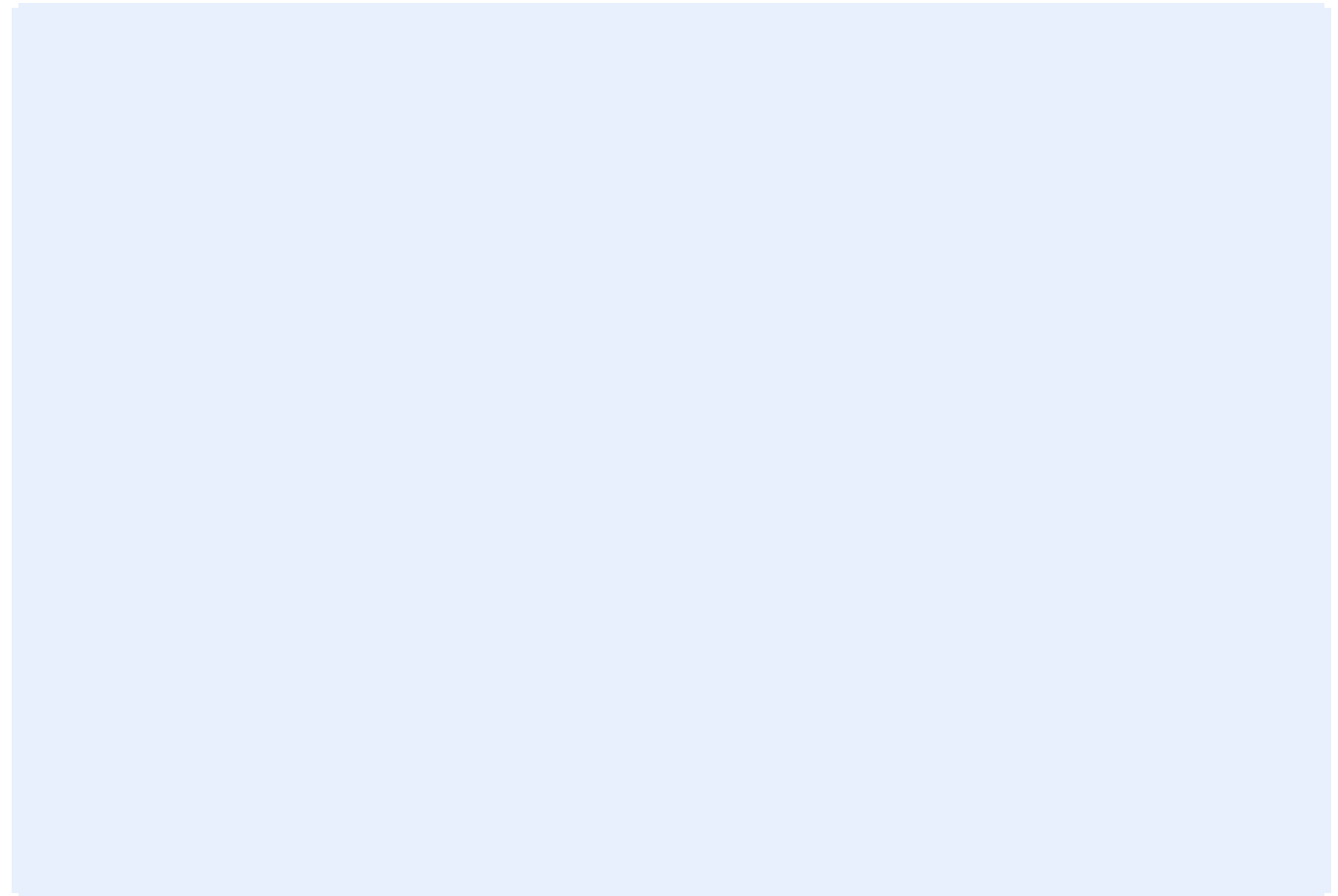


Environmental Management Strategy

for the East Guyong Quarry



Document Control			
Draft and Date	Prepared by:	Approved for Release by:	Comments Received
Original – Sept 2012	K. Oxley (RWC)	M. Gear	
Revision - 1 Feb 2013	M. Bland (RWC)	A. Driver	
Revision 2 - April 2018	N. Warren (RWC)	P. Riini	P. Neville (DPE)
Revision 3 – July 2019	B Pignone (Hanson)	A Driver	
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Review Date:			

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1. Introduction

This *Environmental Management Strategy* (the Strategy) has been prepared by Hanson Construction Materials Pty Ltd (Hanson) and R W Corkery & Co Pty Limited (RWC) for the East Guyong Quarry (the Quarry). The Quarry is located approximately 22km southeast of Orange and 36km west of Bathurst (**Figure 1**).

This Strategy has been prepared in satisfaction of *PA Condition 5(1)* of Project Approval (PA) 06_0193 and describes the following.

- A description of the activities approved under PA 06_0193.
- Identification of the strategy that Hanson will implement to ensure appropriate management of environmental matters at the Quarry.
- A description of approvals and other licences that apply to the Quarry.
- A description of the objectives and key performance outcomes for this Strategy and the Quarry.
- A description of key environmental monitoring measures that will be implemented.
- Evaluation of compliance with relevant assessment criteria.
- A description of the reporting and stakeholder engagement that Hanson will implement to ensure the community and regulators are aware of activities within the Quarry.
- A description complaints handling, response and dispute resolution procedures that will be implemented.
- A description of the emergency response procedures that will be implemented.
- A description of the roles and responsibilities of key personnel within the Quarry.
- A description of competence training and awareness.
- Detailing of plan evaluation review requirements.

This Plan forms part of the Quarry's overall Environmental Management System which includes the implementation of the following management plans.

- Noise Management Plan.
- Asbestos Management Plan.
- Soil and Water Management Plan.
- Blast Management Plan.
- Landscape Management Plan.
- Aboriginal Cultural Heritage Management Plan.
- Air Quality Monitoring Program.

