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# Lynwood Quarry Environmental Management Strategy

Holcim Australia  
February 2020

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# 1. Introduction

## 1.1 Background

Holcim (Australia) Pty Lid (Holcim) was granted development consent in December 2005 (DA 128-5-2005)(Development Consent) by the then NSW Minister for Planning for the construction and operation of a hard rock quarry known as Lynwood Quarry west of Marulan in the Southern Tablelands region of NSW (refer to **Figure 1**). There have been 5 modifications approved to the Development Consent since 2005. The recent Modification 5 was approved by the Department of Planning and Environment (DP&E) under section 75W of the EP&A Act on 29 May 2017.

The location of Lynwood Quarry and extent of the approved 30 year quarry pit is shown in **Figure 1**. The quarry has existing Development Consent approval to produce up to five million tonnes per annum (Mtpa) of saleable quarry product until 2038. The target resource has an expected life in excess of 90 years. Some of the material extracted as part of the quarrying process is not suitable for processing and sale, consequently emplacement areas are required (see **Figure 1**).

## 1.2 Objectives and Purposes

This Environmental Management Strategy (Strategy) provides the framework for environmental management at Lynwood Quarry. The strategy satisfies Schedule 5 Condition 1 of the Development Consent. The Strategy is consistent with the Holcim EMS. This Strategy applies to all components of the Lynwood Quarry operations. The structure of this Strategy is based generally on the structure of the international standard for Environmental Management Systems ISO 14001, which follows the 'Plan-Do-Check-Act' process.

The objectives of the Strategy are to:

- Provide the overall framework for environmental management at Lynwood Quarry;
- Facilitate compliance with the Lynwood Quarry Development Consent, other project specific environmental licences and permits, the commitments in the Lynwood Quarry EIS (Umwelt, 2005), Statement of Environmental Effects (SEE, Umwelt, 2009), and the Environmental Assessments (EA, Umwelt, 2010 and Umwelt, 2015) and other relevant legal requirements (refer to Section 3.2);
- Effectively integrate the requirements of the Holcim EMS and relevant legal and other requirements into a site specific document;
- Provide an overview of the mechanisms Holcim will utilise to keep the local community informed about Lynwood Quarry; and
- Assist Lynwood Quarry staff and contractors in better administering their responsibilities regarding environmental management.

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, licenses, 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.

### 1.3 Overview

The location and extent of the 30 year quarry pit is shown on **Figure 1**, including the locations of overburden and excess product emplacement areas and project infrastructure.

The quarry has existing Development Consent approval to produce up to five million tonnes per annum (Mtpa) of saleable quarry product until 2038. Up to 5 Mtpa of the product from the project will be transported via the dedicated train loading facility, with up to 1.5 Mtpa of the total 5 Mtpa also approved to be delivered to markets by road transport via the Hume Highway. Some of the material extracted as part of the quarrying process is not suitable for processing or able to be sold, consequently emplacement areas are required. The locations of these emplacement areas are shown on **Figure 1**.

The quarry has approval to operate twenty-four hours per day, seven days per week. Operating hours will be limited for some activities, to reduce potential noise impacts. The operating hours are described in Schedule 3 Condition 5 of the Development Consent and detailed in **Table 1** below.

