRA QUARRY - ENVIRONMENTAL MANAGEMENT STRATEGY

Source: EDH 2014

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2.3.3 Asphalt Plant

The development consent allows for a mobile asphalt plant capable of producing around 100 - 200 tonnes per hour to be located on-site on an as needs (i.e. campaign) basis. It is proposed to operate the mobile asphalt plant 24 hours on a campaign basis, primarily to cater for night road works.

The location of the asphalt plant is indicated in Figure 2.The asphalt plant will combine crushed stone that is produced on-site, with bitumen to produce asphalt. For the process, deliveries of bitumen, lime and sand will be made to the site via tankers and tip trucks. Hydrated lime or fly ash will be stored in a silo and used as filler. In addition, small quantities of toluene and methylated spirits will be used in routine laboratory testing.

3 ENVIRONMENTAL MANAGEMENT FRAMEWORK

3.1 Structure of this Strategy

The structure of this EMS is based generally on the principles of the Australian/New Zealand Standard for Environmental management systems (AS/NZS ISO 14001:2004), which follows the 'Plan-Do-Check-Act' process. The relevant sections of this EMS that meet the requirements of the 'Plan-Do-Check-Act' process are provided in in **Table 3**.

Table 3 EMS Relationship with AS/NZS ISO 14001

Process	Requirements	Section Reference
Plan	Maintain register of legal and other requirements. Maintain register of environmental aspects and impacts. Set environmental objectives and targets. Develop environmental programs and management plans.	**Section 4** Planning
Do	Responsibilities for environmental management. Provision of environmental awareness training and assessment of competence. Internal communications and document control. External communications with regulators, members of the public and other stakeholders. Management of complaints. Operating procedures. Incident management. Emergency preparedness and response.	**Section 5** Implementation and operation **Section 6** Competence, training and awareness **Section 7** Communication **Section 8** Incidents and emergencies
Check	Annual review of compliance with environmental statutory requirements during preparation of the Annual Environmental Management Report. Environmental Monitoring Non-compliance and corrective/preventive action Audits	**Section 9** Inspections, monitoring and auditing **Section 10** Review and improvement
Act	Periodic review and revision of the EMS by senior management. Non-compliance and corrective/preventive action	**Section 10** Review and improvement

3.2 Environmental policy

The Environmental Policy attached in **Appendix A4** describes Holcim's commitment to continual improvement in environmental performance and compliance with applicable legal requirements.

Holcim's Environmental Policy, which is available on the company website and displayed at the site office, is communicated to staff, sub-contractors and other interested parties via inductions and ongoing awareness programs.

3.3 Objectives and targets

Environmental objectives and targets have been established as a means of assessing environmental performance during the lifecycle of the development. These objectives and targets have been developed with consideration of the key issues identified through the environmental assessment and risk assessment process. The objectives and targets are consistent with Holcim's Environmental Policy and will assist in monitoring whether the policy commitments are being met.

The performance of the development against the objectives and targets will be measured in regular reporting requirements and documented as part of the annual management review.

The overarching environmental objectives and targets for the development are provided in **Table 4** below. More detailed objectives and targets are identified in the relevant environmental management plans.

Table 4 Environmental objectives and targets

Objective	Target	Measurement Tool
Commence the implementation of development stages in accordance with environmental approvals.	- Full compliance with statutory approvals.	Audits, regular reporting and annual management reviews.
Compliance with all legal requirements.	- No regulatory infringements (PINs or prosecutions). - No formal regulatory warning.	Audits, regular reporting and annual management reviews.
Engage with the affected community, minimise complaints and respond to any complaints within a suitable timeframe	- All complaints responded to within the timeframes stipulated in this EMS. - No complaints registered with DP&E or EPA.	Review complaints register, regular reporting and audits.
Continuously improve environmental performance.	- No regulatory infringements (PINs or prosecutions). - No formal regulatory warning	Audits, regular reporting and annual management reviews.

4 PLANNING

4.1 Development environmental obligations

All personnel working on the development site have the following environmental obligations:

- minimise pollution of land, air and water;
- use pollution control equipment and keep it in proper working order;
- preserve the natural and cultural heritage environment;
- give notice to relevant authorities of a non-Aboriginal or Aboriginal heritage discovery;
- minimise the occurrence of offensive noise;
- be a good neighbour to surrounding land users;
- keep the community informed of development milestones, upcoming activities and duration of relevant aspects of the works; and
- take all feasible and reasonable steps to ensure compliance with the requirements of the EMS and associated management plans.

4.2 Legal and other requirements

A register of legal and other requirements for the development is contained in **Appendix A1.** This Permits and Obligations register is maintained as a checklist. This register will be reviewed during management reviews and updated with any applicable legislation changes. Any changes made to the legal requirements register will be communicated to site personnel where necessary through toolbox talks, specific training and other methods detailed in **Section 6**.

4.3 Approvals, permits and licensing

The development maintains a number of existing approvals, permits and licenses. **Appendix A1** contains a Permits and Obligations register of all relevant environmental approvals, permits and licenses. The register is maintained by the Quarry Manager and will be reviewed annually as part of the site's management review. All necessary licences, permits and approvals required for the development will be obtained and maintained as required throughout its life. The CoA are monitored in the Environmental Compliance Planner, which is explained in more detail in **Section 9.5**.

4.4 Environmental aspects and impacts register

Holcim have adopted a risk management approach to determining the severity and likelihood of an activity's impact on the environment and to prioritise its significance. This process considers potential regulatory and legal risks as well as taking into consideration the concerns of the community and other key stakeholders.

The objectives of the risk assessment are to:

- identify activities, events or outcomes that have the potential to adversely affect the local environment and/or human health/property;
- qualitatively evaluate and categorise each risk item;
- assess whether risk issues can be managed by environmental protection measures; and

- qualitatively evaluate residual risk with implementation of measures.

The Quarry Manager (or delegate) will be responsible for compiling and maintaining a register of aspects and impacts in consultation with site personnel. This register is intended to be a "living document" which is updated with the changing environment of the development. The register is developed in consideration of the EA which identifies site specific impacts and Holcim's *Environmental Standards for Aggregate Operations* (May 2014) which currently sets the minimum environmental management requirements for all Holcim operations.

5 IMPLEMENTATION AND OPERATION

5.1 Environmental management documentation

This EMS is the overarching document for a suite of environmental documents which facilitate the environmental management of the development, as shown in **Figure 6**.

