



Independent Environmental Audit

Wagga Wagga Quarry Extension – 29 July 2014

This Independent Environmental Audit was conducted to satisfy the requirement of Project Approval 07_0069 Schedule 5 condition 8 granted for the Wagga Wagga Quarry Extension Project on 22 November 2011.

This document was prepared for the sole use of Hanson Construction Materials Pty Ltd and the regulatory agencies that are directly involved with the approvals related to the Wagga Wagga Quarry Extension Project. No other party should rely on the information contained herein without the prior written consent of Trevor Brown & Associates.

A handwritten signature in dark ink, appearing to read 'T. Brown', is positioned above the date.

16 September 2014

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Independent Environmental Audit Wagga Wagga Quarry Hanson Construction Materials Pty Ltd

June 2014

Prepared by

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Glossary

AEMR	Annual Environmental Management Report
AHD	Australian Height Datum
AR	The review required by Project Approval Schedule 4condition 3
AR-EPA	Annual Return – EPA
AS	Australian Standard
BCA	Building Code of Australia
BL	Bore Licence
CCC	Community Consultation Committee
Director-General	Director-General of DP&I
DP&E	Department of Planning and Environment (previously DP&I)
DP&I	Department of Planning and Infrastructure (now DP&E)
DRE	Division of Resources and Energy, within DTIRIS
DTIRIS	Department of Trade and Investment, Regional Infrastructure and Services
EA	Wagga Wagga Quarry Extension: Environmental Assessment Report, dated April 2010
EMP	Environmental Management Plan
EPA	Environment Protection Authority
EP&A Act	<i>Environment Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
Hanson	Hanson Construction Materials Pty Ltd
INP	Industrial Noise Policy (NSW)
ISO	International Standards Organisation
M	metres
Minister	Minister for Planning, or delegate
NIAC	Noise Impact Assessment Criteria
NOW	NSW Office of Water
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service
OEH	Office of Environment and Heritage (NSW)
OERP	Operational Emergency Response Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Quarrying Operations	Quarrying Operations Includes all extraction, processing, and related transportation activities
RMS	Roads and Maritime Services (Previously RTA)
RTA	Roads and Traffic Authority (now RMS)
SoC	Statement of Commitments
tpa	Tonnes per annum
WWCC	Wagga Wagga City Council
WWQCCC	Wagga Wagga Quarry Community Consultation Committee

Executive Summary

This Independent Environmental Audit of the Wagga Wagga Quarry Extension was conducted by Trevor Brown & Associates in July 2014, to satisfy Project Approval Schedule 5 condition 8. The audit was conducted generally in accordance with the Australian/New Zealand Standards AS/NZS ISO 19011:2002 – Guidelines for Quality and/or Environmental Management System Auditing.

The Wagga Wagga Quarry Extension Project was granted Project Approval 07_0069 under Section 75J of the Environmental Planning and Assessment Act 1979 (EP&A Act), on 22 November 2011.

The Wagga Wagga Quarry Extension Project involves the continuation and expansion of the Wagga Wagga Quarry for extraction of up to 150,000 tonnes per annum (tpa) of sand and gravel from new quarry cells to a proposed depth of extraction of approximately 22 to 25 metres below the existing land surface (lowest elevation is 152 m AHD). The Wagga Wagga Quarry Extension activities at the time of this audit was focussed on the construction of the barrier between the Murrumbidgee River and Pit 1, the activity determined by the water height in the Murrumbidgee River, and the excavation of product from Cell 1.

The Wagga Wagga Quarry Extension Project Approval 07_0069 conditions have been generally complied with for the activities being undertaken for the quarry development following the flood events of December 2010 and March 2012, however the works required to be conducted to repair the breach of the river bank that occurred during the flood events, has affected the timing of some aspects of the planned development of the quarry described in the Environmental Assessment (2007). The Independent Environmental Audit identified the following Project Approval conditions that have not been met for the Wagga Wagga Quarry Extension:

Summary Table of Non-Compliant Project Approval conditions		
Project Approval condition No.	Comment	Non-compliant
Schedule 2 condition 15	The WWCC development consents have lapsed but have not been surrendered to the WWCC.	Administrative non-compliance
Schedule 3 condition 9	Delayed submission date of the Water Audit to OEH / NOW / WWCC).	Administrative non-compliance
Schedule 3 condition 14(a) to (e)	The Water Management Plan and sub-plans had not been prepared at the date of this audit.	Non-compliant
Schedule 3 condition 15(a) and (b)	The Water Monitoring Program had not been prepared at the date of this audit.	Non-compliant
Schedule 3 condition 22	The draft Waste Management Plan to satisfy condition 24 has not been submitted to the D-G for approval.	Non-compliant
Schedule 3 condition 22	The revised updated Rehabilitation Management Plan to satisfy Project Approval Schedule 3 condition 25 was being developed at the time of this audit with a review of the Rehabilitation Plans presented in the Environmental Assessment Appendix C and the outline for final landform in the Evans & Peck Report dated 18 December 2012, for submission to the Director-General for approval.	Administrative Non-compliant

NOTE: The status of environmental management at the Wagga Wagga Quarry Extension site has affected the development of the quarry site. The Wagga Wagga Quarry Extension activities at the time of this audit were focussed on the repair of the river bank between the Murrumbidgee River and Pit 2. When the river bank repair works are complete, Hanson advised the preparation and implementation of the above environmental management plans would occur.

Environmental Management Strategy

The Environmental Management Strategy and the accompanying Environmental Management Plans provide a basis for the environmental management of air quality, noise emissions, and traffic management associated with the of the quarry activities. However the water management documentation required under Project Approval Schedule 3 condition 14, [Water Management Plan and sub-plans] have not yet been developed and should be prepared as soon as possible to provide the management and mitigation measures for the management of site water and the monitoring programs for surface and groundwater.

Noise

The Noise Management Plan is satisfactory for the mitigation and monitoring of noise from the Wagga Wagga Quarry Extension Project. The unattended and attended noise monitoring conducted by DM McMahon in October 2012 indicated that the Noise Impact Assessment Criteria (NIAC) presented in Project Approval Schedule 3 condition 1 were complied with at the Kullaroo and Riverglen residences. The results of background noise monitoring exceeded the NIAC for all other privately owned lands as the measured noise received at the subject sites was dominated by extraneous noises including native wildlife and farming activities.

Air Quality

The dust monitoring results have exhibited exceedances of the dust deposition rate between July 2012 and June 2014 with the increased dust deposition rates explained by the location of the dust gauges near to active works on the quarry site. No dust gauges have been located off the quarry site near to the closest sensitive receivers. It is recommended that a dust gauge be located on the Riverview Estate to monitor dust deposition near the closest residences.

Water Management

Water Management Plan and sub-plans [Project Approval Schedule 3 condition 14(a) to (e), and Schedule 5 condition 2] had not been prepared for the site at the date of this audit and should be developed to provide the management and mitigation measures for site surface and groundwater under the Water Management and Improvement Program to be implemented for the of the quarry operations / activities. The site water balance for the Wagga Wagga Quarry must be managed in accordance with the sources and volumes available under the NOW licenses.

Water Monitoring

The Water Monitoring Program (Project Approval Schedule 3 condition 15(a)), had not been developed at the date of this audit and should be prepared prior to completion of the riverbank repair works to provide the site surface water and groundwater monitoring programs associated with the of the quarry activities and the Water Management and Improvement Program.

Traffic Management

The traffic generated by the Wagga Wagga Quarry Extension activities and the requirements of the Truck Driver Code of Practice appear to be adequately managing any potential impacts on the public roads to and from the quarry site.