**Table 1**      **Approved hours of operation at Lynwood Quarry**

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

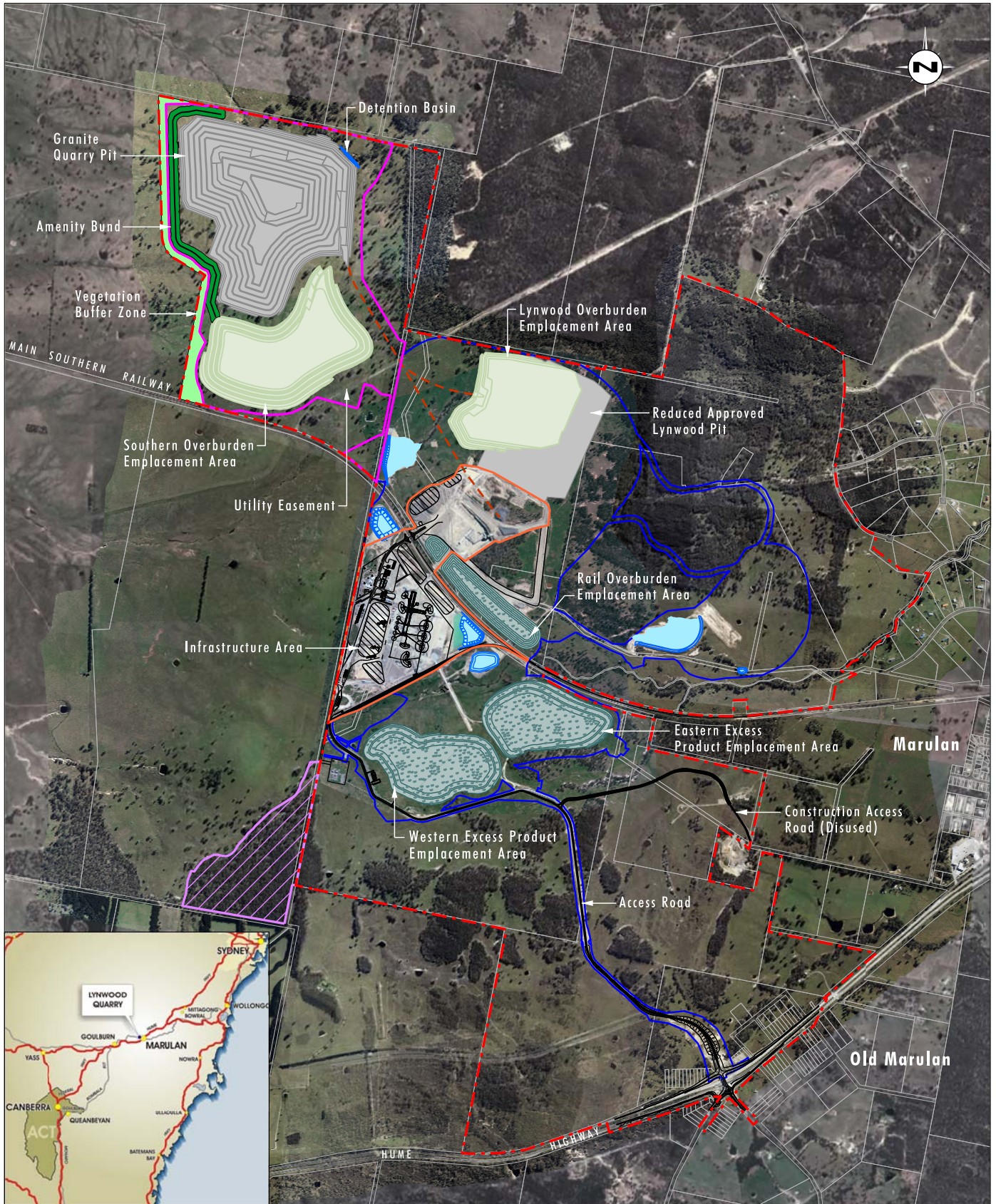


Image Source: Google Earth (2012), Holcim (2012, 2014)  
 Data Source: LPI (2014), Holcim Australia (2015)

0 0.5 1.0 1.5 km  
 1:30 000

Figure supplied by Umwelt Pty Ltd

**Legend**

- |                                   |                             |           |
|-----------------------------------|-----------------------------|-----------|
| Approved Project Area             | Quarry Pit                  | Haul Road |
| Lynwood Infrastructure Area       | Emplacement Area            |           |
| Approved Disturbance Footprint    | Dam                         |           |
| Granite Pit Disturbance Footprint | Overburden Emplacement Area |           |
| Lynwood Infrastructure Layout     | Vegetation Buffer Zone      |           |
| Habitat Management Area           | Amenity Bund                |           |

**FIGURE 1**  
**Lynwood Quarry**

## 2. Stakeholder Consultation

### 2.1 Pre 2019 Consultation

In accordance with Schedule 3 Condition 15 of the Development Consent, this EMS was sent to DPIE for approval in September 2016.

### 2.2 2019/2020 Consultation

A copy of the 2019 updated management will be sent to DPIE. Holcim will then update this document and resubmit to DPIE if comments are provided.

**Table 2 DPIE Consultation for this Management Plan**

Comment	Response
Section 6.4.1 notes that all complaints will be responded to in a 'timely manner' – Could Holcim please provide a definitive timeframe as to when complaints will be handled	In Section 6.4.1 this has been updated to 'within one working day'
Could you please confirm the monitoring figure shows the new position for the relocated dust gauges.	Yes. DD12 has moved to its new location. Figure has been updated to reflect the current location of the relocated dust deposition gauges.

### 3. Statutory Requirements

The statutory approvals held by Lynwood Quarry include:

- Development Consent (128-5-2005) incorporating the four approved modifications;
- Environment Protection Licence (EPL.12939);
- Section 87 permits and Section 90 consents (Aboriginal Heritage Impact Permit (AHIP) no's 1077294, 1100264, 1077225 and 1089392);
- Part 5 licences (Water Act 1912) for groundwater monitoring locations;
- Controlled Activity Approvals (*Water Management Act 2000*);
- Construction certificates; and
- Other relevant approvals.