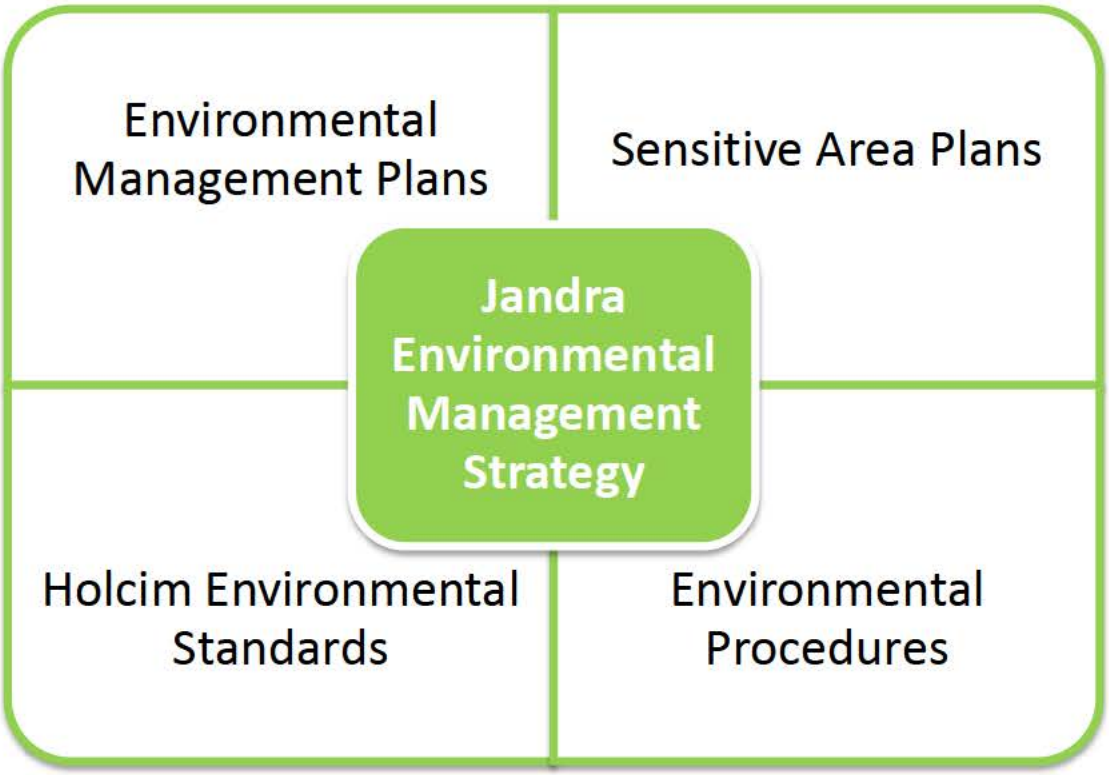


Figure 1 Environmental Management Document Composition

5.1.1 Environmental Management Strategy

This Strategy documents the method to manage and control all the environmental aspects of the development. It identifies the requirements applicable to the approved development described in **Section 2**. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The strategy presented in this EMS has been developed with consideration of the development consent requirements, the safeguards and mitigation measures presented in the environmental assessment and Holcim's *Environmental Standards for Aggregate Operations* (May 2014). This EMS establishes the system for implementation, monitoring and continuous improvement to minimise impacts from the development on the environment.

5.1.2 Environmental Management Plans

Several environmental management plans support the EMS. These documents are prepared to identify requirements and processes applicable to specific impacts or aspects of the activities described in **Section 2**. These plans also address specific requirements of the CoA and measures identified in the environment assessment documentation. A list of environmental management plans for the development, that require approval by the DP&E, are provided in **Table 5**.

Table 5 Environmental management plans

CoA	Document Name
Sch 3, (4)	Noise Management Plan
Sch 3, (9)	Blast Management Plan
Sch 3, (14)	Air Quality Management Plan
Sch 3, (19)	Soil and Water Management Plan
Sch 3, (25)	Biodiversity and Rehabilitation Management Plan
Sch 3, (29)	Aboriginal Cultural Heritage Management Plan

5.1.3 Holcim Environmental Standards

The Holcim *Environmental Standards for Aggregate Operations* (May 2014) currently sets the minimum environmental management requirements for all Holcim operations and comprises the following:

- Holcim Environmental Policy;
- Holcim Environmental Guiding Principles; and
- Holcim Environmental Management Directives.

Holcim *Environmental Standards for Aggregate Operations* (May 2014) describe high level environmental management requirements as they relate to the development's operational control of significant environmental elements. For each environmental element, a set of minimum environmental standards have been developed. These standards are monitored during regular reporting and audit reviews in order to measure environmental performance over time.

The minimum standards address the following elements:

- permits, licences and approvals;
- environmental hazards and operating procedures;
- hazard identification;
- operating practices;
- air emissions;
- water management;
- noise;
- management of wastes;
- land protection, management and rehabilitation;
- engineering and due diligence;
- energy and resource conservation;
- right-to-know reporting;
- community awareness; and
- objectives, targets and performance indicators.

The Holcim *Environmental Standards for Aggregate Operations* (May 2014) have been considered when developing this EMS.

5.1.4 Sensitive area plans

To assist development planning and on-site management, site constraints will be consolidated on plan(s) which cover the extent of the development at a suitable scale. These plans termed “Sensitive area plans” will typically include:

- noise sensitive receivers, e.g. residential dwellings;
- flora features, including threatened species and endangered ecological communities;
- Aboriginal and non-Aboriginal heritage values, including items, places, objects and sites;
- local waterways; and
- recorded threatened fauna sightings.

Sensitive area plans are a working element of this EMS and will be revised throughout the development’s operational lifetime to reflect changes in conditions and information on any new sensitive sites. Sensitive area plan(s) will be used to help identify key risk areas and to promote ongoing communication to on-site personnel.

5.1.5 System procedures, forms and other documents

Site specific procedures will be developed in response to the requirements of the development. Where applicable, existing procedures and work instructions will be applied or amended. A register of relevant environmental procedures and forms is maintained on site.

5.1.6 EMS availability

This EMS and associated management plans will be made available for public inspection on written request. Confidential information, which may include the location of threatened species, Aboriginal objects or places and personnel contact details, will be removed from all documents provided or made available to the public. An electronic copy of the EMS will be available on Holcim’s website.

5.2 Resources, roles and responsibilities

The key environmental management roles and responsibilities for the development are described in the following sections. The organisational structure of those roles that have environmental management responsibilities is presented in **Figure 7**.

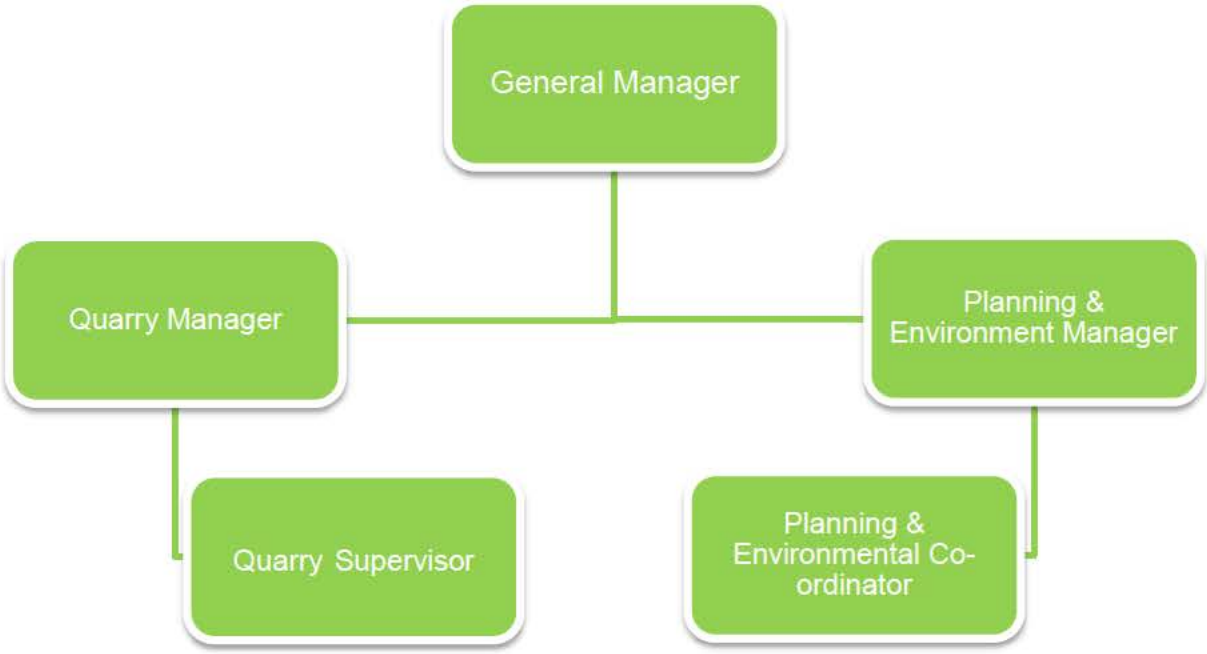


Figure 2 Organisational Chart of Environmental Responsibilities

5.2.1 General Manager

The environmental responsibilities of the General Manager include:

- provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this EMS.