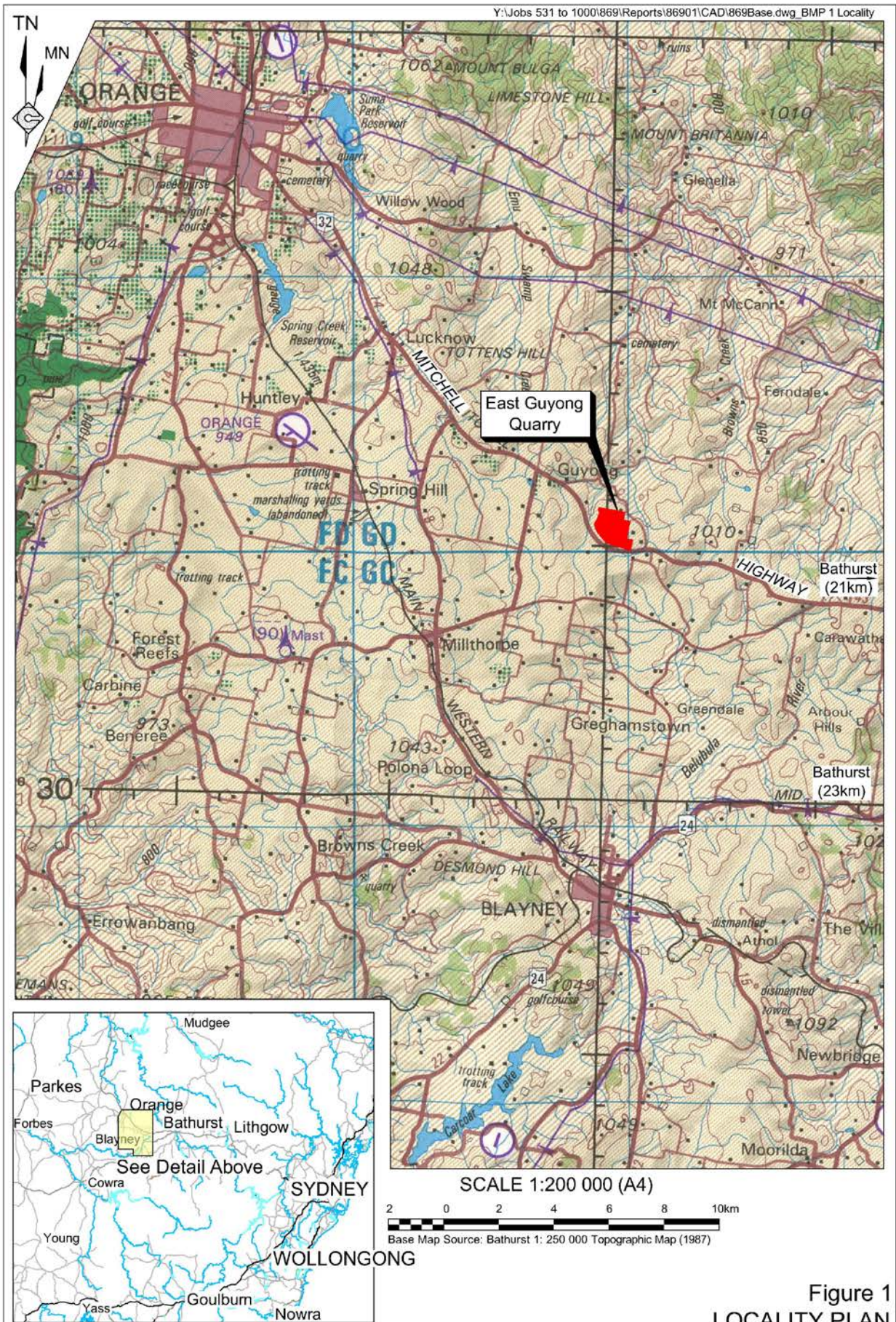


Figure 1
LOCALITY PLAN

Figure 1: Locality Plan (A4 Colour) Figure dated 17/9/12 inserted 17/1/12

2. Approved Activities

The approved activities at the Quarry comprise the following (**Figure 2**).

- Establishment of an Extraction Area to extract basalt using standard drill, blast, load and haul techniques.
- Construction and use of a processing plant within an identified Infrastructure Area to process the extracted basalt to produce a range of quarry products, including aggregates and road base, and stockpiling of the resulting products adjacent to the processing plant.
- Construction of a site access road and intersection with the Mitchell Highway.
- Transportation of up to 600 000t per year of quarry products via the Mitchell Highway using truck and dog and B-Double trucks.
- No more than 30 laden trucks despatched from the Quarry in any hour, no more than 160 laden trucks despatched from the Quarry on any day (Monday to Friday) and no more than 60 laden trucks may be despatched from the Quarry on a Saturday.
- Construction of a range of visual bunds and establishment of native vegetation to provide visual screening for the quarry operations.

The approved quarry life is until 31 December 2042 and the approved hours of operation are as follows.

- Monday to Friday (non-daylight savings) – 6:00am to 6:00pm.
- Monday to Friday (daylight savings) – 6:00am to 8:00pm.
- Saturdays – 7:00am to 1:00pm.
- Sundays and public holidays – nil.

Product despatch between 5:00am and 10:00pm, Monday to Saturday is permitted following negotiation of agreements with the seven surrounding landholders nominated in *Condition 6 of Schedule 3 of PA 06_0193* and the notification of the Department in writing of the terms of these agreements.