Waste Management

A draft Waste Management Plan had been prepared for the Wagga Wagga Quarry Extension to satisfy Project Approval Schedule 3 condition 24 and Schedule 5 condition 2. This draft Waste Management Plan should be finalised and submitted to the Director-General for approval.

Rehabilitation

A revised/updated draft Rehabilitation Management Plan, to satisfy Project Approval Schedule 3 condition 25 was being prepared at the time of this audit for submission to the Director-General for approval in conjunction with the Water Management Improvement Program Option 1 (the recommended strategy for the Wagga Wagga Quarry water management process).

The existing Rehabilitation Plans presented in the Environmental Assessment Appendix C and rehabilitation outline in the Water Management Review 2012 are being used as the basis for the Rehabilitation Management Plan to manage effects of the flood events and addition of the information required to satisfy Project Approval Schedule 3 condition 25.

1.0 Introduction

1.1 Background

The Project Approval 07_0069 granted for the Wagga Wagga Quarry Extension requires an Independent Environmental Audit of the project in accordance with the Project Approval Schedule 5 Condition 8:

“By the end of June 2014, and every three years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:

(a) be conducted by a suitable qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;

(b) include consultation with the relevant agencies;

I assess the environmental performance of the project and assess whether it is complying with the requirements of this approval, and any other relevant approvals and relevant EPL/s;

(d) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and

(e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

This current Independent Environmental Audit was commissioned by Hanson Construction Materials Pty Ltd (Hanson) for the Wagga Wagga Quarry Extension and conducted by Trevor Brown of Trevor Brown & Associates, endorsed by the Director-General of Department of Planning & Infrastructure (DP&I) to satisfy Project Approval Schedule 5 condition 8.

The audit was conducted generally in accordance with the Australian/New Zealand Standards AS/NZS ISO 19011:2002 – Guidelines for Quality and/or Environmental Management System Auditing.

1.2 Scope of Work

The scope of work for the audit of the Wagga Wagga Quarry Extension included the following components:

- review of implementation of the requirements of the Project Approval conditions, and other licences and approvals for the project for the construction of the mining project;
- conduct of site inspection and review on-site documentation relevant to the audit;
- discussions with Hanson Construction Materials project staff in relation to the Project Approval conditions;
- assessment of compliance with the Project Approval conditions; and
- preparation of an Independent Environmental Audit Report.

1.3 Structure of the Independent Environmental Audit Report

The report has been prepared to provide comment on each condition of approval in a tabulated form, with additional discussion where required on specific matters. The tabulated comments are attached for the Project Approval and Environmental Protection Licence (EPL) conditions:

Executive Summary

Section 1	Introduction
Section 2	Project Status June 2014
Section 3	Project Approvals and Licenses
Section 4	Review of Environmental Management
Section 5	Conclusions
Attachment 1	Project Approval 07_0069
Attachment 2	Statements of Commitment

Attachment 3 Environment Protection License No. 2433

1.4 Compliance Tables

The following terminology is used to express the status of compliance of the Wagga Wagga Quarry Extension with the Project Approval and Environment Protection Licence conditions as expressed in Attachments A – C:

Table 1.4: Definition of Status of Compliance	
Compliant	Implies compliance with the intent and/or requirement of the approval condition.
Compliant Ongoing	Implies compliance with the intent and/or requirement of the approval condition at the time of the audit, and the ongoing activity has the requirement to continue compliance.
Non-Compliant	The requirement of the consent condition was not met.
Administrative Non-Compliance	A specific requirement of the consent condition had not been met (e.g. submission of documentation, approval etc) but had not resulted in environmental harm.
Not Activated Not Applicable	The requirement of the condition had not been triggered (e.g. complaint driven monitoring, land acquisition, etc) by the current activities.
Noted	No specific auditable requirement for the condition.

2.0 Project Approvals and Licenses

2.1 Project Approval

The Wagga Wagga Quarry was approved for extractive industry (DA No. 46/86) in 1987, with a modification on 7 December 1990. DA 04/45 for the quarry was modified in 2004, 25 February 2005 and 13 March 2009. These Development Approvals expired in 2010.

The Wagga Wagga Quarry Extension Project was granted Project Approval 07_0069 under Section 75J of the Environmental Planning and Assessment Act 1979 (EP&A Act), on 22 November 2011.

Following the Project Approval on 22 November 2011, changes to the design and construction of the quarry area related to the breaching of the levee bank during the floods of December 2010 and March 2012, consultation and approval from Wagga Wagga City Council and NSW Office of Water (NOW) was required.

2.2 Wagga Wagga City Council Development Application DA 12/0533

A Development Application (DA 12/0533) was submitted to Wagga Wagga City Council on 14 November 2012 for the repair and associated works on the levee bank affected by the floods. Development Approval was granted by Wagga Wagga City Council on 19 March 2013 for the upgrade of an access track, construction of new levee/riverbank, rehabilitation and vegetation of the Murrumbidgee River bank.

2.3 NSW Office of Water - Controlled Activity Approval 40 ERM2012/1012

Consultation occurred with NSW Office of Water in relation to the alteration to the construction methodology approved by WWCC on 19 March 2013 due to the proximity of the works in relation to the Murrumbidgee River. A Controlled Activity Approval No. 40 ERM2012/1021 was granted by Office of Water on 2 August 2013.

2.4 Environment Protection Licence No. 2433

Environment Protection Licence No. 2433 was issued to Pioneer Construction Materials Pty Ltd in 2001 and the EPL transferred to Hanson Construction Materials Pty Ltd in 2008.

The EPL applies to all scheduled activities undertaken by Hanson Construction Materials at Lot 2 DP 610795 and part Lot B DP 381991 (north of Roach Road). The license provides the following:

- Performance criteria for environmental management including pollutant concentration
- load limits, waste limits, noise limits, air quality (odour and dust) limits;
- Monitoring and record keeping requirements;
- Testing methods;
- Pollution complaints handling; and
- Reporting requirements.

2.5 Water Licenses

Wagga Wagga Quarry currently holds licences from the following sources:

- Surface water from the Murrumbidgee River – 100 ML/year;
- Groundwater from the alluvial aquifer – 360 ML/year.

The site water balance analyses indicates that the net (extraction – return flow) would be significantly less than the available licenced volume (460 ML/year).

Hanson will need to acquire additional licences to account for the required water demand of up to 800 ML/year when the quarry is at maximum resource production of 150,000 tpy.

3.0 Wagga Wagga Quarry Extension Project Development

Background

Wagga Wagga Quarry is located on a floodplain bordering the Murrumbidgee River and private land, approximately 5 km west of Wagga Wagga, north of the Sturt Highway.

The site is bordered by agricultural land. Grazing is the prime rural land use in the area.

The Wagga Wagga Quarry Extension site area is zoned Floodplain (Urban Living Area), 1d.

The objective of this land use subzone of the Wagga Wagga Development Control Plan 2005

Urban Living Area Objectives is to maintain the primary function of the Murrumbidgee River floodway by restricting development to purposes of a rural or recreational nature¹.