5.2.2 Quarry Manager

The environmental responsibilities of the Quarry Manager include:

- overall responsibility for the management of environmental aspects of the development;
- ensure all works comply with relevant regulatory and statutory requirements;
- endorse and support the Holcim environmental policy attached at **Appendix A4**;
- plan operational works in a manner that avoids or minimises impacts to the environment;
- ensure the requirements of this EMS are fully implemented;
- ensure personnel manage activities in accordance with statutory and approval requirements;
- ensure that all relevant personnel receive appropriate induction training, including details of the environmental and community requirements;
- ensure that complaints are investigated to ensure effective resolution;
- ensure environmental management procedures and protection measures are implemented;
- report any activity that has resulted, or has the potential to result in an environmental incident, immediately;
- oversee site environmental monitoring, inspections and internal audits;

- undertake site inspections, carry out monitoring activities and complete site inspections checklists;
- liaise with government authorities as required; and
- stop work immediately where there is an actual or potential risk of harm to the environment.

5.2.3 Quarry Supervisor

The environmental responsibilities of the Quarry Supervisor include:

- Assist the Quarry Manager with the implementation of all environmental management responsibilities;
- communicate with all personnel and contractors regarding compliance with the EMS and site-specific environmental issues;
- co-ordinate the implementation of the EMS;
- co-ordinate the implementation and maintenance of pollution control measures;
- undertake site inspections, carry out monitoring activities and complete site inspections checklists;
- advise on the day-to-day environmental elements of operations;
- co-ordinate actions in emergency situations and allocate required resources; and
- stop activities where there is an actual or potential risk of harm to the environment and advise the Quarry Manager.

5.2.4 Planning & Environment Manager

The environmental responsibilities of the Planning & Environment Manager include:

- Assist in development, monitoring and updating of the EMS and associated plans;
- report to General Manager on the performance and implementation of the EMS;
- ensure management reviews of the EMS are undertaken annually, documented and actions implemented;
- identify where environmental measures are not meeting the set targets and where improvement can be achieved;
- ensure environmental protocols are in place and managed;
- assist in achieving environmental compliance;
- obtain and update all environmental licences, approvals and permits as required;
- manage environmental document control, reporting and training;
- prepare and/or distribute environment awareness notes;
- review and approve Erosion & Sediment Control Plans;
- develop induction, toolbox talks and other training programs regarding environmental requirements for all relevant site personnel;
- notify relevant authorities in the event of an environmental incident and manage close-out of these;
- stop activities where there is actual or potential risk of harm to the environment or to prevent an environmental non-conformance and advise the General Manager, Quarry Manager and Quarry Supervisor; and

- assist the Quarry Manager to resolve environment-related complaints.

5.2.5 Planning & Environmental Co-ordinator

The environmental responsibilities of the Planning & Environmental Co-ordinator include:

- assist in preparing the EMS (including any future revisions);
- develop Erosion & Sediment Control Plans in consultation with the Quarry Supervisor and other relevant site personnel, as required;
- ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed;
- record and provide written reports of non-conformances with the EMS or corrective actions required to the Planning & Environment Manager. This may include the need to implement additional measures or revise existing measures;
- assist in identifying environmental risks;
- advise the Planning & Environment Manager and Quarry Manager of the need to stop work if there is the potential for an unacceptable impact on the environment;
- advise the Quarry Manager or site staff to take reasonable steps to avoid or minimise impacts;
- advise site staff on issues concerning development environmental matters;
- assist in developing training programs regarding environmental requirements and deliver the environmental component of toolbox talks; and
- stop activities where there is an actual or immediate risk of harm to the environment and advise the General Manager, Quarry Manager, Quarry Supervisor and Planning & Environment Manager.

5.3 Contractor management

Environmental requirements and responsibilities are detailed in Holcim's *Safety, Health & Environment (SHE) Contractor Management Handbook (March 2012)*. This handbook has been prepared to ensure that the safety, health and environment of all Holcim customers, visitors, employees and contractors is maintained whilst independent contractors are undertaking work on Holcim sites.

This handbook clearly outlines Holcim's safety, health and environment expectations of independent contractors and their sub-contractors and is accordingly included in all contract documentation. As part of the selection process, consideration is also given to past environmental performance. The Planning & Environment Manager, or delegate, will participate in the tender assessment and selection process, where it is deemed necessary due to associated environmental risks. All contractors must indicate acceptance of the conditions contained within the *SHE Handbook* and provide a written commitment to meeting and maintaining these provisions before work can proceed, by completing the Holcim *Contractor Statement*. The contractor must be prepared to uphold their duty of care as an employer and service provider as prescribed under relevant legislation. All contractors are required to work in accordance with the approved EMS and associated management plans.

All relevant contractors are required to attend a site induction where the requirements and obligations of the EMS and associated management plans are communicated. A record of all contractor inductions will be maintained as part of the induction and training register.

Contractor's performance will be monitored to assess:

- contractor general work practices;
- the effectiveness of contractor environmental protection measures;
- contractor compliance with the requirements of this EMS and associated management plans; and
- the maintenance of environmental measures.

6 COMPETENCE, TRAINING AND AWARENESS

To ensure that this EMS and associated management plans are effectively implemented, each level of Holcim management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this EMS.

6.1 Environmental induction

All personnel, including contractors, are required to attend a compulsory site induction that includes an environmental component prior to commencing work on-site. The Quarry Manager (or delegate) will conduct the environmental component of the site induction. The environmental component will include an overview of:

- relevant details of the EMS including purpose and objectives;
- key environmental issues;
- key conditions of environmental licences, permits and approvals;
- specific environmental management requirements and responsibilities;
- mitigation measures for the control of environmental issues;
- incident response and reporting requirements; and
- information relating to the location of environmental constraints.

A record of all environment inductions will be maintained and kept on-site.

The Quarry Manager may authorise amendments to the induction where required to address changing conditions on-site, legislative changes or amendments to this EMS or related documentation.

6.2 Toolbox talks, training and awareness

Toolbox talks will be used to raise awareness and educate personnel on environmental issues. The toolbox talks will be used to ensure environmental awareness continues during operations.

Toolbox talks will be tailored to specific environmental issues including:

- erosion and sedimentation control;
- hours of work;
- emergency and spill response;
- Aboriginal and non-Aboriginal heritage;
- threatened species, clearing controls and vegetation protection;
- weed management;
- noise;
- housekeeping and waste;
- development and clearing limits;
- works in waterways; and
- dust control.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact.

7 COMMUNICATION

7.1 Internal communication

Clear lines of communication throughout all levels and functions (e.g. management, staff and contracted service providers), is key to minimising environmental impacts and achieving continual improvements in environmental performance.