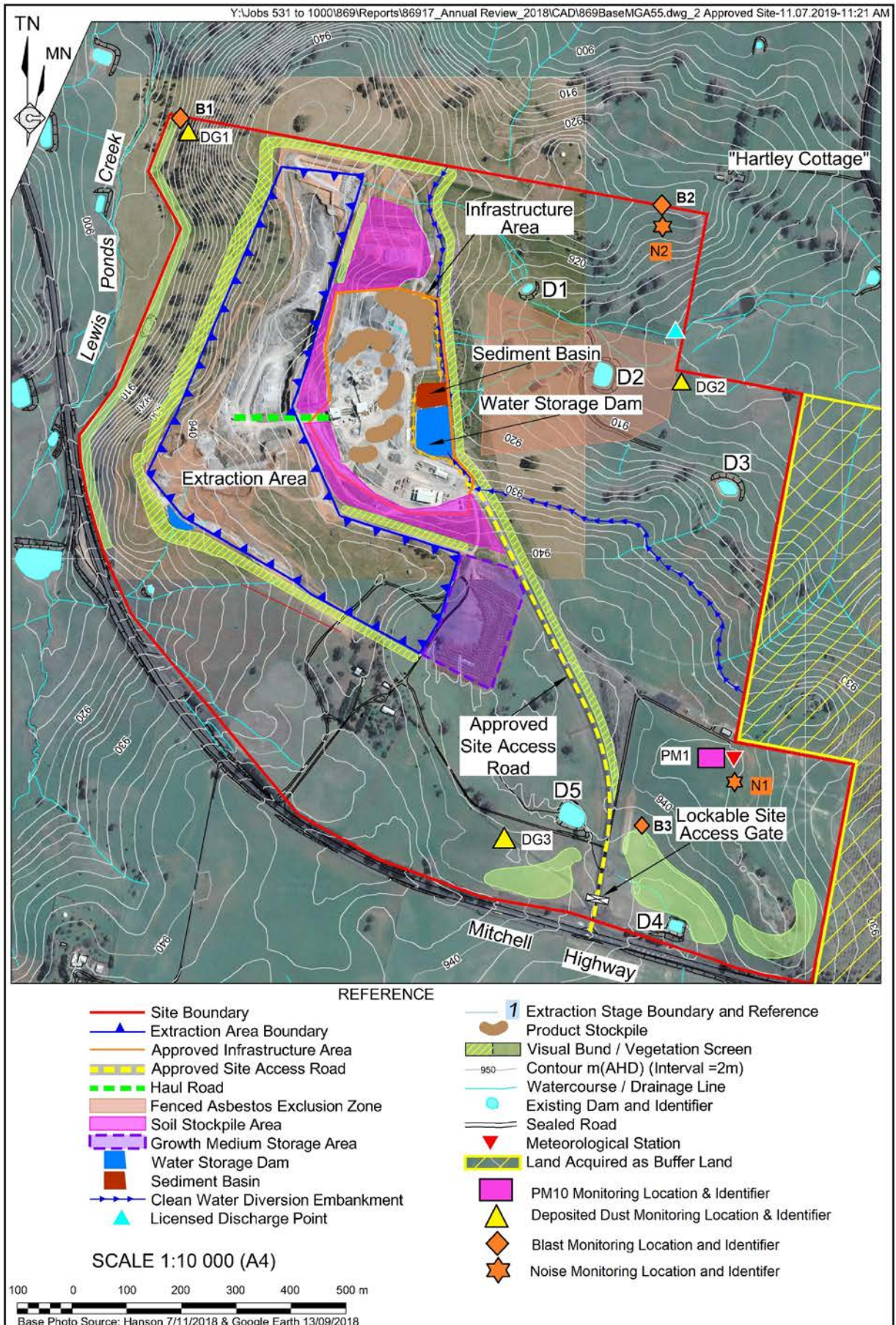


Figure 2: Site Layout and Monitoring Locations (A4 colour) Dated 17/7/18 Inserted 17/7/18

3. Strategic Framework

This EMS forms part of the integrated Environmental Management System for the Quarry. It describes the overall framework for environmental management for the ongoing operation of the Quarry. The EMS addresses the principal strategies to be adopted by Hanson, including compliance management and monitoring, conflict resolution and consultation / information dissemination processes.

The EMS is supported by a range of management plans and monitoring programs identified in Section 1. These are, in turn, supported by a range of detailed operational procedures that describe in detail the tasks to be undertaken to ensure appropriate management of the Quarry.

4. Legal and Other Requirements

1.1. Project Approval

Hanson was granted project approval (PA) 06_0193 by the NSW Land and Environment Court on 21 May 2012 pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). PA 06_0193 was modified to permit a revised access route on 24 December 2012. DA 06_0193 was amended on 17 April 2019 following the approval of MOD 2. The approval includes the conditional requirements that govern the operation of the Quarry. A copy of the approval, as modified is included as **Appendix 1**.

This Strategy has been prepared in accordance with *Condition 5(1)* of PA 06_0193 (**Table 1**) and generally conforms to the *AS/NZS ISO 14001 Environmental Management System 2004* guidelines.

Table 1 presents the requirements of PA 06_0193 in relation to this Strategy and where each is addressed in this document.

Table 1: Environmental Management Strategy-related Project Approval Requirements

Schedule	Condition	Section where addressed
5(1)	Environmental Management Strategy The Proponent must prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. The strategy must:	
	(a) be submitted for approval to the Secretary prior to the commencement of construction activities;	Noted
	(b) provide the strategic framework for environmental management of the project;	3
	(c) identify the statutory approvals that apply to the project;	4
	(d) set out the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;	14
5(1) (Cont'd)	(e) set out the procedures to be implemented to: <ul style="list-style-type: none"> keep the local community and relevant agencies informed about the operation and environmental performance of the project; 	12

Schedule	Condition	Section where addressed
	<ul style="list-style-type: none"> ▪ receive, handle, respond to, and record complaints; ▪ resolve any disputes that may arise during the course of the project; ▪ respond to any non-compliance and any incident; and ▪ respond to emergencies; and <p>(f) include:</p> <ul style="list-style-type: none"> ▪ references to various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and ▪ a clear plan depicting all the monitoring to be carried out in relation to the project. <p>The Proponent must implement the Environmental Management Strategy as approved by the Secretary.</p>	<p>10.1</p> <p>10.2</p> <p>8</p> <p>11</p> <p>Yet to be approved</p> <p>Figure 2</p>
5(3)	<p>Annual Review</p> <p>By 31 March 2012, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:</p> <p>(a) describe the works (including rehabilitation) that were carried out in the previous calendar year, and the works that are proposed to be carried out over current calendar year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against:</p> <ul style="list-style-type: none"> ▪ the relevant statutory requirements, limits or performance measures/criteria; ▪ the monitoring results of previous years; and ▪ the relevant predictions in the EA; <p>(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the next year to improve the environmental performance of the project.</p>	Noted
5(4)	<p>Revision of Strategies, Plans and Programs</p> <p>Within 3 months of the submission of an:</p> <p>(a) annual review under condition 3 above;</p> <p>(b) incident report under condition 6 below;</p> <p>(c) audit report under condition 8 below; and</p> <p>(d) any modifications to this approval,</p> <p>the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p>	Document Control

	Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.	
Schedule	Condition	Section where addressed
5(5)	<p>Community Consultative Committee</p> <p>The Proponent shall establish a Community Consultative Committee (CCC) for the Project to the satisfaction of the Director-General. This CCC must be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version) to the satisfaction of the Director-General.</p> <p>Note: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval. In accordance with the Guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the general community in the area of the project.</p>	Noted
5(6)	<p>Incident Reporting</p> <p>The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.</p>	9
5(7)	<p>Regular Reporting</p> <p>The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval, and to the satisfaction of the Director-General.</p> <p><i>Note: The frequency of reporting may vary according to the significance of the impact, and sensitivity of the environment, to the satisfaction of the Director-General. See also condition 2(g).</i></p>	12
5(10)	<p>Access to Information</p> <p>Within 3 months of this approval, the Proponent shall:</p> <p>(a) make copies of the following publicly available on its website:</p> <ul style="list-style-type: none"> ▪ the documents referred to in condition 2 of schedule 2; ▪ all relevant statutory approvals for the project; ▪ all approved strategies, plans and programs required under the conditions of this approval; ▪ a comprehensive summary of the monitoring results for the project; ▪ a complaints register, which is to be updated on a quarterly basis; ▪ minutes of CCC meetings; ▪ the annual reviews required under this approval (over the last 5 years); ▪ any independent environmental audit of the project, and the Proponent's response to any recommendations in any audit; and ▪ any other matter required by the Director-General; and <p>(b) keep this information up-to-date, to the satisfaction of the Director-General.</p>	Noted

Table 2 presents those commitments made in the Statement of Commitments that relate to this Strategy and where each is addressed in this document.

1.2. Licences and Permits

Table 3 identifies various licences and permits issued to Hanson for the Quarry.