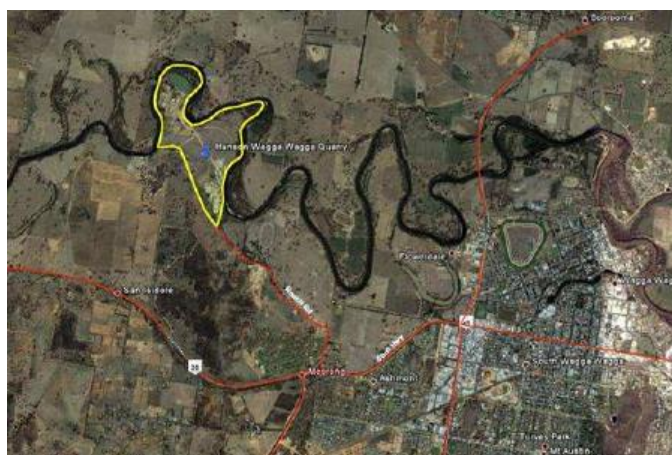


Figure 1: Wagga Wagga Quarry location on the southern floodplain of the Murrumbidgee River

The quarry and processing facilities are located on the alluvial floodplain within a large meander of the Murrumbidgee River. The total area of the site is 200ha, 120ha of which is floodplain, 29 ha encompassing the extraction area and 1.5ha is occupied by the plant and stockpile area (Refer to Figure 2). The quarry extracts sand and gravel from deep alluvial deposits on the southern floodplain of the Murrumbidgee River. The aquifer within the alluvial deposits is in equilibrium with the water level of the river. To extract the gravel, localised dewatering is undertaken and much of the water extracted for dewatering purposes is returned to the Murrumbidgee River.

The raw sand and gravel is excavated and trucked to a processing facility on the south-eastern corner of the site where it is crushed, screened and washed to produce a range of construction materials. Water for sand washing is taken from the river and the wastewater, and the fine silt which is removed in the washing process is discharged onto the land surface within the site.

The previously active Wagga Wagga Quarry pits were flooded on 6 December 2010 from a breach in the western bank separating Pit 2 from the Murrumbidgee River (see Figure 2b). A further flood event occurred on 12 March 2012 (see Figure 2c).

Wagga Wagga Quarry Extension Project

The Project Approval for the Wagga Wagga Quarry Extension Project (under Section 75J of the Environmental Planning and Assessment Act 1979 (EP&A Act)) was granted on 22 November 2011.

The Wagga Wagga Quarry Extension Project involves the continuation and expansion of the Wagga Wagga Quarry for extraction of up to 150,000 tonnes per annum (tpa) of sand and gravel from four new quarry cells opened in stages, extending the operational life of the quarry by up to 25 years (Refer to Figure 2a). The proposed depth of extraction is approximately 22 to 25 metres below the existing land surface (lowest elevation is 152 m AHD).

¹ Environmental Assessment Report, section 7.7 Land Use and Planning, April 2010

In summary, the Project would involve:

- Extraction of up to 150,000 tonnes per annum of sand and gravel over 25 years;
- Construction of haul roads, levee banks and sediment dams;
- Processing and washing of raw quarried material;
- Loading and dispatch by road of quarry products including concrete aggregates, asphalt, aggregates and road base;
- Stockpiling of topsoil for reuse in rehabilitation works; and
- Progressive rehabilitation of the site.

Quarry development to June 2012:

Following the flooding in March 2012 the site activities associated with the quarry extension were:

- Stripping of overburden for Cell 1 of the Wagga Wagga Quarry Extension commenced in March 2012;
- Temporary Haul Road constructed after damage to the main quarry access road from flood and rain events in March 2012;
- Stage 1 development area (Cell 1) was stripped and the overburden was placed into the designated levee bank walls;
- The levee bank constructed to provide protection for 1 in 50 year flood event;
- Levee bank rectification commenced to repair the breach that occurred during the floods.
- No product material was extracted from Cell 1 prior to June 2012.

Quarry development June 2012 to June 2013

- New haul road was constructed following the flood event in March 2012 providing permanent access to Cell 1. The new haul road was constructed with a spill way into the pit during periods of high rainfall or flooding;
- Extraction of product commenced in Cell 1 with approximately 35,000 tonnes of material extracted between June 2012 and June 2013;
- Rehabilitation works on the bank between Pit 1 and Pit 2 commenced in early 2013 with planting of indigenous native flora species.

Quarry development July 2013 to June 2014:

- Overburden stripped from the development of Cell 1 was stockpiled onsite to be used in the levee bank remediation works;
- Levee bank reinstatement between Pit 1 and the Murrumbidgee River commenced with works undertaken when the Murrumbidgee River water level was low, enabling fill and compaction works for the construction of the barrier to occur. The levee bank remediation works require extended periods of low flow in the Murrumbidgee River, hence works were not initiated until periods of low flow (i.e. over the Autumn and Winter months 2014).
- Extraction of 62,605 tonnes of sand and gravel occurred from Cell 1 during July 2013 to June 2014;
- Process fines from the wash plant have been discharged into a formed drain that flows to Pit 2 where the suspended solids are settled out. No release of water to the Murrumbidgee River from Pit 2 occurred during 2013 and 2014).

Status of the quarry development July 2014:

The Wagga Wagga Quarry Extension activities at the time of this audit was focussed on the construction of the barrier between the Murrumbidgee River and Pit 1, the activity determined by the water height in the Murrumbidgee River, and the excavation of product from Cell 1.



Murrumbidgee River looking west of Pit 1, showing vegetative screening of properties to west of the Wagga Wagga Quarry.



Wagga Wagga Quarry Extension Cell 1 excavation
29 July 2014



Graded gravel product stockpiles on a hard-stand area near the weighbridge at the entry to the quarry site.



Aerial photograph of the Wagga Wagga Quarry site and the Murrumbidgee River



DDG2 and WG0704 monitoring sites



Process plant for washing and grading sand extracted from Cell 1.



29 July 2014: looking northwest from the process plant and stockpile area to the wetland south of Pit 1. Wash-water from the process plant is directed along a surface channel to Pit 2 for settling and reuse.