The Quarry Manager (or delegate) and the Quarry Supervisor will meet regularly to discuss on-site environmental management, amendments to plans, changes to operational activities etc.

The Planning & Environment Manager (or delegate) will occasionally participate in toolbox talks to communicate to the wider personnel on environmental performance, to advise on sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

Information relating to toolbox talks is provided in **Section 6.2**.

7.2 External and government authority consultation

The Planning & Environment Manager (or delegate) will be the main point of contact for external and/or government authorities regarding environmental issues. Additionally, the Planning & Environment Manager has the responsibility to report the ongoing environmental performance of the development to government authorities (e.g. EPA).

In addition to this the site will regularly update the Holcim Jandra webpage with updates to documents, monitoring data and the community complaints register. The website will ensure:

- Operation and environmental performance outcomes of the development are reported and accessible to the community;
- All complaints can be received, handled, responded to with a record of complaints listed for the community.

7.3 Stakeholder and community communication

7.3.1 Community Communication Approach

A community and stakeholder communication approach has been developed and identifies opportunities for providing information and consulting with the community and stakeholders during the operational lifetime of the development. The approach encourages the following methods of communication:

- advertisements;
- displays;
- door-knocking;
- letterbox drops;
- signage;
- website;
- focus meetings; and
- Site contact number.

7.3.2 Complaints and enquires procedure

Wherever possible, a proactive approach will be adopted to engage the community in discussing activities which may affect them. Any complaints that are received relating to the Quarry's operations will be recorded and responded to in a timely and professional manner by the Planning & Environmental Co-ordinator or delegate.

All community inquiries and complaints related to the Quarry's activities will be referred to the Jandra Quarry Manager (0429 790 627). A postal address (*Level 8, 799 Pacific HWY, Chatswood, NSW)* and on the Holcim website (*www.holcim.com.au)* that provides for receipt of complaints and enquiries.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached and whether mediation was required or used, will be included in a complaints register.

An initial response acknowledging a complaint will be provided within 24 hours of a complaint being received. A further detailed response, including steps taken to resolve the issue(s) that led to the complaint, will be provided within 10 days. All reasonable endeavours will be made to resolve and close off complaints. The complainants will be kept informed of when they will receive a response.

The Planning & Environment Manager will apply an adaptive approach to ensure that corrective actions are applied in consultation with the appropriate operational staff to ensure modifications and improvements in the management of any environmental issues which have resulted in community complaints.

Records of complaints will be kept for a minimum of four years in accordance with condition M5.3 of EPL No. 2796 and will be recorded yearly in the annual review.

7.3.3 Dispute Resolution

Holcim Australia strives to maintain good relations with all external stakeholder groups through effective communication. Holcim strives to avoid disputes arising through consultation with relevant external stakeholders and through addressing any concerns in a timely manner.

Should any disputes arise that cannot be resolved through direct consultation, the dispute resolution processes will be implemented.

Condition 2 of Schedule 4 of the Development Consent outlines an independent review process that can be initiated if a landowner considers that the operations of the quarry are exceeding the impact assessment criteria outlined in Schedule 3 of the Development Consent.

In accordance with these requirements, the landowner may request (in writing) an independent review of the impacts of the Project on their land. If the independent review determines that the quarrying operations are not complying with the relevant criteria, then the measures that could be implemented to ensure compliance with the relevant criteria will be identified and reported to DP&E.

8 INCIDENTS AND EMERGENCIES

All incidents and emergencies will be managed in accordance with the Pollution Incident Response Management Plan (PIRMP) as required by EPL No. 2796 (*refer Pollution Incident Response Management Plan – Jandra Quarry, September 2014*).

Holcim's *Environmental Incident Classification and Reporting Procedure* will be implemented in the event of an environmental incident. The Procedure is provided in **Appendix A3**.

The Procedure provides information on:

- types of incidents;
- criteria for classification of environmental incidents;
- processes for systematically responding to and managing emergency situations; and
- processes and legal requirements (e.g. Acts, Regulations, EPL) for the reporting and notification of an environmental incident.

The procedure covers the management of events including:

- spills of fuels, oils, chemicals and other hazardous materials;
- unauthorised discharge from sediment basins or other containment devices;
- unauthorised clearing or clearing beyond the extent of the identified disturbance areas;
- inadequate installation and subsequent failure of temporary erosion and sediment controls;
- unauthorised damage or interference to threatened species, endangered ecological communities or critical habitat;
- unauthorised harm or desecration to Aboriginal objects and Aboriginal places;
- unauthorised damage or destruction to any State or locally significant relic or Heritage item;
- unauthorised dredging or reclamation works within a watercourse;
- potential contamination of waterways or land;
- accidental starting of a fire or a fire breaking out of containment;
- any potential breach of legislation, including a potential breach of a condition of an EPL, CoA or any agency permit condition;
- works undertaken without appropriate approval or assessment under the EP&A Act; and
- unauthorised dumping of waste.

The Planning & Environment Manager will be notified immediately following the occurrence of an environmental incident. An incident report will be provided to the Planning & Environment Manager within 24 hours of the incident occurring, including proposed corrective actions to prevent the occurrence of a similar incident. All efforts will be immediately undertaken to avoid and reduce impacts of incidents and suitable controls put in place. Incidents will be closed out timeously, taking all required actions to resolve each environmental incident.

In addition to the notification process cited in the PIRMP, and in accordance with CoA Schedule 5, Condition 6, Holcim will at the earliest opportunity notify the Secretary and other relevant government agencies of any incident that has caused, or threatens to cause,

material harm to the environment. For any other incident associated with the development, Holcim will notify the Secretary and any other relevant agencies as soon as practicable after becoming aware of the incident. Within seven days of the date of the incident, Holcim will provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

The EPA will be notified of any environmental incidents or pollution incidents on or around the development via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act). The circumstances where this will take place include:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial; and
- If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds $10,000.

All necessary contact numbers are recorded in the PIRMP for immediate access should a pollution incident need to be notified.

Where an incident involves an Aboriginal site, relevant Registered Aboriginal Parties will be notified and their input sought in closing out the incident.

Holcim will maintain records relating to environmental incidents.

9 INSPECTIONS, MONITORING AND AUDITING

9.1 Environmental inspections

9.1.1 Weekly and post rainfall site inspections

The Quarry Manager and/or Quarry Supervisor will undertake inspections of the development weekly and after significant rainfall events to evaluate the effectiveness of environmental controls. Inspection findings will be recorded on an inspection checklist form. If any maintenance and/or deficiencies in environmental controls are observed, they will be recorded on a checklist form. Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority.

9.2 Environmental monitoring

The monitoring requirements of the CoA are listed in **Table 6** below and addressed in the relevant environmental management plans.