#### 3.1 Development Consent Conditions

The development and implementation of this Strategy is required by Schedule 5 Condition 1 of the Lynwood Quarry Development Consent (refer to **Table 2**).

**Table 3: Development Consent Conditions relating to the Strategy and where they are addressed in this document**

Development Consent Conditions	Relevant Section
<b>Schedule 5</b>	
Environmental Management Strategy	Entire document
1. If the Secretary of DP&E (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;	Document submitted in accordance with this requirement
b) provide the strategic framework for the environmental management of the development;	Section 4
c) identify the statutory approvals that apply to the development;	Section 3
d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Section 6.1
e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the development;</li> <li>• respond to any non-compliance;</li> <li>• respond to emergencies; and</li> </ul>	Section 5.2, Section 6.2  Section 5.2.2  Section 6.3.2 Section 7.3 Section 6.7
f) include: <ul style="list-style-type: none"> <li>• copies of any strategies, plans and programs approved under the conditions of this development consent; and</li> <li>• a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.</li> </ul>	Section 5.2, Appendix 1



## 4. Environmental Management Framework

### 4.1 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 **Table 4**.

**Table 4 EMS Relationship with AS/NZS ISO 14001**

Process	Requirements	Section Reference
Plan	<ul style="list-style-type: none"> <li>Maintain register of legal and other requirements.</li> <li>Maintain register of environmental aspects and impacts.</li> <li>Set environmental objectives and targets.</li> <li>Develop environmental programs and management plans.</li> </ul>	<b>Section 5</b> Planning
Do	<ul style="list-style-type: none"> <li>Responsibilities for environmental management.</li> <li>Provision of environmental awareness training and assessment of competence.</li> <li>Internal communications and document control.</li> <li>External communications with regulators, members of the public and other stakeholders.</li> <li>Management of complaints. Operating procedures. Incident management.</li> <li>Emergency preparedness and response.</li> </ul>	<b>Section 6</b> Implementation and operation <b>Section 6</b> Competence, training and awareness <b>Section 6.3</b> Communication <b>Section 7.3</b> Incidents and emergencies
Check	<ul style="list-style-type: none"> <li>Annual review of compliance with environmental statutory requirements during preparation of the Annual Environmental Management Report.</li> <li>Environmental Monitoring</li> <li>Non-compliance and corrective/preventive action Audits</li> </ul>	<b>Section 7</b> Inspections, monitoring and auditing <b>Section 8</b> Review and improvement
Act	<ul style="list-style-type: none"> <li>Periodic review and revision of the EMS by senior management</li> <li>Non-compliance and corrective/preventive action</li> </ul>	<b>Section 8</b> Review and improvement

### 4.2 Holcim Environmental Policy

#### 4.2.1 Environmental policy and commitment

Lynwood Quarry will operate in accordance with the Holcim Environmental Policy.

The Holcim Environmental Policy applies to all Holcim operations and defines the environmental management at the Lynwood Quarry. The Environmental Policy commits to:

- Continuous improvement of environmental performance and provide positive contribution to the Holcim business and to society; and
- Sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The Holcim Environmental Policy is based on four key fundamentals (**Table 4**).

**Table 5 Holcim Environmental Policy – key fundamentals**

<b>Holcim fundamental</b>	<b>Requirement</b>
Management systems	Holcim applies internationally recognised standards, and seeks to comply with domestic environmental laws, regulations and standards applicable to their products and operations.  Holcim assesses the environmental policies and practices of suppliers and sub-contractors as part of their selection process. Holcim also translate environmental commitments into actions by setting objectives and targets and monitoring progress against these targets.
Resource utilisation	Holcim promotes reuse, recycling and conservation over their entire value chain, and invests in research for innovative and sustainable products and processes.
Environmental impacts	Holcim assesses and measures environmental impacts to continuously improve processes and promote best practice. Holcim seek to develop management controls on their site to monitor, prevent and minimise the release of pollutants to the environment.
Stakeholder relations	Holcim engage stakeholders and report publicly on compliance, performance and progress where appropriate.

### 4.3 Environmental Management System

Lynwood Quarry will operate in accordance the Holcim Safety Health and Environment (SHE) Policy. All activities at Lynwood Quarry will be undertaken in accordance with the principles of these two policies. Both policies have been developed in accordance with the principles of ISO 14001. A copy of the SHE policy is maintained on the internal Holcim intranet.