1.3. Environmental Documentation and Management Plans

Table 4 lists the environmental approval documentation and associated management plans and monitoring program relevant to Project Approval 06_0193 for the Quarry.

Table 2: Environmental Management Strategy-related Commitments

Appendix 2 of Project Approval 06_0193		Section where addressed
ENVIRONMENTAL MANAGEMENT STRATEGY		
Environmental Management, Monitoring and Auditing	<ul style="list-style-type: none"> The proponent will obtain an Environmental Protection Licence for the proposal in accordance with the Protection of the Environment Operations Act 1997. Three years after the commencement of the proposal, and every four years thereafter, the proponent will commission and pay the full cost of an Independent Environmental Audit of the proposal. 	4.2
	<ul style="list-style-type: none"> Within 7 days of detecting an exceedance of the limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, the proponent shall report the exceedance/incident to EPA and any relevant agency. The report will: <ul style="list-style-type: none"> describe the date, time and nature of the exceedance/incident; 	9
	<ul style="list-style-type: none"> identify the cause (or likely cause) of the exceedance/incident; 	
	<ul style="list-style-type: none"> describe what action has been taken to date; and 	
<ul style="list-style-type: none"> Prior to the commencement of any operations, proponent will implement, publicise and list with a telephone company a contact phone number, which will enable the general public to reach a person who can arrange appropriate response action to the enquiry. The proponent will maintain a register to record details of all enquiries received and actions undertaken in response. This record will be made available to the EPA as required. 	10	

Table 3: Licences and Permits

Consent/Lease/Licence	Issue Date	Expiry Date	Details / Comments
Environment Protection Licence EPL 20190	13/11/2012 Variation 3/11/2015	-	Issued by the Environment Protection Authority
Groundwater Access Licence 80AL722920	10/03/2014	-	Issued by the Department of Primary Industries – Office of Water Share component 40ML

Table 4: Environmental Documentation and Management Plans

Title	Review Date
Environmental Assessment	Not applicable
Detailed Response to Public Exhibition Submissions	
Preferred Project Report	
Noise Management Plan	As identified by Condition 5(4) PA 06_0193
Blast Management Plan	
Air Quality Monitoring Program	
Soil and Water Management Plan	
Landscape Management Plan	
Aboriginal Cultural Heritage Management Plan	
Asbestos Management Plan	

A copy of the approved strategies, plans and programs related to the operation of the Quarry have been reproduced in **Appendix 2**.

1.4. Legislation

Key legislation that will guide management of the Quarry includes the following.

- Environmental Planning and Assessment Act 1979.
- Local Government Act 1993.
- Mine Health and Safety Act 2004.
- NSW Work Health and Safety Act 2011.
- Protection of the Environment Operations Act 1997.
- Protection of the Environment Administration Act 1999.
- Contaminated Land Management Act 1997.
- Threatened Species Conservation Act 1995.
- National Parks and Wildlife Act 1974.
- Water Act 1912.
- Water Management Act 2000.
- Soil Conservation Act 1938.
- Dangerous Goods Act 1975.
- Roads Act 1993.
- Commonwealth Environment Protection and Biodiversity Conservation Act 1999.
- Commonwealth National Greenhouse and Energy Reporting Act 2007.

1.5. Standards

The following standards are, or are potentially, of relevance to the Quarry.²

- AS 3580.1.1 – 2007 Methods for Sampling and Analysis of Ambient Air – Guide to Siting Air Monitoring Equipment.
- AS 2923 – 1987 Ambient Air – Guide for Measurement of Horizontal Wind for Air Quality Applications.
- AS 3580.10.1 – 2003 Methods for Sampling and Analysis of Ambient Air – Determination of Particulates – Deposited Matter – Gravimetric Method.
- AS / NZS 3580.9.3 – 2003 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total Suspended Particulate Matter (TSP) – High volume sampler gravimetric method.
- AS / NZS 3580.9.6 – 2003 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter PM10 high volume sampler with size-selective inlet – Gravimetric Method.
- AS 3780-1994 The storage and handling of corrosive substances.
- AS 2922:1987 Ambient Air – *Guide for the Siting of Sampling Units* (NSW DECCW Method AM-1).
- AS 1055.1-1997 Acoustics – Description and Measurement of Environmental Noise – General Procedures.
- AS IEC 60672-2004 Electroacoustics – Sound Level Meters.
- AS 2187.2 – 2006 Explosives Storage & Use.
- AS 4282 – 1997 – Control of Obtrusive Effects of Outdoor Lighting.
- AS 1940 – 2004 and Amendment 1 – 2004 The Storage and Handling of Flammable and Combustible Liquids.
- AS 4452 — 1997 Storage and handling of toxic substances.
- AS 1596 – 2008 The Storage and Handling of LP Gas.
- AS 2187.2 – Explosive Storage, Transport and Use.
- AS 1742 - Manual of Uniform Traffic Control Devices.
- AS 4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting.
- ISO 14001 – 2004 Environmental Management Systems – Requirements with guidance for use.
- ISO 19011 – 2002 Guidelines for Quality and/or Environmental Systems Auditing.

1.6. Guidelines

The following guidelines are, or are potentially, of relevance to the Quarry's Environmental Management System.

² AS refers to an "Australian Standard", NZS refers to "New Zealand Standard" and ISO refers to the "International Standards Organisation".

- Australian Dangerous Goods Code 7th Edition.
- Environment and Health Protection Guidelines – On-site Sewage management for Single Households (1998)
- Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects published by Department of Planning in 2007.
- Managing Urban Stormwater: Soils and Construction published by Department of Housing in 2004.
- *Managing Urban Stormwater: Soils and Construction – Volume 2C – Unsealed Roads* published by Department of Environment and Climate Change in 2008.
- *Managing Urban Stormwater: Soils and Construction – Volume 2E – Mines and Quarries* published by Department of Environment and Climate Change in 2008.
- National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting published by ANZECC/ARMCANZ in 2000.
- NSW EPA Approved Methods for the Sampling and Analysis of Air Pollutants in NSW published by Environment Protection Authority in 2007.
- NSW EPA Approved Methods and Guidance for Modelling in Assessment of Air Pollutants in NSW published by Environment Protection Authority in 2005.
- EPA 454/R-99-005 *Meteorological monitoring guidance for regulatory modelling applications* published by United States Environment Protection Authority in 2000.
- *NSW Road Noise Policy* published by Environment Protection Authority in 2011.
- *NSW Industrial Noise Policy* published by Environment Protection Authority in 2000.
- *Waste Classification Guidelines* published by Department of Environment, Climate Change and Water in 2009.

5. Objectives and Outcomes

Hanson's principal objectives and key performance outcomes in the construction and operation of the Quarry are listed in **Table 5**. These objectives and key performance outcomes will be updated following any review or modification of the relevant Management Plans or Monitoring Programs to continually improve environmental performance for the Quarry.