Table 6 Summary of environmental monitoring required by the Conditions of Approval

CoA	Description	Relevant Management Plan
Sch 3, Condition 3(c) & 4(c)	Noise compliance monitoring	NBMP
Sch 3, Condition 8(c) & 9(c)	Blast compliance monitoring	NBMP
Sch 3, Condition 12(b) & 14(d)	Air quality compliance monitoring	AQMP
Sch 3, Condition 19(b)	Surface water quality monitoring	SWMP
Sch 3, Condition 25(f)	Biodiversity & rehabilitation performance monitoring	B&RMP
Sch 3, Condition 29(c)	Aboriginal cultural heritage	ACHMP

A monitoring procedure will be prepared for the activities identified in **Table 6** above to detail how the monitoring will be undertaken. Where relevant, the monitoring procedure will include:

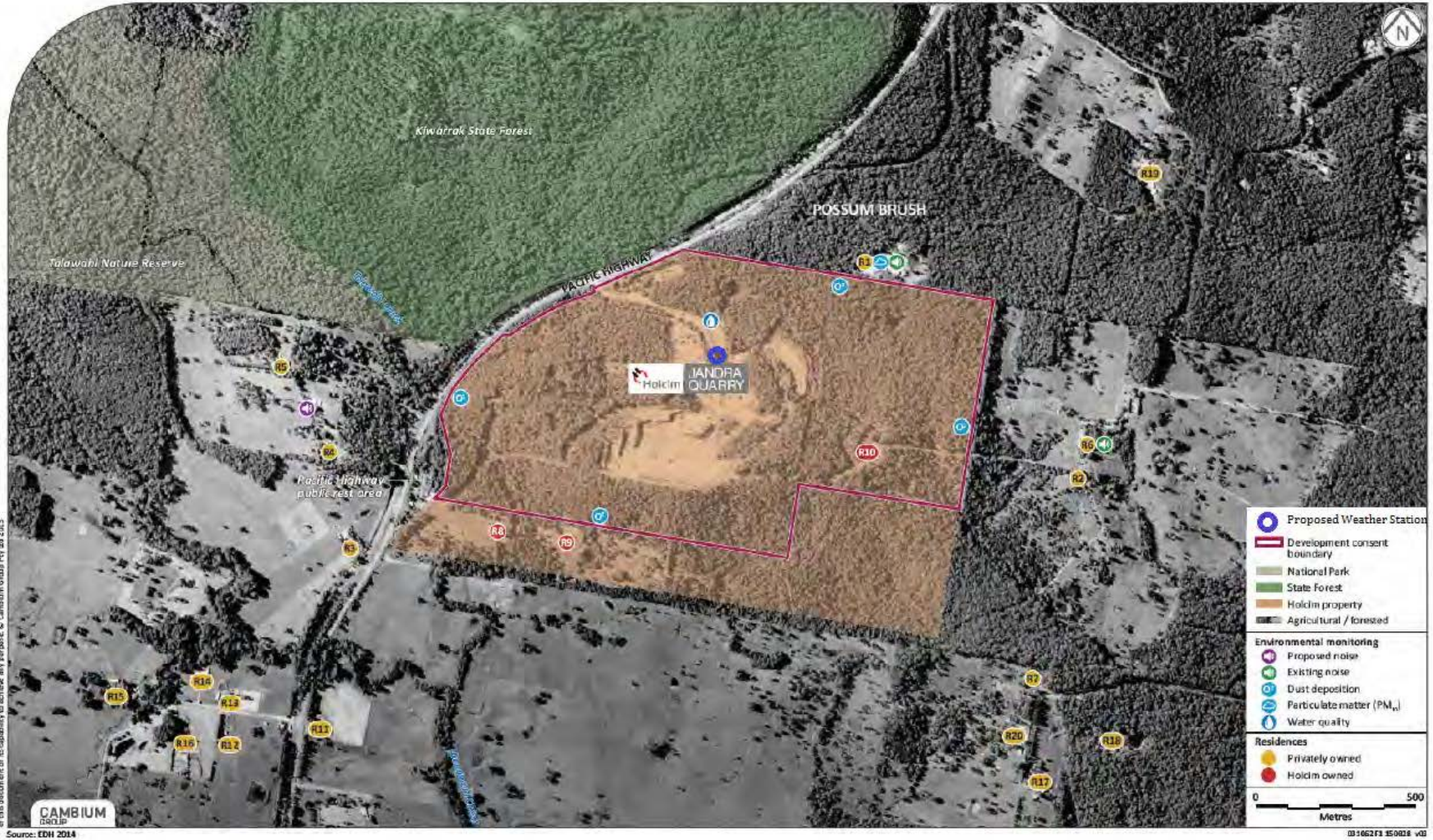
- purpose and scope;
- minimum acceptable frequency and standards listed in applicable approvals, licences and regulations;
- relevant EPA approved methods, Australian Standards or, in the absence of an Australian Standard, industry acceptable procedures;
- targets and parameters;
- processes for response to any exceedances of targets/standards; and
- processes for recording and reporting results.

Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the development (i.e. are influenced by factors under the direct control of the development e.g. noise from quarry plant), the process described in **Section 9.4** will be implemented. Steps in the process typically include:

- an analysis of the results by the Planning & Environment Manager to determining possible causes for the non-conformance;
- a site inspection (if required) by the Planning & Environment Manager or delegate;
- advising relevant personnel of the problem;

Jandra Environmental Monitoring Locations

Jandra Environmental Management Strategy



Source: EDH 2014

- identifying and agreeing on actions to resolve or mitigate the non-conformance; and
- implementing actions to rectify or mitigate the non-conformance.

An Environmental Improvement Notice may be issued by the Planning & Environment Manager in response to a non-conformance if it is found to be development related.

The timing for any improvement will be agreed between the Quarry Manager and Planning & Environment Manager based on the level of risk presented by the non-conformance (e.g. a significant risk will require immediate action).

All environmental monitoring equipment shall be maintained and calibrated according to the manufacturer's specifications and appropriate records kept.

9.3 Auditing and reporting

9.3.1 Internal audits

Internal audit requirements will be conducted on a risk-based approach, to verify compliance with:

- this EMS and associated management plans;
- CoA requirements; and
- any relevant legal and other requirements (e.g. licenses, permits, regulations, contract documentation).

An audit checklist will be developed and amended as necessary to reflect changes to this EMS, subsequent approvals and changes to Acts, regulations or guidelines.

9.3.2 Independent external audits

External auditing will be undertaken by an independent environment auditor in accordance with *ISO 19011:2003 - Guidelines for Quality and / or Environmental Management Systems Auditing,* as required by CoA Schedule 5, Condition 8. External auditing will be undertaken every three years, unless the Secretary directs otherwise, with the first audit being held before the 31 March 2016.

Table 7 Audit requirements

Audit Type	Requirement	Timing	Responsibility	Recipient
Internal audit	Verify compliance with CoA, EMS, legal requirements, permits and licences.	As required	Planning & Environment Manager	Quarry Manager
External independent audit	Verify compliance with CoA, EMS, legal requirements, permits and licences	First audit no later than 31 March 2016; every 3 years thereafter.	Planning & Environment Manager	Quarry Manager, DP&E

9.4 Non-conformity, corrective and preventative actions

Any representative of ConHolcim may raise a non-conformance or improvement opportunity. Holcim EMS Standard 4.2 (Hazard Identification) describes the process for managing non-conforming work practises and initiating corrective/preventative actions or system improvements.

A non-conformance is the failure or refusal to comply with the requirements of this EMS and supporting documentation.

For each non-conformance identified, corrective/preventative action (or actions) should be implemented. In addition any environmental management improvement opportunities can be initiated as a result of incidents or emergencies, monitoring and measurement, audit findings or other reviews. Improvement opportunities may also result in the implementation of corrective/preventative actions.

Corrective/preventative actions and improvement opportunities will be entered into Holcim's quality system database and include detail of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required.

Non-conforming activities may be stopped, if necessary, by the Planning & Environment Manager following consultation with the Quarry Manager or delegate.