#### 4.3.1 Holcim Environmental Management System

The Holcim Environmental Management System (EMS) currently sets the minimum environmental management requirements for all Holcim operations. The management system consists of:

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

SHE Standard 4 describes environmental management requirements as they relate to the operational control of significant environmental aspects (hazards or risks). For each environmental hazard, a set of minimum environmental standards have been developed. These standards are used to measure environmental performance over time.

#### 4.3.2 Lynwood Quarry Environmental Management System

To assist with the ongoing effective management of operations at Lynwood Quarry, Holcim have developed and implemented an EMS generally in accordance with ISO 14001.

The Strategy provides an overview of the key operational methods utilised to effectively manage environmental and community issues at Lynwood Quarry. Compliance with this Strategy will be ensured by training, inspections, audits and regular review, with the overall implementation objective being the continual improvement of Lynwood Quarry's environmental performance.

## 5. Planning

### 5.1 Identification of Environmental Aspects and Impacts

Ongoing identification of environmental aspects and impacts, also known as environmental risk assessment, is a key tool that will be used by Lynwood Quarry to ensure potential environmental impacts are identified, assessed and appropriately managed. To assist with this process, a risk assessment procedure has been used by Lynwood Quarry which details how aspects and impacts are identified and managed on site.

The Holcim Support Services Supervisor is responsible for maintaining and updating a register of aspects and impacts in consultation with operations personnel. Risks and controls recorded on this register will be considered during the development of management plans and site operational procedures as well as during the development and delivery of site training programs.

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 the aspects and impacts register, with this being included in the Pollution Incident Response Management Plan (PIRMP).

### 5.2 Environmental Management Plans

Environmental management plans provide an overview of a specific environmental aspect or activity and the controls implemented for their effective management. The management plans include:

- Water Management Plan (Schedule 3 Condition 20) which includes:
  - Water balance;
  - Erosion and Sediment Control Plan;
  - Surface Water Monitoring Program;
  - Ground Water Monitoring Program; and
  - Surface and Groundwater Response Plan to address any potential adverse impacts associated with the development.
- Construction Traffic Management Plan (Schedule 3 Condition 26) – no longer applicable to the site as construction has ceased;
- Blast Management Plan (Schedule 3 Condition 11);
- Noise Management Plan (Schedule 3 Condition 6);
- Air Quality Management Plan (Schedule 3 Condition 15);
- Aboriginal Cultural Heritage Management Plan (Schedule 3 Condition 35);
- Rehabilitation and Landscape Management Plan, including Riparian Area Management Plans (Schedule 3 Condition 44).

The implementation of these management plans is the responsibility of all employees at Lynwood Quarry and is overseen by the Support Services Supervisor. In addition, these plans outline key risks and specific roles and responsibilities for key personnel in managing those risks.

### **5.3 Environmental objectives and targets**

Environmental objectives and targets will be set annually in the Annual Review.

## 6. Implementation and Operation

### 6.1 Roles and Responsibilities

Environmental management at Lynwood Quarry is the responsibility of all employees and contractors, with the Lynwood Quarry Manager having overall responsibility. Environmental roles and responsibilities for project personnel are outlined below (**Table 5**). Environmental responsibilities are included in the position descriptions of all employees at Lynwood Quarry.

**Table 5: General environmental responsibilities at Lynwood Quarry**

Personnel	Responsibilities
Quarry Manager	<ul style="list-style-type: none"> <li>• Have a working knowledge of Strategy, the Holcim Environmental Policy and the Holcim EMS.</li> <li>• Be aware of the environmental legislative requirements associated with the Lynwood Quarry and take measures to ensure compliance.</li> <li>• Ensure appropriate training is provided to all employees and contractors regarding their environmental responsibilities.</li> <li>• Provide adequate resources to allow the development, implementation and operation of the Lynwood Quarry EMS.</li> <li>• Authorise the Lynwood Quarry EMS.</li> <li>• Liaise with the Holcim Support Services Supervisor regarding the preparation of annual environmental programs and their implementation.</li> <li>• Ensure all operations are undertaken in accordance with the Holcim Environmental Policy and EMS.</li> <li>• Assist the Holcim Support Services Supervisor to undertake liaison with regulatory authorities and the community in relation to environmental matters.</li> </ul>
Line Managers	<ul style="list-style-type: none"> <li>• Have a working knowledge of this Strategy, the Holcim Environmental Policy and the EMS.</li> <li>• Be aware of the environmental legislative requirements associated with the Lynwood Quarry and take measures to ensure compliance.</li> <li>• Ensure all operations are undertaken in accordance with the Lynwood Quarry Environmental Policy, procedures, and EMS.</li> </ul>
Lynwood Quarry Support Services Supervisor	<ul style="list-style-type: none"> <li>• Implement and maintain the Lynwood Quarry EMS, including this Strategy.</li> <li>• Be aware of the environmental legislative requirements associated with the Lynwood Quarry and take measures to ensure compliance.</li> <li>• Ensure appropriate training is provided to all employees and contractors regarding their environmental responsibilities.</li> <li>• Ensure all statutory reporting is undertaken.</li> <li>• Ensure all operations are undertaken in accordance with the Holcim Environmental Policy and EMS.</li> <li>• In consultation with the Quarry Manager, undertake liaison with regulatory authorities and the community in relation to environmental matters.</li> </ul>
Holcim Planning and Environment Co-ordinator	<ul style="list-style-type: none"> <li>• Assist in the coordination of incident investigations and reporting as required by legislation and internal standards and guidelines; and</li> </ul>