Table 5: Environmental Objectives and Outcomes

Objectives	Key Performance Outcomes
Noise	
(a) To ensure compliance with all relevant Project approval and Environment Protection Licence criteria and reasonable community expectations.	(i) Compliance is achieved with all relevant criteria nominated in the Project Approval 06_0193 and Environment Protection Licence and reasonable community expectations.
(b) To implement appropriate noise management and mitigation measures during all stages of the Project.	(ii) All identified noise management and mitigation measures are implemented to the extent required.
(c) To implement an appropriate monitoring program to establish compliance or otherwise with relevant criteria during all stages of the Project.	(iii) All identified monitoring is undertaken in accordance with the relevant procedures and at the relevant intervals.
(d) To implement an appropriate complaints handling and response protocol	(iv) Complaints (if any) are handled and responded to in an appropriate and timely manner.
(e) To implement continual improvement for investigating, implementing and reporting on reasonable and feasible measures to reduce noise.	(v) An appropriate continual improvement program has been implemented.
(f) To implement an appropriate incident reporting program, if required.	(vi) Incidents (if any) are reported in an appropriate and timely manner.
Blast	
(a) To ensure compliance with all relevant Project approval and Environment Protection Licence criteria and reasonable community expectations.	(i) Compliance is achieved with all relevant criteria nominated in the Project Approval 06_0193 and Environment Protection Licence and reasonable community expectations.
(b) To implement appropriate blast management and mitigation measures during all stages of the Project.	(ii) All identified blast management and mitigation measures are implemented to the extent required.
(c) To implement an appropriate monitoring program to establish compliance or otherwise with relevant criteria during all stages of the Project.	(iii) All identified monitoring is undertaken in accordance with the relevant procedures and at the relevant intervals.
(d) To implement an appropriate complaints handling and response protocol	(iv) Complaints (if any) are handled and responded to in an appropriate and timely manner.
(e) To implement continual improvement for investigating, implementing and reporting on reasonable and feasible measures to reduce blasting impacts.	(v) An appropriate continual improvement program has been implemented.
(f) To implement an appropriate incident reporting program, if required.	(vi) Incidents (if any) are reported in an appropriate and timely manner.

Objectives	Key Performance Outcomes
Air Quality	
(a) To ensure compliance with all relevant Project approval and Environment Protection Licence criteria and reasonable community expectations.	(i) Compliance is achieved with all relevant criteria nominated in the Project Approval 06_0193 and Environment Protection Licence and reasonable community expectations.
(b) To implement appropriate air quality management and mitigation measures during all stages of the Quarry.	(ii) All identified air quality management and mitigation measures are implemented to the extent required.
(c) To implement an appropriate monitoring program to establish compliance or otherwise with relevant criteria during all stages of the Quarry.	(iii) All identified monitoring is undertaken in accordance with the relevant procedures and at the relevant intervals.
(d) To implement an appropriate complaints handling and response protocol	(iv) Complaints (if any) are handled and responded to in an appropriate and timely manner.
(e) To implement continual improvement for investigating, implementing and reporting on reasonable and feasible measures to reduce air quality emissions.	(v) An appropriate continual improvement program has been implemented.
(f) To implement an appropriate incident reporting program, if required.	(vi) Incidents (if any) are reported in an appropriate and timely manner.
Soil and Water	
(a) To ensure compliance with all relevant Project approval and Environmental Protection Licence criteria and reasonable community expectations.	(i) Compliance with all relevant criteria and reasonable community expectations, as determined in consultation with the relevant government agencies.
(b) To ensure sufficient water is available during all phases of the life of the Quarry for environmental and operation purposes	(ii) Sufficient water is available for all Quarry-related purposes, including for environmental and operational purposes.
(c) To ensure that appropriate sediment and erosion control measures are implemented and maintained.	(iii) All water management structures constructed and maintained in accordance with Landcom (2004) and DECC (2008).
(d) To ensure that appropriate chemical and hydrocarbon management is implemented and maintained.	(iv) All chemicals and hydrocarbons stored and used in accordance with manufactures instructions, Material Data Safety Sheet requirements and Australian Standards in a manner that ensure risk of water contamination is reduced to an acceptable level.
(e) To ensure that water within the Site is used in an efficient and environmentally responsible manner.	(v) Water resources are managed in a manner that maximises environmental flows and minimised the potential for adverse impacts to water resources.
(f) To ensure that an appropriate surface water and groundwater monitoring program is implemented throughout the life of the Quarry.	(vi) Water monitoring programs are sufficiently robust to detect any adverse water quality or quantity impacts associated with the Quarry to allow appropriate adaptive management measures to be implemented.
(g) To ensure that appropriate contingency and emergency management plans are in place and regularly reviewed.	(vii) Contingency and emergency management plans are prepared for all relevant contingencies and regularly reviewed and upgraded.

Objectives	Key Performance Outcomes
(h) To implement an appropriate incident reporting program, if required.	(viii) Incidents (if any) reported in an appropriate manner.
(i) To ensure that all relevant water-related information is made available in a timely and accessible manner.	(ix) All water-related information is available in a timely manner on the Quarry website.
Rehabilitation and Landscape Management	
(a) To ensure compliance with all relevant project approval conditions, statements of commitment and reasonable community expectations.	(i) Compliance with all relevant criteria and reasonable community expectations, as determined in consultation with the relevant government agencies.
(b) To implement appropriate progressive rehabilitation and landscape management and mitigation measures during all stages of the Quarry	(ii) All identified rehabilitation and landscape management and mitigation measures are implemented in a timely manner.
(c) To appropriately manage site preparation works to ensure that suitable rehabilitation material remain for rehabilitation operations during all stages of the Quarry	(iii) Sufficient, viable rehabilitation materials are available for rehabilitation operations throughout all stages of the Quarry
(d) To ensure that the visual amenity of residences and public vantage points is not unacceptably impacted by Quarry-related activities.	(iv) Visual amenity management measures are effective and implemented in a timely manner.
(e) To establish a final landform that is consistent with that identified in the Environmental Assessment.	(v) Final landform is safe, stable, and non-polluting and, with the exception of the Extraction Area, requires land management practices that are equivalent to those required for nearby agricultural land.
(f) To establish an appropriate final soil profile and vegetation community on the final landform	(vi) Final soil cover and vegetation has similar soil viability/microbial activity, litter depth, species composition as nearby agricultural land.
(g) To establish an appropriate beneficial final land use consistent with surrounding land uses.	(vii) Final landform is suitable for an appropriate beneficial land use that is consistent with surrounding land uses at the time of Quarry closure.
(h) To appropriately manage those sections of the Site that would not be used for Quarry-related activities.	(viii) Identified areas are managed in a manner that ensures appropriate beneficial use of that land.
(i) To implement appropriate weed, pest and bushfire management measures	(ix) Weeds, pests and bushfire risks are appropriately managed in consultation with neighbouring landholders.
(j) To implement an appropriate complaints handling and response protocol	(x) Complaints (if any) are handled and responded to in an appropriate manner.
(k) To implement appropriate corrective and preventative actions, if required.	(xi) Corrective and preventative actions are implemented in a timely manner, if required
(l) To implement an appropriate incident reporting program, if required.	(xii) Incidents (if any) are reported in an appropriate manner.