9.5 Environmental Compliance Planner

An Environmental Compliance Planner (ECP) is a pre-requisite under Holcim *Environmental Standards for Aggregate Operations* (May 2014) for each quarry. Accordingly, an ECP will be compiled for Jandra Quarry and maintained for the operational lifetime of the development. The ECP contains:

- permit Details (Name, application number);
- condition number;
- required action;
- frequency of action;
- action completed to schedule; and
- reference to documented proof of compliance (e.g. meeting minutes, inspection records, monitoring records, training registers).

The ECP is a systematic approach to permit, licence and approval compliance and assists Holcim in maintaining its right to operate, reduce incidents, promotes regulator, stakeholder and community relations.

10 REVIEW AND IMPROVEMENT

10.1 Environment Group Meetings

An environment group review is initiated by the Planning & Environment Manager and includes relevant operational personnel and stakeholders specific to the development. The group meet quarterly, or at other pre-determined periods, to review environmental management issues specific to the development.

The environment group meeting's include:

- a review of the aspects and impacts register, legal register and environmental induction;
- consideration of monitoring, inspection and audit results;
- consideration of incidents, complaints, non-compliance and any lessons learnt;
- consideration of any new regulatory issues;
- a review of the effectiveness of erosion and sediment controls; and
- consideration of changes in operational needs such as resourcing.

10.2 Annual Management Review

By the end of March each year, management reviews are undertaken as part of the continual improvement process required by CoA Schedule 5, Condition 4.

A management review will involve the executive management team. This review will be held every 12 months (before the end of March) and will include a review of:

- the developments activities (including rehabilitation) for the past year and consideration of the developments activities (including rehabilitation) planned for the next year;
- feedback from environment group meetings;
- effectiveness of environmental management documentation implementation;
- potential improvements to the environmental management documentation;
- effectiveness of management and mitigation measures;
- consideration of monitoring, inspection and audit results;
- environmental objectives and targets;
- environmental performance and trend analysis;
- compliance with legal and other requirements;
- critical non-conformance or repeated non-conformances;
- organisation changes; and
- effectiveness of training and inductions.

The outcomes of the environmental group and management reviews could include amendments to this EMS and related documentation.

11 DOCUMENTATION

11.1 Environmental records

The Quarry Manager is responsible for maintaining all environmental management documents as current at the point of use. Types of records include:

- monitoring, inspection and compliance reports/records;
- correspondence with public authorities;
- induction and training records;
- reports on environmental incidents, other environmental non-conformances, complaints and follow-up action;
- community engagement information; and
- minutes of EMS and Holcim environmental management system review meetings and evidence of any action taken.

All environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements.

11.2 Amendments to EMS & associated management plans

The Holcim Planning & Environment Manager has the authority to approve or reject “minor amendments” to the EMS and associated management plans. In principle, “minor amendments” can be approved where the proposed changes:

1. Do not result in a material increase of the impacts of the project compared to the approved EMS; and
2. Are consistent with the CoA and other legislative requirements.

Following are examples of what may constitute a “minor amendment”:

- formatting and editorial changes, errors, changes in descriptions or calculations; or
- “like for like changes” to methodology or procedures that will not result in any increase to environmental impacts; or
- minor changes to improve the efficacy and / or efficiency of procedures, provided the changes are consistent with relevant conditions of approval, licence conditions, permit condition and commitments made in the EA and Submissions Report.

All amendments including a “minor amendment” will be submitted to the Secretary for approval as part of Holcim’s annual review of plans and programs.

11.3 Document control

Holcim currently implements a document control procedure to control the flow of documents within and between stakeholders and contractors.

The procedure ensures that documentation is:

- developed, reviewed and approved prior to issue;
- issued for use;
- controlled and stored for the legally required timeframe;

- removed from use when superseded or obsolete; and
- archived.

A register and distribution list will identify the current revision of particular documents or data.

APPENDIX A1 PERMITS AND OBLIGATIONS REGISTER

RELEVANT LEGISLATION

Commonwealth Environmental Legislation

Legislation	Application	Applicable to Project	Further Approval Required
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Under the EPBC Act, approval from the Minister for the Environment is required for any action that would result in a significant impact to Matters of National Environmental Significance (MNES). The nine matters of national environmental significance (MNES) are: ▪ World heritage properties; ▪ National heritage places; ▪ Wetlands of international importance (Ramsar wetlands); ▪ Nationally threatened species and ecological communities; ▪ Migratory species; ▪ Commonwealth marine areas; ▪ The Great Barrier Reef Marine Park; ▪ Nuclear actions (including uranium mining); ▪ A water resource, in relation to coal seam gas development and large coal mining development. The modification will result in a minor increase in the approved project disturbance area, which requires the clearing of approximately 1.284 hectares of native vegetation. A flora and fauna assessment was undertaken for the new areas proposed to be disturbed, which focused on the identification of core koala habitat (koalas are listed under the EPBC Act as a nationally threatened species). The assessment concluded that the modification to the approved project disturbance area would not include land identified as core koala habitat and therefore no threatened fauna species listed under the EPBC Act would be impacted. Habitat potentially suitable for the EPBC listed Eastern Underground Orchid, was identified within the new disturbance area. A targeted survey concluded that the loss of potential eucalypt woodland habitat, which represents approximately 1 per cent of potential habitat within the Jandra Quarry site, will result in a reduction of the potential area of occupancy for the eastern underground orchid. It will not however reduce the area of known occupancy. Therefore, it was considered unlikely that the Project would result in a significant impact on the eastern underground orchid.	Yes	No
Native Title Act 1993 (NT Act)	The NT Act is administered by the National Native Title Tribunal. The Tribunal is responsible for maintaining a register of native title claimants and bodies to whom native title rights have been granted. The NT Act prescribes that native title can be extinguished under certain circumstances, including the granting of freehold land.	Yes	No

	There is no Crown land located within the development consent boundary or the new areas to be disturbed as part of the proposed modification. Native Title has been extinguished.

New South Wales Environmental Legislation

Legislation	Application	Development Activity	Legislation reference	Applicable to Project	Further Approval Required
Environmental Planning and Assessment Act 1979 (EP&A Act)	The Jandra Quarry's existing Part 3A approval (DA231-10-99) was modified under Section 75W of the Act. Comply with the terms Minister for Planning's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	All	S75W	Yes	Not currently
Protection of the Environment Operations Act 1997 (POEO Act)	The POEO Act is administered by the Environment Protection Authority (EPA) and requires licenses for environmental protection including waste, air, water and noise pollution control. The Jandra Quarry EPL 2796 provides for extractive activity as well as crushing, grinding and separating with a production rate of between 100,000 and 500,000 tonnes per annum. More specifically, the EPL (Condition A1.2) directly references the production limit within DA231-10-99 MOD 4: *"Notwithstanding the fee scales noted above, the licensee must not produce more than 250,000 tonnes of finished quarry products per calendar year."* The approved modification will not trigger additional scheduled activities. However, a variation to the EPL would be required as a result of the approved modification (particularly Condition A1.2).	All	S48	Yes	Existing approval
		Quarry production	S58	Yes	License variation
		Operation of plant	S139	Yes	No
		Materials management	S140	Yes	No
		Water management	S120	Yes	No
		Waste management	S142A	Yes	No
		Notification of pollution incidents	S148	Yes	No
Water Management Act 2000	With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems. Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access license. Do not use of water on land (unless supplied by a water utility, irrigation corporation or in accordance with basic landholder rights) without a water use	Water access and use	S56, S60A, S89, , S90 S91	No	No