Personnel	Responsibilities
All employees and contractors	<ul style="list-style-type: none"> <li>• Assist with the review of this Plan.</li> <li>• Be aware of this strategy and the Holcim Environmental Policy and undertake all works in accordance with these documents.</li> <li>• Be responsible and accountable for the environmental impact of the work they perform.</li> <li>• Immediately report any environmental incidents to their supervisor.</li> </ul>

## 6.2 Training, awareness and competence

Holcim has developed an environmental training and induction program for all employees, contractors and visitors at Lynwood Quarry. The training and induction program consists of:

- Induction training; and
- Toolbox talks.

Training consists of inductions for all new staff and contractors. Permanent staff will be retrained in general environmental awareness as required (may be undertaken as part of a re-induction process). Key issues addressed in the induction and tool box talks include dust and noise minimisation, vegetation clearing procedures, archaeological awareness and water and energy management.

Tool-box talks will be held on an as-needs basis to address specific environmental issues, such as findings from incident or complaint investigations, or improvement initiatives.

## 6.3 Communication

Effective communication between Lynwood Quarry management, employees and contractors and communication between Lynwood Quarry and external stakeholders is important for the successful implementation and operation of the Lynwood Quarry EMS. Communication mechanisms are outlined below.

### 6.3.1 Internal Communications

Effective communication between Lynwood Quarry management, employees and contractors and communication between Lynwood Quarry and external stakeholders is important for the successful implementation and operation of the Lynwood Quarry Environmental Management Strategy. Specific communication mechanisms are utilised to communicate internally within Holcim as well as externally to Lynwood Quarries stakeholders including the community and government stakeholders. A key mechanism for keeping Lynwood's stakeholders informed of the operations is the Lynwood Quarry website and the Lynwood Quarry Community Consultative Committee (refer to **Section 6.2**).

### 6.3.2 External Communications

Holcim will maintain open external communication channels throughout the life of the operations. The Holcim Lynwood Quarry website is a key mechanism for external dissemination of information, with copies of approved environmental management plans and this Strategy, plus other project information made available. Other key communication mechanisms include the Community Consultative Committee and statutory reporting (refer to **Section 7.2**).

The Support Services Supervisor (or delegate) is responsible for responding to complaints, reporting the complaint to the Quarry Manager and determining the appropriate corrective action.

## **Community Consultative Committee**

Lynwood Quarry has established a process whereby it meets regularly with a group of local community representatives, as outlined in the Lynwood Quarry EIS (Umwelt, 2005). This commitment is met via the utilisation of a Community Consultative Committee (CCC). The CCC provides the local community with a mechanism through which to provide feedback, raise concerns and provide input into Lynwood Quarry community contributions. The CCC also provides a mechanism through which Holcim can provide information about the operation, including environmental performance information, to the local community.

In accordance with the Development Consent, the CCC comprises an independent chair with appropriate representation from Holcim, the council and the local community.

## **6.4 Complaints Management and Dispute Resolution**

### **6.4.1 Complaints Management**

Holcim prides itself on fostering a positive relationship with the community and considers it critical for the success of Holcim undertaking its operations. Wherever possible, a proactive approach will be taken to engage the community in discussing proposed activities that may affect them. Any complaints received relating to Lynwood Quarry's operations will be recorded in a standard format (using the INX system) and responded to within one working day by the Holcim Support Services Supervisor or their delegate. There is a weekly review of complaints management by the Holcim Planning and Environment team.

Lynwood Quarry has established an environment and community enquiries line to provide a mechanism by which community concerns can be raised. The Holcim Support Services Supervisor will be responsible for the implementation of the complaints management process and will ensure an appropriate response within one working day. The CCC will be provided a summary of community concerns or complaints about the quarry's operations at each meeting.