Aboriginal Cultural Heritage	
(a) To ensure compliance with Part 6 of the NPW Act, namely to avoid harm to Aboriginal objects or sites.	(i) Demonstrate due diligence in efforts to identify Aboriginal sites or objects.
(b) To ensure compliance with all relevant project approval conditions, commitment and reasonable community expectations.	(ii) Compliance with all relevant criteria and reasonable community expectations, as determined in consultation with the relevant government agencies.
(c) To engage relevant local Aboriginal stakeholders in Aboriginal cultural heritage management of the Quarry.	(iii) Identify Registered Aboriginal Parties in accordance with the OEH guideline document “ <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> ”.
(d) To implement appropriate management measures during all stages of the Quarry.	(iv) All nominated management measures, including limits on disturbance, monitoring and stop work procedures, are implemented.
(e) To implement competence training and awareness in relation to cultural heritage management.	(v) Record of competence training completion held for all personnel.
(f) To implement an appropriate complaints handling and response protocol	(vi) Complaints (if any) handled and responded to in an appropriate manner.
(g) To implement appropriate corrective and preventative actions, if required.	(vii) Corrective and preventative actions implemented, if required
(h) To implement an appropriate incident reporting program, if required.	(viii) Incidents (if any) reported in an appropriate manner.

6. Monitoring

In order to meet the objectives and key performance outcomes listed in Section 5, Hanson’s monitoring strategy is outlined in **Table 6** and **Figure 2**. The Quarry Supervisor will be responsible for the implementation and continued monitoring requirements for the Quarry.

More information regarding the implementation of the various monitoring programs can be referenced in the relevant Management Plan for the Quarry.

7. Evaluation of Compliance

Following each monitoring program, a monitoring report will be prepared by either the relevant specialist consultant, monitoring contractor or Hanson personnel.

The Quarry Manager, or their delegate, will review all reports and associated monitoring results against the relevant assessment criteria and implement the relevant actions identified in the following Section in the event that exceedances of the assessment criteria are identified.

Table 6: Monitoring Requirements

Environmental Monitoring Requirement	Monitoring Location (See Figures 2 & 3)	Frequency	Criteria	Timing	Characterisation / Quantification	Record of Information
Noise Management Plan						
Attended Noise Monitoring	Location N1	Quarterly	43dB(A)	15 minute measurement period Day and Evening	L _{Amax} L _{A1} L _{A10} L _{A50} L _{A90} L _{Amin} L _{Aeq}	Operator's Name. Location of Monitoring. Recording Intervals (date and time). Meteorological conditions. Statistical noise level descriptor with notes identifying principal noise sources. Instrument make, model, serial number and calibration details. Brief description of activities occurring within Project Site. Relevant fixed plant and mobile equipment, operating shift logs and location.
	Location N2	Quarterly	50dB(A)			
	Location N3	Quarterly	35dB(A)			
	All other residences	During initial program then on request or following exceedance	35dB(A)			
Blast Management Plan						
Blast Monitoring	B1 B2 B3 B4	Every Blast	As per PA Conditions 3(8) and 3(9)	Instantaneous	-	Ground vibration (mm/s) Airblast overpressure (dB(L))

Environmental Monitoring Requirement	Monitoring Location (See Figures 2 and 3)	Frequency	Criteria	Timing	Characterisation / Quantification	Record of Information
Air Quality Monitoring Program						
PM ₁₀ , PM _{2.5}	PM1	Continuous	90µg/m ³ averaged over 15 minutes (for automated alert purposes) 50µg/m ³ averaged over 24 hours (for compliance purposes)	Ongoing	PM ₁₀ concentration averaged over 15 minute intervals	Meteorological – temperature, wind speed and direction and sigma-theta. PM ₁₀ dust concentration
Deposited dust	DG1 DG2 DG3	Monthly	Maximum Increase 2g/m ² /month Maximum Total 4g/m ² /month (Annual average)	Ongoing	monthly deposited dust levels	Meteorological – temperature, wind speed and direction and sigma-theta. Deposited dust levels
Meteorology	Meteorological Station	Continuous	-	Ongoing	-	Temperature Rainfall Wind speed and direction Solar radiation Barometric pressure
Greenhouse	Electrical and Diesel usage	Collated 6 monthly	-	-	-	-

Environmental Monitoring Requirement	Monitoring Location (See Figures 2 and 3)	Frequency	Criteria	Timing	Characterisation / Quantification	Record of Information
Soil and Water Management Plan						
Surface Water Monitoring	W1 - Discharge point	Monthly and during discharge	Total Suspended Solids - 50mg/L. Oil and Grease 10mg/L pH – between 6.5 and 8.5.	Ongoing	-	Date and time of sampling Water quality
Groundwater Monitoring	BH1 BH2 BH3 BH4 BH5	Field water quality and level – Quarterly Lab water quality and level - Annually	As per Tables 7 and 8	Ongoing	-	Date and time of sampling Water quality and level

Table 7: Groundwater Quality Assessment Criteria

Parameter	Unit	Long-term Assessment Criteria	Initial Assessment Criteria ¹
pH value	pH	6.5-8.5	6.5-8.5
Electrical Conductivity	µS/cm	Greater than 90 th percentile groundwater quality as determined by ongoing groundwater quality monitoring	
Bicarbonate Alkalinity as CaCO ₃	mg/L		
Carbonate Alkalinity as CaCO ₃	mg/L		
Hydroxide Alkalinity as CaCO ₃	mg/L		
Total Alkalinity as CaCO ₃	mg/L		
Chloride	mg/L		
Sulphate	mg/L		
Calcium	mg/L		
Magnesium	mg/L		
Sodium	mg/L		
Potassium	mg/L		
Nitrate as N	mg/L		
Nitrite as N	mg/L		
Total Oxidized Nit. As N	mg/L		
Total Phosphorus as P	mg/L		
Arsenic	mg/L		
Manganese	mg/L		
Iron	mg/L		
Note 1: Applies until revised assessment criteria have been determined in consultation with relevant government agencies following receipt of initial 12 months of groundwater quality data.			

Table 8: Groundwater Level Assessment Criteria

Parameter	Aquifer	Trigger Value
Standing water level in non-Project related bores	All	Standing water level below 10 th percentile measured level

8. Corrective and Preventative Actions

Where an exceedance of the relevant assessment criteria is observed the Quarry Manager, or their delegate, will identify a range of corrective and preventative actions in accordance with the procedures identified in the relevant Management Plan.