Legislation	Application	Development Activity	Legislation reference	Applicable to Project	Further Approval Required
	approval. Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.				
Water Act 1912 (Water Act)	Some of the licensing provisions of the Water Act still apply. The Water Act is administered by the NSW Office of Water (NoW). Under Part 2 of the Act, a license would be required under if it were intended to extract water from the creek system or from dams with capacities above the maximum harvestable right dam capacity (MHRDC) for a given property. The MHRDC for Jandra Quarry was determined to be 13.2 ML, with excess storage for each stage anticipated to be less than the harvestable right of 13.2ML. Subsequently an approval under the Water Act is not a requirement of the modification.	Surface water	S21B	Yes	No
		Groundwater	S112, S121A	Yes	No
Crown Lands Act 1989 (Crown Lands Act)	The Crown Lands Act provides for the administration and management of Crown land in the eastern and central divisions of NSW. Crown land may not be occupied, used, sold, leased, dedicated, reserved, or otherwise dealt with unless authorised by this Act or the Crown Land (Continued Tenured) Act 1989. A Crown Road Reserve adjoins the southern boundary of the site, however the proposed modifications will not affect this parcel of land. No further approvals are required under the Crown Lands Act.	Property and access	S45	Yes	No
Heritage Act 1977	This Act includes provisions relating to the protection and management of heritage items (historic heritage). The modification will result in a relatively minor increase in the approved project disturbance boundary. A heritage due diligence assessment was undertaken for the new areas proposed to be disturbed. No historic heritage sites were identified and therefore no further approvals are required under the Heritage Act.	Clearing	Part 4, S139	No	No
National Parks and Wildlife Act 1974 (NPW Act)	The NPW Act is the primary piece of legislation for the protection of Aboriginal cultural heritage in New South Wales. The Office of Environment and Heritage (OEH) administer the NPW Act. The NPW Act provides statutory protection for Aboriginal objects by making it illegal to harm Aboriginal objects and Aboriginal places. Under the NPW Act, impacts on Aboriginal sites require approval. In the EA (refer to Section 6.7), it is noted that an existing approval to impact four previously recorded Aboriginal sites that fall within the approved quarry disturbance area is	Native Fauna	Part 8A, S120, S127, S132C	Yes	No
		Flora and native vegetation conservation	S117 S131	Yes	No
		Aboriginal places and	S86, S90	No	No

Legislation	Application	Development Activity	Legislation reference	Applicable to Project	Further Approval Required
	held for the quarry.	objects			
	The modification will result in a relatively minor increase in the approved project disturbance area. No new Aboriginal heritage sites were identified and therefore no further approvals are required under the NPW Act.	Location or discovery of Aboriginal objects.	S89A	Yes	No
Native Vegetation Act 2003	The NV Act provides for the protection from clearing of native vegetation primarily within regional areas of NSW. Clearing of vegetation on land zoned under Council's LEP as RU1 - Primary Production is regulated under the NV Act and may be cleared in accordance with a development consent granted in accordance with this Act. There are certain exemptions under the provisions of the NV Act which apply to the modification. Where the clearing of native vegetation is assessed under the EP&A Act a separate approval is not required under the NV Act.	Flora and native vegetation conservation	S12	No	No
Noxious Weeds Act 1993	A private occupier of land to which a weed control order applies must control noxious weeds on the land as required under the order. Notify relevant control authority within 24 hours of becoming aware that a notifiable weed is on the land. A person must not scatter or cause to be scattered on any land or water any notifiable weed material or other noxious weed material prescribed by the regulations, knowing it to be such weed material.	Clearing, Weed control	S12, S15, S30	Yes	No
Roads Act 1993	Under Section 138 of the Road Act, consent is required to erect a structure or carry out work in, on or over a public road. The modification will result in an increase in the number of heavy vehicle movements through the existing intersection at the site entrance onto the Pacific Highway. A traffic impact assessment was undertaken and confirmed that modifications to the existing intersection will not be required. The proposed modification will therefore not require approval under the Road Act.	Traffic	S138	Yes	No
Threatened Species Conservation Act 1995 (TSC Act)	Under the EP&A Act, impacts on threatened species listed under the TSC Act are required to be assessed. The modification will result in a minor increase in the approved project disturbance area, which requires the clearing of approximately 1.284 hectares of native vegetation. A flora and fauna impact assessment was undertaken for the new disturbance impacts as well as the potential operational impacts associated with the intensification in production. The EA concluded that no threatened fauna species listed under the TSC Act would be impacted by the modification.	All	N/A	No	No

Legislation	Application	Development Activity	Legislation reference	Applicable to Project	Further Approval Required
Contaminated Land Management Act 1997	This Act establishes a process for investigating, and where required remediating contaminated lands, that pose a risk to human health and the environment. An EPA Contaminated Land Record search was undertaken in February 2014 and no sites were recorded within the Greater Taree LGA. Three separate site surveys were also undertaken during the preliminary planning phase, of the new disturbance area and no evidence of contamination or potentially contaminating activities were identified. No further assessment of contaminated land is therefore required. Notify the EPA if: ▪ During construction, contaminants are discovered in soil and are equal to or exceed guideline levels with respect to the current or approved use of the land. ▪ During construction, discovered contamination meets other criteria that may be prescribed by the regulations.	Reporting contamination	S60	Yes	No

State Environmental Planning Policies

State Environmental Planning Policy	Application
SEPP 33 - Hazardous and Offensive Development	SEPP No. 33 requires the consent authority to consider whether an industrial proposal is a potentially hazardous industry or a potentially offensive industry. Jandra Quarry is not classified as hazardous or offensive under SEPP No. 33. No further assessment under SEPP No. 33 is required.
SEPP 44 - Koala Habitat Protection	SEPP No. 44 restricts the granting of development consent for proposals on land identified as core koala habitat without preparation of a plan of management. The modification will result in a relatively minor increase in the approved project disturbance area, which will require the clearing of approximately 1.284 hectares of native vegetation. A flora and fauna assessment was undertaken for the new areas to be disturbed, which focused on the identification of core koala habitat. The assessment concluded that the modification to the approved project disturbance area would not include land identified as core koala habitat. A koala plan of management is therefore not required.

State Environmental Planning Policy	Application
SEPP 55 – Remediation of Land	SEPP No. 55 aims to provide a state-wide planning approach to the remediation of contaminated land and to reduce the risk of harm to human health and the environment by consideration of contaminated land as part of the planning process. Under SEPP No. 55 a consent authority must not consent to the carrying out of development on land unless it has considered potential contamination issues. An EPA Contaminated Land Record search was undertaken in February 2014 and no sites were recorded within the Greater Taree LGA. Three separate site surveys were also undertaken during the preliminary planning phase, of the new disturbance area and no evidence of contamination or potentially contaminating activities were identified. In the event that previously unidentified contaminated land is located during construction, requirements of this SEPP would need to be complied with. No further assessment of contaminated land or land remediation is required.
SEPP (Major Development) 2005	Identifies development to which Part 3A of the EP&A Act applies.
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	This SEPP regulates the permissibility of mining, extractive industries and related development and specifies matters that must be considered in assessing extractive industry developments requiring consent under Part 4 of the EP&A Act. The proposed modification is not considered exempt or complying development under the SEPP and therefore requires consent.
SEPP (State and Regional Development) 2011	This SEPP identifies State Significant Development. The original development, approved in March 2000, was declared State Significant Development under provisions predating this SEPP and was granted approval under Part 4 of the EP&A Act prior to 1 August 2005. Therefore the modification was considered under Section 75W of the EP&A Act.