Records of complaints will be kept for a minimum of four years in a register to be maintained by the Holcim Support Services Supervisor and will be reported on an annual basis in the Annual Review.

### **6.4.2 Dispute Resolution**

Holcim strive to maintain good relations with all external stakeholder groups through effective communication. It is Holcim's desire 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 discussed below will be implemented.

Schedule 4 Conditions 2 and 3 of the Development Consent outline that if a landowner considers that the operations of the quarry are exceeding the impact assessment criteria outlined in Schedule 3 of the Development Consent, then the landowner may ask Lynwood Quarry in writing for an independent review of the impacts of Lynwood Quarry on their land.

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

- 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 of the Development Consent
- If Lynwood Quarry is not complying with these criteria then identify measures that could be implemented to ensure compliance with the relevant criteria.
- A copy of the Independent review is then to be provided to the land owner and the Secretary.

## 6.5 Lynwood Quarry Website

Holcim maintains webpages that meet Schedule 5, Condition 13 of the Development Consent which states:

*By 30 November 2016, unless otherwise agreed by the Secretary, until the completion of all works, including rehabilitation and remediation, 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.*

The information available on these web pages will be updated in accordance with the requirements of the Development Consent.

## 6.6 Environmental Incidents and Criteria Exceedances

All employees, visitors and contractors at Lynwood Quarry are required to report any non-conformances with the EMS or environmental incidents to their supervisor, Manager or the Holcim Support Services Supervisor. The incident management procedures must be implemented including notifying the Holcim Support Services Supervisor and Quarry Manager as well entering the incident in the incident management and recording system.

The Holcim Support Services Supervisor (or delegate) is responsible for responding to incidents and reporting the incident to the Quarry Manager and determining the appropriate corrective action.

Additional controls will be implemented where required, based on the outcomes of the investigation. Incidents that have caused, or threaten to cause material, harm to the environment will be reported to the Secretary of DPIE and other relevant agencies immediately with incidents managed and reported as per the Pollution Incident Response Management Plan.

Environmental incidents at Lynwood Quarry will be reported in accordance with the requirements of Schedule 5 Condition 8 of the Development Consent as well as the requirements of the Protection of the Environment Operations Act (1997). Schedule 5 Condition 8 of the Development Consent states:



*“ The Applicant must notify, at the earliest opportunity, the Secretary and other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incidents 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.”*

All environmental incidents with a medium or high actual or potential risk rating will be investigated using a root cause methodology. All environmental incidents will be reported annually in the Annual Review.

## **6.7 Emergency Preparedness and Response**

Lynwood Quarry has developed a Pollution Incident Response Management Plan (PIRMP) in accordance with the requirements of the Protection of the Environment Operations Act 1997.

The site also has an Emergency Management Plan (EMP) that has identified, assessed and provided provisions for responses to emergencies related to environmental considerations. The EMP has been developed to work in conjunction with the PIRMP.

All employees will be trained in emergency preparedness and response. The level of risk identified during the risk assessment process will determine the level of preparedness and training.

## 7. Monitoring and Corrective Actions

### 7.1 Environmental Monitoring

Environmental monitoring will be undertaken to measure Lynwood Quarry's performance against statutory limits. Environmental monitoring will be coordinated by the Holcim Support Services Supervisor or their delegate, in accordance with relevant licence and Development Consent conditions.

All environmental monitoring will be undertaken by trained personnel using appropriately calibrated equipment, in accordance with relevant Australian Standards and OEHL approved methods. Equipment calibration will be undertaken in accordance with Australian Standards and the manufacturers' specifications. Lynwood uses the services of appropriately certified external testing laboratories & contractors to fulfill these monitoring requirements.

Monitoring results will be compared by a suitably qualified person against relevant statutory limits to determine compliance with statutory requirements. All monitoring results and calibration records will be kept for at least four years and the monitoring results will be placed on the Lynwood Quarry website. Other issue-specific monitoring is also included in the various environmental management plans prepared for Lynwood Quarry, including ecological monitoring, revegetation effectiveness monitoring and riparian area monitoring outlined in the Rehabilitation and Landscape Management Plan. A copy of the environmental monitoring locations at Lynwood Quarry is included in Appendix 1 and outlined in detail within Environmental Management Plans.

Monitoring results will be reported externally on the Lynwood Quarry website (refer to **Section 6.5**), on annual basis as part of the Annual Review and Environment Protection Licence Annual Return and will also be communicated to the CCC at each meeting.

### 7.2 Environmental Reporting

Lynwood Quarry provides relevant information internally to its employees via toolbox talks, inductions and formal training.