Corrective and/or preventative actions will be assigned to relevant Hanson personnel. Actions will be communicated by the Quarry Manager, or their delegate, internally through planning meetings and toolbox talks and outstanding actions will be monitored for their effectiveness upon completion.

A copy of the investigation report and regular updates on the status of the identified corrective and/or preventative actions will be provided to the relevant government agencies and, if required, any complainant. In addition, a copy of all reports will be included in the Annual Review.

9. Incident Reporting

In the event that an initial investigation concludes that an exceedance of an environmental criterion was directly attributed to activities associated with the Quarry the event will be reported to the relevant government authorities within 24 hours of confirming the exceedance. Within 7 days of the date of the incident, Hanson will provide the relevant agencies with a detailed report on the incident. In addition, a copy of all reports will be provided to the Community Consultative Committee, made publicly available on the Quarry website and will be included in the *Annual Review*.

The Quarry Manager will be responsible for incident reporting.

10. Complaints Handling and Dispute Resolution

10.1. Complaints Handling

In order to receive, record and respond to any complaints in a timely manner, Hanson has established the following mechanism for receiving complaints.

- Directly via the 24-hour, 7 day per week Hanson's general Emergency Line (1800 882 478). This number will be advertised widely in the local media, on signage at the Site entrance and on Hanson's web site www.hanson.com.au.
- Directly via a dedicated email address which will be advertised in a similar manner to the Community Information Line.
- Indirectly via the relevant government agencies.

In addition, consultation will be held with the community as part of Hanson's standard consultation procedures. These meetings will provide a further forum at which complaints maybe received.

All complaints will be registered in a database and responded to within one business day from the receipt of the complaint. The following information will be recorded in the database (where it can be reasonably obtained).

- The date and time the complaint was made.
- The complainant's name.
- The complainant's contact details (e.g. telephone number, email address).
- Details regarding the nature of the complaint.
- The date / time the complaint was made.
- Complainant's name.
- Complainant's telephone number and/or email address.
- Nature of complaint.

The nature of the response will depend on the nature and source of complaint but will include one or more of the following actions.

1. The complaint will be reviewed by the Quarry Manager or their delegate to determine the nature, date and time of the air quality emission.
2. Liaison with the complainant to ascertain all details and to identify the nature and source of the complaint and provide supplementary details for the log. Details recorded in the log will include:
 - the date and time of the complaint;
 - the method by which the complaint was made;
 - details of the person making the complaint;
 - the nature of the complaint;
 - action taken in relation to the complaint including any follow-up contact; and
 - if no action, the reason why.
3. As appropriate, the initiation of monitoring or other investigations to verify or otherwise the exceedance or non-compliance with approval or licence condition(s).
4. Initiation of appropriate changes in operating practices or procedures.
5. Conducting a follow-up interview with the complainant to determine their level of satisfaction with the response and the resultant outcome.

A copy of the complaint report will be supplied to the complainant, if requested. The complaints database will be updated on Hanson's website quarterly and a summary of the complaints received in each 12 month period will also be included in each *Annual Report*. The Quarry Supervisor will be responsible for the recording of the complaint, response action requirements and updating of the database and website.

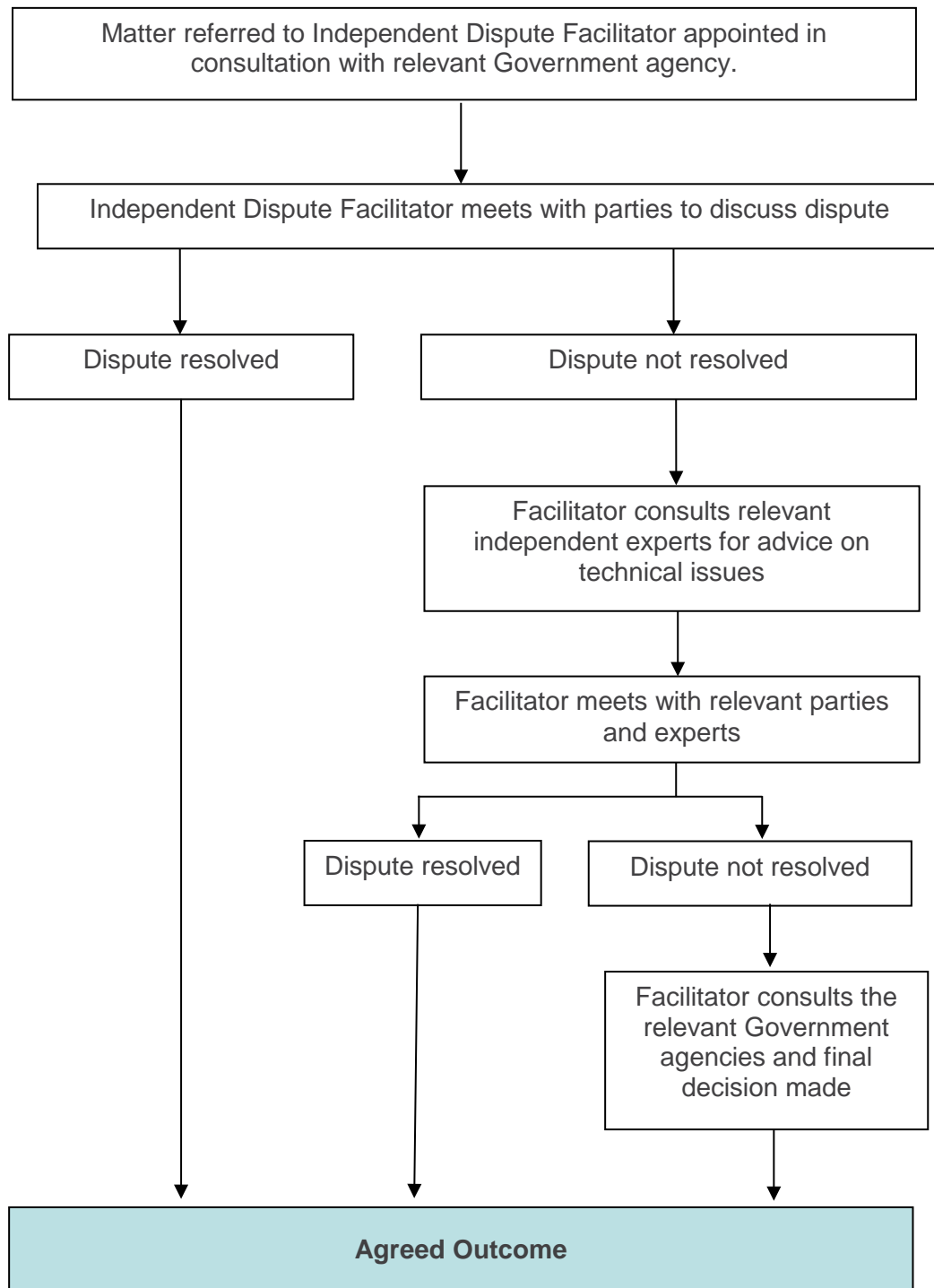
10.2. Dispute Resolution

In the event that any complainant does not consider that the response or reactions adequately address their concerns, the following procedure will be adopted.