Figure 3: Wagga Wagga Quarry Extension Status July 2014

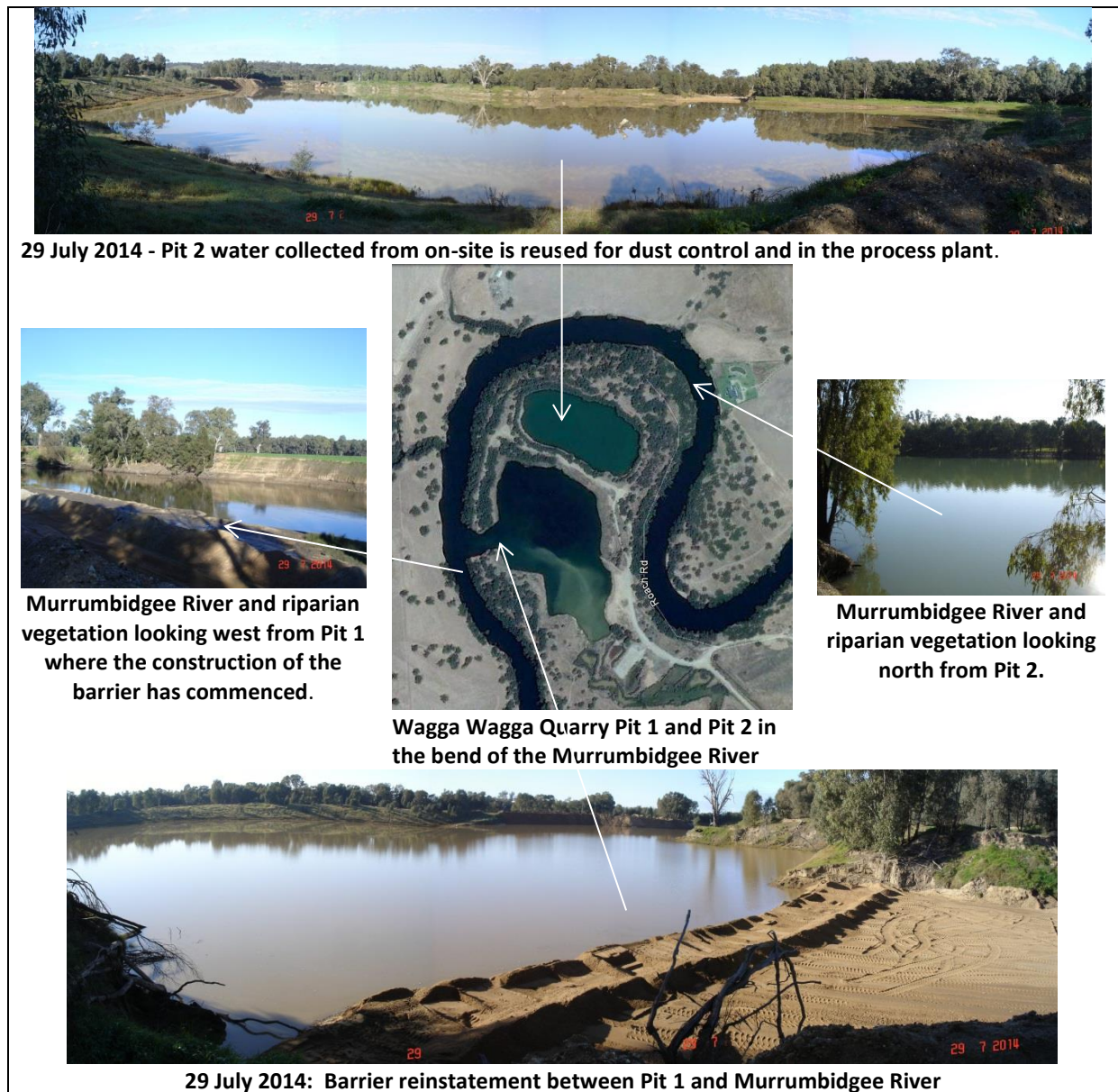


Figure 4: Wagga Wagga Quarry Extension Status of Pit 1 and Pit 2 and Construction of the barrier between the Murrumbidgee River and Pit 1, July 2014

The Development Application DA12/0533 granted by the Wagga Wagga City Council on 19 March 2013 for the upgrade of access track, construction of new levee/riverbank and rehabilitation and vegetation of the Murrumbidgee River bank, is to be undertaken in accordance with the approved plans and specifications detailed in condition 1 (i.e. Plan numbers D105-D107, D110, D115, D120-D122, D125, D150 and D155 prepared by Martens & Associates, dated November 2012).

At the date of this audit (July 2014) the upgraded access track was complete and works for the construction of the barrier (levee) between the Murrumbidgee River and Pit 1 had commenced with the compaction of the base layer providing a barrier between the River and Pit 1 stopping any loss of water from Pit 1 into the River. The placement of the HDPE on the constructed base to form an impervious layer is planned to occur in August/September 2014 with the barrier to then be constructed and compacted to the finished height of 169.7 mAH (Water Management Review, Evans & Peck, 2012).

4.0 Review of Environmental Management

A summary of the status of the environmental management conditions for the Wagga Wagga Quarry Extension required under the Project Approval 07_0069 and EPL 2433 and implementation of the requirements of the conditions are presented below. (Summary Tables of compliance are provided in Attachments to this report).

4.1 Environmental Management Strategy

[Project Approval Schedule 5, condition 1]

The Environmental Management Strategy for the Wagga Wagga Quarry Extension was prepared and submitted to the Director-General for approval within 6 months of the granting of this Project Approval.

The Environmental Management Strategy generally addresses the elements of AS/NZS ISO14001.

Table 4.1: Environmental Management Strategy vs ISO 14001 Elements	
ISO 14001 Elements	Environmental Management Strategy section
4.2 Environmental Policy	Hanson Environmental Policy 1 January 2014
4.3.1 Environmental Aspects	1.3 Table 1 Major Components of the Project
4.3.2 Legal and Other Requirements	2.2 Legislative and External Requirements
4.3.3 Objectives and Targets	2.1 Environmental Management and Performance Criteria
4.3.4 Environmental Management Programs	2.1 Environmental Management and Performance Criteria
4.4.1 Structure and Responsibility	3.1 Personnel Structure and Responsibilities
4.4.2 Training Awareness and Competence	3.2 Training
4.4.3 Communication	3.3 Communication and Consultation
4.4.7 Emergency Preparedness and Response	3.4 Emergency Response
4.5.1 Monitoring and Measurement	4.1 Monitoring Programs
4.5.2 Non-conformance and Corrective and Preventative action	4.2 Non-compliance

Environmental management plans prepared to meet the requirements of the Project Approval, are attached to the Environmental Management Strategy in accordance with Project Approval Schedule 5 condition 1(f):

- Air Quality Management and Monitoring Plan (PAE Holmes; May 2012) Attachment A.
- Noise Monitoring Program (PAE Holmes, May 2012). Attachment B.
- Traffic Management Plan (Insite Planning, May 2012). Attachment C.
- Comprehensive Water Audit (Evans & Peck; June 2012). Attachment D.
- Water Improvement Program (Evans & Peck; June 2012). Attachment E.

4.1.2 Conclusion

The Environmental Management Strategy and the accompanying Environmental Management Plans provide a satisfactory basis for the environmental management of air quality, noise emissions, and traffic management associated with the of the quarry activities. However the Water Management Plan and sub-plans [Project Approval Schedule 3 condition 14] have not yet been developed and should be prepared to provide the management and mitigation measures proposed for site waters and the monitoring programs for surface and groundwater associated with the of the quarry activities.

The Environment Management Plans should be regularly reviewed and updated as necessary to represent the current project activities.

4.2 Noise

[Project Approval Schedule 3, conditions 1 to 4]

4.2.1 Noise Management Plan

[Project Approval Schedule 3, condition 4, and Schedule 5 condition 2]

The Noise Management Plan was prepared to satisfy Project Approval Schedule 3 condition 4 and Schedule 5 condition 2 by PAE Holmes for Hanson and submitted to the Director-General as Attachment B to the Environmental Management Strategy within 6 months of the Project Approval being granted.

4.2.2 Predicted Noise and Assessment Criteria

Heggies Operational and Traffic Noise Impact Assessment conducted for the Environmental Assessment, included modelling using SoundPlan (V6.4). The results of modelling predictions showed that noise levels for the project were at acceptable levels under worst case conditions.

Heggies reported no exceedances of the Project Specific Industrial Noise Policy (INP Intrusive) Noise Assessment Criteria were predicted for the Quarry Extension operation or the night-time operation of the dewatering pump under calm weather conditions.

Unattended monitoring conducted by Heggies in accordance with the INP for the Operational and Traffic Noise Impact Assessment conducted for the Environmental Assessment, established the ambient and background noise levels in the Wagga Wagga Quarry area. Attended noise monitoring indicated that the measured ambient noise levels were less than the INP rural noise amenity recommended noise levels.

Heggies also reported that noise emissions from the quarry were discernible at Kullaroo and Riverglen but because the contribution of ambient noise was at least 5dBA lower than the ambient LA₉₀ background noise level at the all measurement locations, the influence of the quarry operation noise emissions on background noise levels was negligible.

Exceedances were found at Kullaroo (up to 4dBA) and Riverglen (up to 5dBA) for the INP Intrusive Noise Assessment Criteria for a 3m/s source to receiver wind in the adverse weather conditions noise impact assessment. (Note: There being no other industrial noise sources in the area of the Wagga Wagga Quarry, the amenity criteria were developed in accordance with the INP).

The noise assessment criteria in Project Approval Schedule 3 condition 1 Table 1 are:

Noise Impact Assessment Criteria (Project Approval Schedule 3 condition 1, Table 1)

Location	dB(A) LAeq (15min)
Kullaroo 2	39
Riverglen	40
All other privately owned lands	35

4.2.3 Noise Monitoring

Unattended and attended noise monitoring of the Wagga Wagga Quarry Extension operations was undertaken by DM McMahon Pty Ltd in October 2012 in accordance with the Noise Management Plan and the Project Approval Schedule 3 condition 4(b) for the project.