#### 7.2.1 Annual Review

Schedule 5 Condition 10 of the Lynwood Quarry Development Consent requires that an Annual Review is prepared for Lynwood Quarry and submitted to the Secretary by the end of September each year, in accordance with:

*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 Annual Review will be made available to the public through the CCC and the Lynwood Quarry web site. Other statutory reporting (e.g. Environment Protection Licence Annual Return) will be completed as required by statutory requirements. It should be noted that the Annual Review covers the calendar year and is submitted at the end of March each year.

### **7.3 Non-Compliances and Corrective Actions**

Non-compliances at Lynwood Quarry may be identified by a range of mechanisms including:

- Review of monitoring results;
- Complaints;
- Site inspections including those by government agencies;
- Audits; and/or
- Incident reports.

If a non-compliance is identified, the Lynwood Quarry Manager will be responsible for implementing an appropriate investigation and determining appropriate corrective and preventative actions, as well as recording the non-compliance and corrective actions within the Holcim Incident Management System (INX).

Any actions required as an outcome of the non-compliance will be tracked in Holcim's Incident Management System. .

In accordance with Schedule 5 Condition 6 of the Development Consent, following exceedance of the relevant environmental criteria outlined in Schedule 3 of the Development Consent, Holcim will:

- Take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
- Consider all reasonable and feasible options for remediation (where relevant) and submit a report to DPIE describing those options and any preferred remediation measures or other course of action; and
- Implement any additional remediation measures as directed by the Secretary.

### **7.4 Environmental Audits**

The Lynwood Quarry Manager (or delegate) will undertake monthly formal inspections of environmental management controls. Checklists have been developed to guide these inspections. Any issues arising from these inspections will be reported in Holcim's Incident Management System as non-conformances and will be managed in accordance with site incident procedures and actioned as necessary to resolve the non-conformance.

An internal Holcim audit of the Lynwood Quarry against the Holcim EMS, and site specific approvals, will be undertaken every 5 years.

An external Independent Environmental Audit was required by 30 September 2017, every three years thereafter, in accordance with Schedule 5 Condition 11 of the Development Consent. This audit will be undertaken by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Secretary of DPIE. The Independent Environmental Audit will be undertaken in general accordance with ISO 19011:2002-Guidelines for Quality and/or Environmental Systems Auditing.

In accordance with Schedule 5 Condition 11 the Independent Environmental Audit, and Holcim's response to the audit recommendations will be made available on the Holcim website.

## 8. Review and Improvement

This Strategy will be reviewed, and revised as necessary, in accordance with the requirements of Schedule 5 Condition 5 of the Development Consent which states: *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.*

In terms of sub clause b), the requirement to review and update management plans will be assessed during the preparation of each Annual Review. The Annual Review will state which management plans require updating and which management plans do not require updating.

Update versions of management plans will be put on the website once approved.

## **9. Documentation**

### **9.1 Environmental Records**

The Quarry Manager and Shared Services Supervisor 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 at times of change to scheduled activities or to legislative or licensing requirements.

### **9.2 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.

## 10. References

Environment Protection Agency, 2000. Industrial Noise Policy - Environmental Noise Management, Chatswood.

Umwelt (Australia) Pty Limited, 2005, Environmental Impact Statement Proposed Lynwood Quarry, Marulan, prepared for Readymix Holdings Pty Ltd.

Umwelt (Australia) Pty Limited 2009, Statement of Environmental Effects Proposed Minor Modifications to Lynwood Quarry, Marulan, Prepared for CEMEX.

Umwelt (Australia) Pty Limited 2010, Environmental Assessment Proposed Modifications to Lynwood Quarry, Marulan. Prepared for Holcim (Australia) Pty Limited.

Umwelt (Australia) Pty Limited 2015, Environmental Assessment Lynwood Quarry Extraction Area Modification. Prepared for Holcim (Australia) Pty Limited.

## 11. Change Information

Version	Date	Change Summary
1	October 2016	Update for MOD 5 Modification
2	December 2019	<p>Review of the template for all Lynwood management plans;</p> <ul style="list-style-type: none"> <li>• General structure updates to be consistent with other Holcim sites;</li> <li>• Section 2- Addition of consultation section;</li> <li>• Section 11 – inclusion of change information.</li> <li>• Inclusion of updated monitoring figure.</li> </ul> <p>The following did not change:</p> <ul style="list-style-type: none"> <li>• No change to incident management or reporting requirements.</li> </ul>
3	February 2020	Response to DPIE comments. Inclusion of timing regarding complaints management.