APPENDIX A2 STAKEHOLDER & AGENCY CONSULTATION

APPENDIX A3 ENVIRONMENTAL INCIDENT CLASSIFICATION AND REPORTING PROCEDURE

Holcim (Australia) Environmental Incident Notification

Incident Details

Site			
Reported By:			
Reported To:			
Date of Event:		**Time of Event:**	
Date Reported:		**Time Reported:**	
Exact Location			

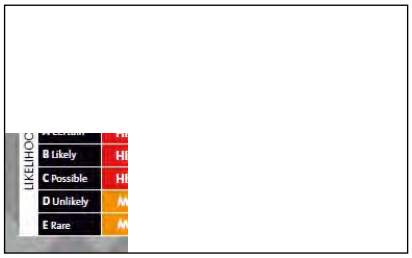
Event Subtype

	Air Pollution		Fauna & Flora
	Blasting		Land Pollution
	Breach of Permit, Consent, Legislation or Local Requirement		Noise
	Complaint		Waste
	Concrete Spill		Water Pollution

Description of Event

Description of Immediate Actions Taken

Initial Risk Assessment

Risk Score Matrix	✔	Potential Likelihood	
		Certain	Event that is expected to occur on multiple occasions
		Likely	Event that is likely to occur at least once
		Possible	Event that may occur
		Unlikely	Event that is unlikely to occur
		Rare	Event that may occur only in exceptional circumstances

Actual Outcome & Potential Consequence

Category	Description	Actual Outcome	Potential Consequence
Category 1	Environmental complaint, minor spill or discharge, minor non-compliance. Immediately contained/cleaned up. Environmental cost <$1,000		
Category 2	Uncontrolled release of dust, discharge or spill locally contained & short-term non-compliance. Local media enquiry. . Environmental cost <$10,000		
Category 3	Uncontrolled discharge with minor effects on the environment, moderate non-compliance. Multiple complaints. State media coverage. Infringement notice or direction by regulator. Penalty <$10k		
Category 4	Uncontrolled discharge or event with significant effect on the environment. National media coverage. Serious non-compliance. Enforcement investigation/prosecution likely. Penalty $10k-100k		
Category 5	Permanent long-term effect on the environment, prosecution, risk of international exposure. Penalty >$100k		

Impact Type

	Air Pollution - Dust Emission		Complaint - Traffic
	Air Pollution - Odour		Complaint - Water
	Air Pollution - Other		Fauna & Flora - Disease Propagation
	Blasting - Fly Rock		Fauna & Flora - Excessive Weed Propagation
	Blasting - Ground Vibration		Fauna & Flora - Fauna Death
	Blasting - Overpressure (Noise)		Fauna & Flora - Fauna Disturbance
	Breach - Air Quality Limits		Fauna & Flora - Other
	Breach - Noise Limits		Fauna & Flora - Unauthorised Clearing
	Breach - Other		Land Pollution - Acid Sulphate Soils
	Breach - Tracking Mud to Public Roads		Land Pollution - Erosion
	Breach - Water Usage		Land Pollution - Other
	Breach - Blasting Limits		Land Pollution - Soil Contamination
	Breach - Disturbance Outside Boundary		Land Pollution - Spill to Land
	Breach - Heritage Site Disturbance		Noise Emission
	Breach - Reporting Obligation		Waste - Energy Wastage
	Breach - Traffic Obligations		Waste - Generation of Excessive Waste
	Breach - Water Quality		Waste - Other
	Complaint - Blasting		Waste - Resource Wastage
	Complaint - Dust		Waste - Spill In Bund
	Complaint - Noise		Waste - Unauthorised Imported Waste
	Complaint - Nuisance Lighting		Water Pollution - Other
	Complaint - Odour		Water Pollution - Spill to Water
	Complaint - Other		Water Pollution - Unlicensed Discharge

Receiving Medium

	Air		Roadway - Unsealed
	Bund		Soil
	Drain		Subsurface (Blast Vibration)
	Groundwater		Vegetation
	Offshore Water		Watercourse
	Quarry Pit		Watercourse - Dry
	Roadway - Sealed		

Mechanism of Incident

	Chemical or hydrocarbon spill or leakage		Noise/vibration from blasting or operation
	Community complaint		Operator Error
	Culture / heritage site discovery or disturbance		Other environmental mechanism
	Engineering / design		Sediment capture, storage or discharge
	Equipment failure		Site clearing and/or ground disturbance
	Erosion by water or wind		Stormwater Overflow During Rainfall
	Fire		Traffic management or movement
	Maintenance Inspections		Waste collection, storage or disposal
	Materials selection, Handling/Storage		

Agency of Incident

	Acid		High PH Water
	Admixtures (including dry additives)		Lime
	Aggregate		Noise
	Airborne Dust		Not Applicable
	Asbestos		Other
	Cement		Other Chemicals
	Concrete		Radioactive Material
	Concrete Slurry		Sand
	Contaminated Soil		Sludge
	Flyash		Silica Fume
	Fuel / Oils / Pre-coat		Tailings / Slimes
	General Waste		Washout Waste

Volume of Agent Released / Recovered

	Released	Recovered
N/A		
Nil		
< 1 Litres / Kilograms		
1 - 5 Litres / Kilograms		
6 - 10 Litres / Kilograms		
11 - 50 Litres / Kilograms		
51 - 100 Litres / Kilograms		
101 – 200 Litres / Kilograms		
201 - 500 Litres / Kilograms		
501 – 1,000 Litres / Kilograms		
>1,000 Litres / Kilograms		

Area /Duration of Impact

✔	Area of Impact
	Within Boundary of the Site
	Outside Site Boundary
	Customer Site
	During Transit

✔	Duration of Incident
	< 1 day
	1 to 3 days
	3 to 7 days
	1 to 2 weeks
	2 to 4 weeks
	> 4 weeks

APPENDIX A4 HOLCIM ENVIRONMENTAL POLICY

Environmental Policy

Holcim (Australia) Pty Ltd, 07/2010

Holcim Australia believes that protecting the environment is integral to sustainable development. The principles of sustainable development – value creation, sustainable environmental performance and corporate social responsibility – are integral to Holcim Australia's business strategy. There are four pillars of our Environmental Policy for which we have assigned actions to assist our progress towards sustainable development.

1. **Management Systems**

- Comply with all applicable environmental laws, regulations, codes of practice and voluntary agreements;
- Adopt and enforce internal standards and systems that ensure continuous environmental improvement;
- Set corporate objectives and targets and monitor progress;
- Promote environmental commitment through training and integration into business processes.

2. **Resource Utilisation**

- Ensure optimum use of raw materials, including energy efficiency, water efficiency and the reduction of waste in all operations;
- Development of innovative and sustainable products and processes.

3. **Environmental and Social Impacts**

- Operate as an environmentally and socially responsible business;
- Minimise the environmental impacts of our operations;
- Rehabilitate land that is impacted by our activities including identifying opportunities to protect and enhance cultural sites and biodiversity;
- Respond to the challenges presented by climate change by identifying opportunities to reduce our carbon footprint.

4. **Stakeholder Relations**

- Effectively engage and communicate with stakeholders in relation to environmental matters.

Mark Campbell

CEO, Holcim (Australia) Pty Ltd