The attended noise monitoring audible at the Kullaroo, Sweetwater, Riverglen and Riverbend subject sites indicated that the noise at the sensitive receivers is dominated by extraneous noises including native wildlife and farming activities rather than by noise from the quarry operations. The quarry activities were generally inaudible to faintly audible during the attended monitoring at the sensitive receivers and no noise non-compliances reported.

The noise monitoring conducted by DM McMahon determined the existing ambient noise levels at the Kullaroo, Sweetwater, Riverglen and Riverbend subject sites prior to the commencement of the Wagga Wagga Quarry Extension works and using the Industrial Noise Policy (INP) Table 2.2 for modification of the acceptable noise levels at receivers, calculated the following Daytime Ambient Noise Levels:

Table 4.2.3a: Ambient Noise Levels (DM McMahon, October 2012)

Location	NIAC	Modified $L_{Aeq}(15 \text{ min})$
Kullaroo	35	34
Riverglen	40	38
Riverbend	35	37
Sweetwater	35	39

Attended monitoring undertaken on 16 and 23 October 2012:

Table 4.2.3b: Attended Noise Monitoring Results (DM McMahon, October 2012)

Location	16 October		23 October	
	Mean	Range	Mean	Range
Kullaroo	36.2	34.9 to 38.3	40.3	36.4 to 45.0
Riverglen	41.7	39.1 – 44.7	39.0	37.5 – 41.6
Riverbend	39.3	36.1 – 42.4	44.9	40.6 – 50.4
Sweetwater	40.2	40.2 - 46.5	46.5	44.6 – 49.2

Monitoring results indicated that background noise levels at Riverglen and Kullaroo met the noise criteria for 'All other privately owned land' stated in Project Approval Schedule 3 condition 1. Sweetwater and Riverbend located across the Murrumbidgee River exceeded the Daytime Ambient Noise Impact Assessment Criteria (NIAC) of 35 dB(A) $L_{Aeq}(15 \text{ min})$ by 2 and 4 dB(A) respectively.

4.2.4 Conclusion

The Noise Management Plan is satisfactory for the mitigation and monitoring of noise from the Wagga Wagga Quarry Extension Project. The unattended and attended noise monitoring conducted by DM McMahon in October 2012 indicated that the Noise Impact Assessment Criteria (NIAC) presented in Project Approval Schedule 3 condition 1 were complied with at the Kullaroo and Riverglen residences. The results of background noise monitoring exceeded the NIAC for all other privately owned lands as the measured noise received at the subject sites was dominated by extraneous noises including native wildlife and farming activities.

4.3 Air Quality

[Project Approval Schedule 3, conditions 5 to 7]

4.3.1 Air Quality and Greenhouse Gas Management Plan

[Project Approval Schedule 3, conditions 5 to 7 and Schedule 5 condition 2]

The Air Quality and Greenhouse Gas Management Plan was prepared for Hanson to satisfy Project Approval Schedule 3, condition 7 and Project Approval Schedule 5 condition 2 by PAE Holmes and submitted to Director-General as Appendix A to the Environmental Management Strategy within 6 months of the Project Approval being granted.

4.4.2 Predicted Air Quality and Assessment Criteria

The Air Quality Impact Assessment undertaken for the Wagga Wagga Quarry Extension: Environmental Assessment Report, dated April 2010 involved air dispersion modelling of dust impacts at the site (Heggies, 2009). The results of predictions made by AUSPLUME atmospheric dispersion modelling for this assessment

are summarised in Tables 4.4.2a to 4.4.2c. These values represent worst-case modelled results using meteorology data sourced from TAPM and the Wagga Wagga Airport AMO.

The modelling results indicated that annual average dust deposition, annual average PM₁₀ concentrations and 24-hour average PM₁₀ concentrations associated with the Project were predicted to satisfy the project air quality goals, provided specific operation controls are adhered to.

Table 4.4.2a: Background and Predicted Incremental Dust Deposition at Nearest Non-Project Related Residence (Heggies, 2009)

Receptor	Background	Increment	Background Increment	Project Goal
Kullaroo	1.8	0.1	1.9	4
Sweetwater	1.8	0.7	2.5	4
Riveglen	1.8	1.7	3.5	4
Globine	1.8	0.6	2.4	4
Pomigalarna	1.8	0.2	2.0	4

Table 4.4.2b: Maximum Predicted (Background + Increment) 24-Hour PM₁₀ Concentration (µg/m³) (Heggies, 2009)

Receptor	Background	Increment	Background Increment	Project Goal
Kullaroo	48.7	0.0	48.7	50
Sweetwater	48.7	1.0	49.7	50
Riveglen	48.7	0.8	49.5	50
Globine	48.7	0.1	48.4	50
Pomigalarna	48.7	0.1	48.8	50

Table 4.4.2c: Predicted Annual Average (Background+ Increment) PM₁₀ Concentration (µg/m³) (Heggies, 2009)

Receptor	Background	Increment	Background Increment	Project Goal
Kullaroo	23.9	0.8	24.7	30
Sweetwater	23.9	1.2	25.1	30
Riveglen	23.9	1.2	25.1	30
Globine	23.9	0.9	24.8	30
Pomigalarna	23.9	0.8	24.7	30

The operation of the quarry must comply with the air quality impact assessment criteria (Project Approval Schedule 3 condition 5), operating hours (Project Approval Schedule 3 condition 2) and air quality management (Project Approval Schedule 3 condition 6 and 7):

Project Approval Schedule 3 condition 5 - Table 3: Long Term Criteria for Particulate Matter

Pollutant	Averaging Period	Criterion
Total solid particulates (TSP)	Annual	90µg/m ³
Particulate matter <10µm PM ₁₀	Annual	30µg/m ³

Project Approval Schedule 3 condition 5 - Table 4: Short Term Criteria for Particulate Matter

Pollutant	Averaging Period	Criterion
Particulate matter <10µm PM ₁₀	24 hours	50µg/m ³

Project Approval Schedule 3 condition 5 - Table 5: Long Term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum Project Contribution	Maximum Total Deposited Dust
Deposited dust	Annual	2g/m ² /mth	4g/m ² /mth

4.3.3 Dust Monitoring



Plate 4.3.3: Dust deposition site DDG2

Four dust deposition gauges (DDG2, DDG3, DDG4 and DDG 5) have been established for the Wagga Wagga Quarry activities in accordance with Approved methods for the sampling and analysis of air pollutants in NSW (NSW DEC 2005) and AS/NZS 3580.10.1:2003.

Analysis of the dust deposited is conducted monthly by Charles Sturt University (reporting Deposited Matter including ash, combustible matter, insoluble solids, soluble solids and total matter).

Current locations of each dust deposition gauge (DDG) are shown in Figure 4.3.3:

DDG1 - located near quarry access road and processing plant.

DDG2 – located in undisturbed natural riparian vegetated area

DDG3 - located along the access road utilised in the river barrier repair works.

DDG4 – located near Cell 1 and directly exposed to high dust generating activities within the quarry pit.

DDG5 – located between the access road to Cell 1 and the Murrumbidgee River.



Figure4.3.3 - Dust Deposition Gauge (DDG#) - New Locations post flooding

PM₁₀ Results

A DustTrak Monitor commissioned on 30 October 2012 (identified as monitoring location DDG1) measures particulate matter <10µm (PM₁₀), continuously every 15 minutes.

The annual average for PM₁₀ for the period 30 October 2012 to 30 June 2013 was less than the 30µg/m³ criteria (annual running average from DustTrak data was 29µg/m³) and annual average for PM₁₀ for the July 2013 to June 2014 was 17.7µg/m³. There were no recorded events of exceedance of the PM₁₀ limits during the July 2013 to June 2014 period.