# **APPENDIX 1 – ENVIRONMENTAL MONITORING LOCATIONS**

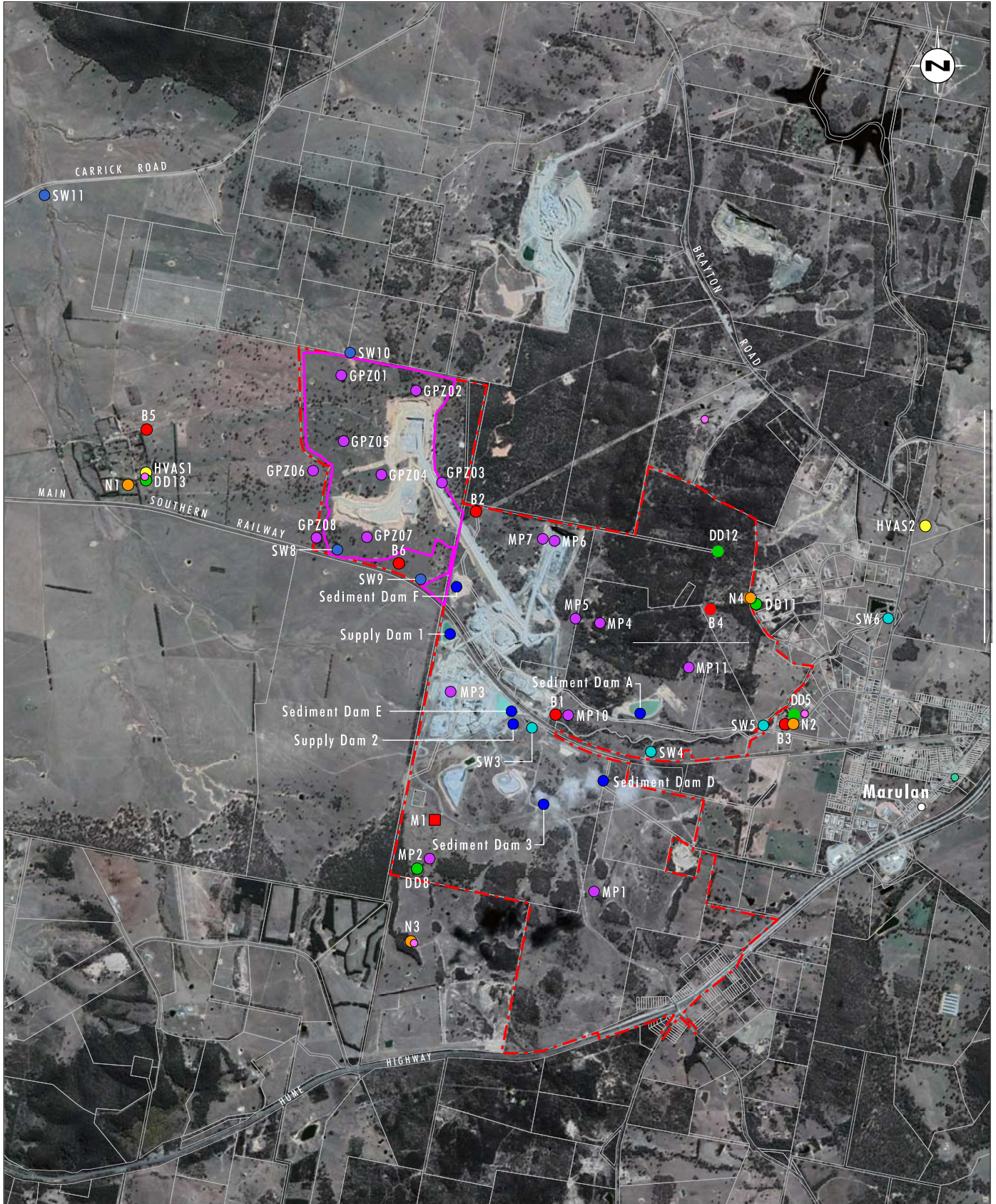
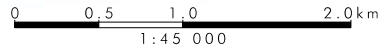


Image Source: Google Earth (2018)  
 Data Source: LPI (2014), Holcim Australia (2015)



Updated in December 2019 by SLR Consulting (Location of DD12)

**Legend**

- Approved Project Area
- Granite Pit Disturbance Footprint
- Meteorological Station
- Depositional Dust Monitoring Location
- HVAS Location
- Blasting Monitoring Location
- Noise Monitoring Location
- Groundwater Piezometer
- Surface Water Monitoring Location
- Site Water Management Dams
- Granite Pit Surface Water Monitoring Location SW8 to SW11
- Residence Location
- Marulan Public School
- Marulan Childrens Centre

**Figure 1**  
 Environmental Monitoring Network