1. A meeting will be convened with the Quarry Manager or other senior Hanson personnel to seek resolution of the matter. The complainant will be provided with a written response, detailing the results of investigations undertaken and the agreed actions to be taken regarding the measures to be implemented.
2. On implementation of the nominated measures, a further meeting will be convened to seek advice of satisfaction, or otherwise, regarding the outcomes.

If, after 21 days following Steps 1 and 2, the complainant believes the matter remains unresolved and no further agreement can be reached as to additional measures to be undertaken, the matter will be referred to an independent Dispute Facilitator for independent review **Figure 3**.

Figure 3 Independent Dispute Resolution Process



11. Emergency Response

Table 9 presents the procedures that will be implemented in the event of an emergency within the Site. It is noted that emergency preparedness will be managed through Hanson’s standard quarry planning, design and operational standards and the investigation and reporting in relation to the emergency will be managed through the incident reporting and review process identified in Section 9. As a result, **Table 9** presents the immediate and recovery stage responses only.

Table 9: Emergency Response Procedures

Emergency	Response - Immediate	Response – recovery stage
Fire-related Emergency		
Plant fire (mobile or fixed)	<ul style="list-style-type: none"> Evacuate and account for all personnel Notify Emergency Services Fight fire (if safe to do so) Isolate power/fuel supply 	<ul style="list-style-type: none"> Restrict access to plant to allow investigation. Ensure any hydrocarbon or other leaks managed.
Bushfire – initiation on Site	<ul style="list-style-type: none"> Evacuate and account for all personnel Notify Emergency Services Use Site water cart and other equipment to extinguish or isolate fire (if safe to do so). Evacuate stock (if safe to do so) 	<ul style="list-style-type: none"> Check and manage welfare of stock. Monitor burnt area for re-ignition under guidance of the Rural Fire Service
Bushfire encroachment from off site	<ul style="list-style-type: none"> Advise personnel and prepare to evacuate if required. Contact Emergency Services and offer assistance. Use mobile plant to create/upgrade fire break (if required and safe to do so) 	<ul style="list-style-type: none"> Check and manage welfare of stock. Monitor burnt area for re-ignition under guidance of the Rural Fire Service
Medical Emergency		
Life-threatening medical emergency	<ul style="list-style-type: none"> Administer first aid if safe to do. Contact Emergency Services. 	<ul style="list-style-type: none"> Notify and assist patient's family. Provide counselling for co-workers (if required)
Non-life threatening medical emergency	<ul style="list-style-type: none"> Administer first aid. 	<ul style="list-style-type: none">
Ground stability/collapse Emergency		
Failure of Quarry highwall	<ul style="list-style-type: none"> Evacuate relevant section of the Extraction Area 	<ul style="list-style-type: none"> Maintain a suitable exclusion zone until advised otherwise by a suitably qualified specialist.
Chemical Spill Emergency		
Major Hydrocarbon Spill	<ul style="list-style-type: none"> Deploy spill control equipment to contain and isolate the spill Control the source of the spill (i.e. close valves) if practicable and safe to do so. 	<ul style="list-style-type: none"> Clean up spill material and dispose of appropriately. Implement decontamination/ clean up procedures.

The Quarry Manager will be responsible for all emergency preparation, response and investigation-related activities.

12. Stakeholder and Community Consultation

Hanson will undertake consultation with all relevant stakeholders to allow for consideration of all reasonable views and timely feedback to any issues that are raised. The approach to be taken would be constructive to ensure that the required environmental management of the Project meets with expectations described in the *Environmental Assessment* and subsequent review of any approvals. All personnel will be responsible for ensuring that any issues raised are dealt with through the appropriate pathways as stated by the relevant Management Plans. Relevant stakeholders include, but are not limited to, the following.

- Department of Planning, Infrastructure and Environment.
- Office of Environment and Heritage.
- Department of Trade and Investment, Regional Infrastructure and Services – Division of Resources and Energy.
- NSW Office of Water.
- Natural Resources Access Regulator.
- Cabonne Council.
- Registered Indigenous groups.
- Community Consultative Committee.
- Local community.

Communication, consultation and information dissemination strategies will include the following.

- Regular community newsletters and meetings.
- Regular meetings Community Consultative Committee.
- Individual meetings on request with surrounding landholders and interested community groups.
- Placement of all relevant environmental management monitoring and other relevant documents on Hanson's website.

13. Competence Training and Awareness

All personnel shall undergo environmental management awareness training as a component of the competency-based site induction program. The following areas will be covered in the induction:

- Noise management.
- Naturally occurring asbestos management
- Blast management.
- Air quality management.
- Soil and water management, including hydrocarbon and chemical management.
- Landscape management.
- Aboriginal heritage management.
- Reporting of incidents.

The Quarry Supervisor will be responsible for ensuring the appropriate Environmental Management training is included in the induction.

14. Roles and Responsibilities

Roles	Responsibility
Operations Manager	Will ensure adequate resources are available to enable implementation of this Strategy and all Environmental Management Plans and Program.
Quarry Manager	Accountable for the overall environmental performance of the Mine, including the following. <ul style="list-style-type: none"> ▪ Key performance outcomes of this Strategy. ▪ Evaluation of Compliance. ▪ Corrective and Preventative Actions. ▪ Incident Reporting. ▪ Dispute Resolution. ▪ Review of this Strategy. ▪ Consultation Strategies. ▪ Emergency preparation, response and investigation.
Quarry Supervisor	Ensure the implementation of this Strategy, including the following. <ul style="list-style-type: none"> ▪ Ensure employees are competent through training and awareness programs. ▪ Monitoring. ▪ Corrective Action and Preventative Action in consultation with the Quarry Manager. ▪ Consultation Strategies. ▪ Complaints management.
All personnel	Ensure compliance with this EMS and other Management Plans.

15. Review

In accordance with *Condition 5(4)* of PA 06_0193, this Strategy will be reviewed and, if required, revised within 3 months of:

- the submission of an annual review under *Condition 5(3)*;

- the submission of an incident report under *Condition 5(6)*;
- the submission of an independent environmental audit report under *Condition 5(8)*; and
- the approval of any modification to the conditions of PA 06_0193.

This review will include the adequacy of strategies, plans and programs as required under the Project approval. Recommendation for appropriate measures or action to improve the environmental performance of the Project and or any assessment, plan or program will be incorporated into this Plan.