Exceedance of the 24 hour PM₁₀ limits between 2012 and June 2013 were (NOTE: the PM₁₀ results exhibiting increased values are all within the Wagga Wagga Quarry boundary near the main access gate and adjacent to DDG1):

Date	PM ₁₀ 24 hour Result	Assessment Comments
9 November 2012	167µg/m ³	An assessment of the results indicated that site activities were not likely to be the direct cause of the exceedance and that the probable cause of the elevated results was related to offsite activities.
10 November 2012	247µg/m ³	
11 November 2012	184µg/m ³	
10 April 2013	55µg/m ³	An assessment indicated that site activities were not likely to be the direct source of the exceedance and the probable cause of the elevated results were related to regional air quality issues, and other activities being undertaken to the south of the site.
11 April 2013	76µg/m ³	
12 April 2013	71µg/m ³	
July 2013 to June 2014		No recorded events of exceedance of the PM ₁₀ limits occurred between July 2013 and June 2014.

Dust Deposition Results July 2012 to June 2014

Dust deposition rates that exceeded the total deposited matter air quality impact assessment criteria are presented in Table 4.3.3. (NOTE: the dust deposition gauges exhibiting increased values are all within the Wagga Wagga Quarry boundary).

Table 4.3.3: Dust deposition rates that exceeded air quality impact assessment criteria between July 2012 and July 2014			
Month	Dust Gauge Location	Result	Quarry Activities and Comments
July 2012	DDG1	5.5 g/m ² /month	Works during July 2012 consisted of clean-up of the site following floods in March 2012 and the clearing of vegetation and overburden from Cell 1. Haulage of the cleared material occurred between Cell 1 and Pit 2.
	DDG2	7.7 g/m ² /month	
	DDG3	5.4 g/m ² /month	
	DDG5	6.4 g/m ² /month	
August 2012	DDG3	5.7 g/m ² /month	The clearing of vegetation and overburden from Cell 1. Haulage of the cleared material occurred between Cell 1 and Pit 2.
September 2012	DDG4	20.6 g/m ² /month	
October 2012	DDG4	9.4 g/m ² /month	
December 2012	DDG1	12.3 g/m ² /month	The clearing of vegetation and overburden from Cell 1. Haulage of the cleared material occurred between Cell 1 and Pit 2. Quarrying of materials from Cell 1 and processing of materials.
January 2013	DDG1	5.5 g/m ² /month	Quarrying of materials from Cell 1 & processing of materials.
	DDG3	4.4 g/m ² /month	
July 2013	DDG4	7.0 g/m ² /month	An alternate haul road was being used until the currently operational haul road was put into service and this exposed DDG4 to elevated quantities of deposited dust.
August 2013	DDG1	4.8 g/m ² /month	The location of DDG1 is near the quarry processing plant. Prevailing winds from the WNW at the sampling time transport increased dust towards the DDG1 recording vicinity.
	DDG4	10.2 g/m ² /month	An alternate haul road was being used until the currently operational haul road was put into service and this exposed DDG4 to elevated quantities of deposited dust.

December 2013	DDG3	5.2 g/m ² /month	Dust deposition exceedances at DDG3 expected to fall within compliance limits on completion of the river barrier works.
March 2014	DDG1	4.3 g/m ² /month	The exceedance in deposited dust at this gauge is indicative of high production levels and regional climatic conditions. Prevailing winds from the WNW at the sampling time transport increased dust into the DDG1 recording vicinity
May 2014	DDG3	4.4 g/m ² /month	Dust deposition exceedances at DDG3 is temporary and are expected to fall within compliance limits upon completion of the river redemption works.
June 2014	DDG3	15.7 g/m ² /month	Dust deposition exceedances at DDG3 is expected to fall within compliance limits on completion of the river barrier works.
	DDG4	9.1 g/m ² /month	The close proximity to Cell 1, exposes DDG4 to high dust levels during active excavation in the pit.

4.3.4 Conclusion

The dust monitoring results have exhibited exceedances of the dust deposition rate between July 2012 and June 2014. The increased dust deposition rates can be explained by the location of the dust gauges near to active works on the quarry site. No dust gauges have been located off the quarry site near to the closest sensitive receivers. It is recommended that a dust gauge be located on the Riverview Estate to monitor dust deposition near the closest residences.

4.4 Water Management

[Project Approval Schedule 3 condition 8 to 16]

The water management issues associated with the Project relate to:

- Sand and gravel extraction operations and associated groundwater dewatering, leading to potential changes to groundwater flow regime;
- Operation of the processing facilities, including extraction of water for processing and discharge to the Murrumbidgee River of excess water from the pit dewatering process; and
- Flood management and mitigation.

Hanson have a Water Management Policy dated 1 January 2014 that states that “*Hanson accepts the responsibility for water management which is integral to achieving sustainability, balancing today’s needs with those of the future.*”

The Water Management Policy will be reflected in the Water Management Plan when it is prepared for the Wagga Wagga Quarry Extension.

4.4.2 Water Management Plan

[Project Approval Schedule 3 condition 14 and Schedule 5 condition 2]

The Water Management Plan (Project Approval Schedule 3 condition 14) incorporating the Site Water Balance (Project Approval Schedule 3 condition 14(a)); Erosion and Sediment Control Plan (Project Approval Schedule 3 condition 14(b)); Surface Water Management Plan (Project Approval Schedule 3 condition 14(c)); and Flood Management Plan (Project Approval Schedule 3 condition 14(d)) had not been developed at the date of this audit. The development of the Water Management Plan and sub-plans had not occurred due to the effects of the flood events on the Wagga Wagga Quarry site in December 2010 and March 2012. These floods altered the planned management strategies for the site and the Water Management Improvement Program prepared by Evans and Peck.

4.4.3 Water Management and Improvement Program

[Project Approval Schedule 3 condition 8]

The Water Management and Improvement Program prepared for Hanson by Evans and Peck to satisfy Project Approval Schedule 3 condition 8, was submitted to the Director-General, OEH, NOW and the Council as section 8 of the *Water Management Review*, Evans & Peck, 11 March 2013.

The Water Management Improvement Program prepared by Evans and Peck involves a number of steps to be implemented for the water management system to transition to the improved system outlined in the *Water Management Review* section 8. (Note: The steps assume that river bank repair construction works between the Murrumbidgee River and Pit 2 have been completed).

Step	Improvement Activity	Comment / Status
1	Once extraction of material from Cell 1 has commenced, utilise groundwater inflow into Cell 1 as the primary source of water for site operations.	Cell 1 excavation had commenced and groundwater inflow to Cell 1 was pumped to Pit 1 for use in the site operations or release to the Murrumbidgee River.
2	Direct sufficient groundwater volume from Cell 1 to maintain the Wetland.	The maintenance of the wetland area will be addressed when the river bank repair works between the Murrumbidgee River and Pit 2 has been completed.
3	Direct excess groundwater from Cell 1 into the Settling Pond (Pit 2) as required or into the Murrumbidgee River (via Pit 1) if the water is of suitable water quality.	Excess groundwater in Settling Pond (Pit 2) would only be released to the Murrumbidgee River (via Pit 1) when the water quality was suitable for release.
4	Establish a pipeline (and pumping system if necessary) to direct silt-laden water from the Process Plant to the Settling Pond (Pit 2).	The silt laden water from the process plant is currently directed to Pit 2 via a surface drain at the date of this audit. A pipeline and pumping system if required had not been installed.
5	Cease pumping water from the Murrumbidgee River to the Process Plant. Once Cell 1 has been completely extracted, back-filling of overburden into Cell 1 and successive extraction from Cells 2/3 to 5 would commence.	Water was not being pumped from the Murrumbidgee River at the date of this audit. Cell 1 was not complete at the date of this audit.
	Equipment upgrade to improve efficiency is also recommended, such as implementing greater use of cyclones and water recycling within the immediate confines of the Process Plant area.	Not activated at the date of this audit.

4.4.4 Site Water Balance²

Water licences held by Hanson in relation to the Wagga Wagga Quarry (2010) were from the following sources:

- Bore Licences 40BL190719 and 40BL190720 for groundwater extraction of 360 ML/year; and
- Water Access Licences WAL 3661 and WAL 3788 (and the associated Water Supply Works Approvals) to pump 100 ML/year from the Murrumbidgee River.

² Wagga Wagga Quarry Extension Project Water Management Review, Evans and Peck, 11 March 2013

Although the two sources (i.e. groundwater and water from the Murrumbidgee River) are licenced separately, the surface and groundwater at the Wagga Wagga Quarry site are closely linked and effectively constitute a single source.

The site water balance analyses indicates that the net flow (i.e. extraction – return flow) would be significantly less than the available licenced volume (i.e. 460 ML/year).

The Water Management Review section 7 makes the following statements in relation to water licensing:

“The current NSW water licencing regime does not account for return flows to either the groundwater or surface water sources. A draft policy to address this issue was prepared by NOW but has not yet been finalised for implementation. It therefore appears that Hanson would need to acquire sufficient licences to account for an annual water availability of approximately 800 ML/year at the conclusion of operations in order to implement a water improvement management system to comply with the water access licencing requirements.

Provided Hanson hold water licenses to adequately cover their assessed water usage and that the usage does not significantly impact or harm the aquifer or existing water users or the Murrumbidgee River, the NSW Aquifer Interference Policy (September 2012) requires any water returned to the aquifer (and effectively the Murrumbidgee River) to be of suitable water quality and not pose any potential harm or impact on existing water users and the existing water quality of the aquifer, should not result in any major concerns for Hanson. This water quality requirement is currently expressed in Environmental Protection Licence No.2433 condition L2.4.”

4.4.3 Conclusion

Water Management Plan and sub-plans [Project Approval Schedule 3 condition 14 and Schedule 5 condition 2] should be prepared as soon as possible to provide the management and mitigation measures proposed for the site surface and groundwater under the Water Management and Improvement Program associated with the of the quarry operations / activities. The site water balance for the Wagga Wagga Quarry must be managed in accordance with the sources and volumes available under the NOW licenses.

4.5 Water Monitoring

[Project Approval Schedule 3 condition 15]

4.5.1 Water Monitoring Program

[Project Approval Schedule 3 condition 15]

The Water Monitoring Program (Project Approval Schedule 3 condition 15(a)), had not been developed at the date of this audit, and was planned to be prepared when construction of the barrier between the Murrumbidgee River and Pit 1 is completed and the quarry progressed to normal operation with the water improvement program implemented. Monitoring required by water licences held by Hanson in relation to the Wagga Wagga Quarry must address:

- monitoring and recording of all key elements of the projected Site Water Balance (Project Approval Schedule 3 condition 15(a)) including:
 - daily pit dewatering volumes for each pit;
 - water used in processing;
 - water used for recycling and/or reuse;
 - water released to the constructed wetland system; and
 - water released to the environment, whether by evaporation, infiltration, discharge or entrained with product; and

- Groundwater Monitoring Program (Project Approval Schedule 3 condition 15(b)), must include:
 - a groundwater monitoring bore network developed following consultation with NOW, aimed at accurately identifying the groundwater impacts of the project;
 - detailed baseline data of groundwater levels, yield and quality in the area, and privately-owned groundwater bores that could be affected by the project;
 - groundwater impact assessment criteria including trigger levels for investigating any potentially adverse groundwater impacts;
 - a program to monitor and assess:
 - groundwater inflows to the quarry operations;
 - impacts on regional aquifers;
 - impacts on groundwater supply of potentially-affected landowners and the Riverina Water County Council's West Wagga Wagga Borefield;
 - impacts on the aquifers in the Cowra and Lachlan Formations; and
 - impacts on any groundwater dependent ecosystems and riparian vegetation

4.4.4 Monitoring Programs

The Water Monitoring Program has not been prepared or implemented due to delays in the repair of the levee bank between the Murrumbidgee River and Pit 1 that was breached during the December 2010 and March 2012 floods. The Water Monitoring Program is outlined in the Water Management Improvement Program, but was not implemented due to the delays in the design and approval process for the reinstatement of the barrier between the Murrumbidgee River and Pit 2.

Groundwater level monitoring in bores 701, 704 and 705 installed in June 2012, is recorded hourly. This groundwater level data is collected to monitor the effectiveness of the Water Management Improvement Program when it is implemented.

A basic analysis of the groundwater level data during the 2012 to 2013 annual reporting period, identified that levels across the quarry site dropped approximately 1 – 3.7 meters after installation of the bores in 2012. This was consistent with the changes in groundwater levels at nearby government operated groundwater bores (data obtained from the NSW Government Waterinfo.nsw website). Analysis of the groundwater levels for 2013 to 2014 annual reporting period was not available at the date of this audit.

The river bank repair works between the Murrumbidgee River and Pit 2 was still under construction at the date of this audit (July 2014) so the monitoring detailed in Table 4.4.3 had not been initiated. This monitoring program was identified by Evans and Peck to provide a basis for accounting for all water gains and losses within the site:

Table 4.4.3: Monitoring required for Option 1 to provide a basis for accounting for all water gains and losses within the site	
Monitoring Required	Status / Comment(s)
Total volume of water pumped from the Active Cell	Monitoring for accounting for all water gains and losses within the site had not commenced at the date of this audit as the barrier between the Murrumbidgee River and Pit 1 was under construction and the Water Improvement Program had not been implemented.
Volume of water pumped from the Active Cell to the Wetland	
Volume of water pumped from the Active Cell to the Settling Pond (Pit 2);	
Volume of water pumped from the Settling Pond (Pit 2) to the Process Plant	
Volume of return flow from the Process Plant to the Settling Pond (Pit 2);	
Volume of water discharged from the Active Cell to Pit 1	
Volume of water discharged from Pit 1 to the Murrumbidgee River.	

4.4.5 River Bank Repair Works between Murrumbidgee River and Pit 2

Following the finalisation of the detailed design and construction processes a Development Application for the river bank repair works between the Murrumbidgee River and Pit 2 was submitted to Wagga Wagga City Council in November 2012 and approved March 2013.

Approval for the river bank repair works was also required from the NSW Office of Water due to the proximity of the works in relation to the Murrumbidgee River. The approval from the NSW Office of Water was granted on 2 August 2013 for the upgrade of access track, construction of new riverbank, rehabilitation and revegetation of the Murrumbidgee riverbank.



Plate 4.4.5: River bank repair works underway with compacted fill and HDPE liner being installed.

Preparatory works involving the construction of an access road for construction plant and machinery commenced in the late 2013 with the river bank repair works to be undertaken when the summer release of water to the Murrumbidgee River for irrigation was complete.

The required river bank repair works were underway at the date of this audit. The preparation and implementation of required Water Management Plan and Water Monitoring Program are planned to occur when the river bank repair works have been completed.

4.4.6 Conclusion

The Water Monitoring Program (Project Approval Schedule 3 condition 15(a)), had not been developed at the date of this audit and should be prepared to provide the site surface water and groundwater monitoring programs associated with the of the quarry activities prior to completion of the river bank repair works.

4.5 Traffic Management

[Project Approval Schedule 3 condition 17 to 20]

4.5.1 Traffic Management Plan

[Project Approval Schedule 3 condition 19 and Schedule 5 condition 2]

A Traffic Management Plan was prepared for Hanson by Insite (Urban Planning, Town Planning and Project Management Consultants) to satisfy Schedule 3 condition 19 for the Wagga Wagga Quarry Extension Project in February 2013.

The Traffic Management Plan section 2 provides the Truck Driver Code of Practice to ensure that project-related traffic uses Roach Road and McNickle Road in a safe manner. The objectives of the Truck Driver Code of Practice are to:

- encourage compliance and acceptance of the Truck Driver Code of Practice by all heavy vehicle drivers using the quarry;
- minimise impacts on the community by managing traffic management along local roads to minimise potential conflicts between project-related traffic and other road users and pedestrians, including truck driver awareness of the Wiradjuri Walking Track (see below);
- foster an understanding and awareness within the company of community expectations and legislative requirements;
- protect and enhance public safety through compliance with relevant road rules;

- increase OH&S understanding in relation to fatigue, vehicle operation in public areas and obligation to the general public.

4.5.2 Records

[Project Approval Schedule 3 condition 17]

To comply with the Project Approval Schedule 3 condition 17 Hanson keeps accurate records of the date, time and tare weight of each product haulage vehicle dispatched from the site amount of product materials transported from the site

All trucks departing from the site loaded with material are required to have an effective cover over their load for the duration of the trip. All care is to be taken to ensure that all loose debris from the vehicle body and wheels is removed prior to leaving the site. Drivers must ensure that following tipping of product at the delivery site that the tailgate is locked before leaving the site.

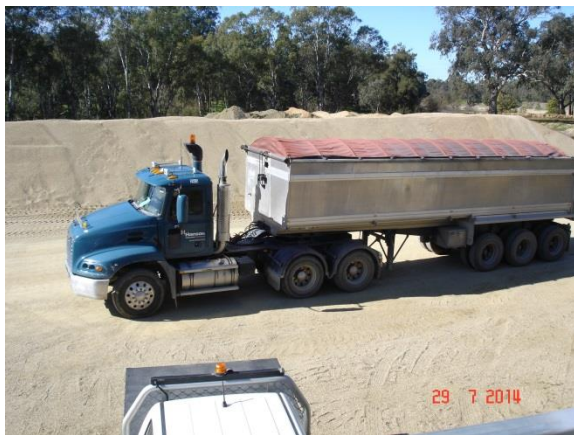


Plate 4.5.1: Hanson truck with covered load, 29 July 2014



Plate 4.5.1b: Contractor truck being loaded, 29 July 2014.

4.5.3 Wiradjuri Walking Track & Pedestrians/Cyclists

[Project Approval Schedule 3 condition 19(b)]

Drivers are to be aware of the Wiradjuri Walking Track which has a road crossing point for pedestrians /cyclists in McNickle Road at the Bagley Road intersection and continues north down McNickle Road on the east side past the Roach Road intersection. Through this location pedestrians/cyclists should be anticipated and will cross McNickle Road and travel in close proximity to the road pavement on the grass verge between Bagley Drive and Roach Road. Drivers are to ensure that when passing pedestrians/cyclists a safe separation distance exists between trucks and pedestrians as well as a reduction in speed if appropriate.

4.5.4 Conclusion

The traffic generated by the Wagga Wagga Quarry Extension activities and the requirements of the Truck Driver Code of Practice (that have been signed by all drivers of trucks operating to and from the quarry), appear to be adequately managing any potential impacts on the public roads to and from the quarry site.

4.6 Waste Management

[Project Approval Schedule 3 conditions 22 to 24]

4.6.1 Waste Management Plan

[Project Approval Schedule 3 condition 24 and Schedule 5 condition 2]

A draft Waste Management Plan had been prepared to meet the Project Approval Schedule 3 condition 24 for the Wagga Wagga Quarry at the date of this audit. Waste generation and management is discussed in the

Environmental Assessment and the principles for the management of waste generated on site is shown in the Waste Hierarchy chart that is displayed on the wall of the Wagga Wagga Quarry Site Office.

General waste from the quarry operation is managed through a waste contractor with general waste placed in a bin for collection and transport to the Wagga Wagga City Council waste depot.

Waste oil from vehicle and equipment maintenance is placed in an aboveground tank for collection by a waste recycling contractor.

4.6.2 Response to Flooding

To manage chemical storage in the event of a flood Hanson has developed procedures for the Wagga Wagga Quarry. These procedures are developed in conjunction with the Hanson internal risk management and environmental management policies. In the event of a flood, or potential flood event, all fuels (oil and diesel) and chemicals will be relocated from their current location on site, to an off-site location of higher ground. The decision will be based on:

- Projected flooding severity;
- Period of time of warning to the flood event and distance to the proposed relocation site;
- Topographic height of new location and predicted flood peak height;
- Applicable requirements from Wagga Wagga City Council's Development Control Plan (Part B, section 4).

4.6.3 Conclusion

A Waste Management Plan to satisfy Project Approval Schedule 3 condition 24 and Schedule 5 condition 2 should be prepared for the Wagga Wagga Quarry Extension as soon as possible.



Plate 4.6.1a: General waste placed in a bin



Plate 4.6.1b: Waste oil aboveground tank

4.7 Flora and Fauna

[Project Approval Appendix 3 – Statement of Commitment 1.2.1]

4.7.1 Flora and Fauna Management Plan

[Project Approval Appendix 3 – Statement of Commitment 1.2.1]

A Flora and Fauna Management Plan was prepared to satisfy Project Approval Appendix 3 – Statement of Commitment 1.2.1.

“The flora study undertaken by Geoff Cunningham Natural Resource Consultants³, concluded that there are no threatened or endangered plant species at the Wagga Wagga Quarry site. The modified extraction cell design will ensure no River Red Gums would be removed during the sand extraction operation so no impact on the only remnant native community found within the quarry area - Eucalyptus camaldulensis [River Red Gum] Woodland / Forest Community.”

The fauna survey undertaken by Ecotone Ecological Consultants⁴ also concluded that there are no endangered or threatened fauna species present on the Wagga Wagga Quarry site:

“The overall conclusion is that there is unlikely to be a significant impact on any local population of threatened terrestrial fauna in the area as a result of the Wagga Wagga Quarry extensions. It is also considered likely that the existing terrestrial fauna biodiversity can be retained within the area as there will be no loss of the existing naturally vegetated habitat. In fact there is the potential for an increase in habitat over time provided that the intended rehabilitation works are carried out.”

The proposed extension will not impact on agricultural land use in the area. Cattle grazing ceased in 2008 in the quarry area.

The remnant, but continuous strip of riparian vegetation along the Murrumbidgee River provides links to other remnant vegetation outside of the quarry area for arboreal mammals. Many of the mature trees also provide roost/nest sites for arboreal mammals, hollow dependant birds and microbats. As a result of the width of the river and the extent of clearing and grazing in the surrounding lands, terrestrial species are expected to move through the quarry area. The wetlands, settling ponds and restored dams provide a drought refuge for waterfowl and other waterbirds, including migratory waders.

4.7.2 Revegetation

The revegetation of cleared areas is planned to be undertaken in accordance with the Flora and Fauna Management Plan.

Vegetation clearance across the Wagga Wagga Quarry site had occurred where excavation of product had been undertaken and for access roads. Land outside the development of the quarry extraction and access areas had remained generally undisturbed by the quarry activities at the date of this audit.

The Flora and Fauna Management Plan prepared to satisfy Statement of Commitment 1.2.1 states:

“Revegetation will allow a natural regrowth of trees, shrubs and groundcovers. River red gums are likely to spread from local seed, however shrubs and ground covers may need to be planted. Only species natural to river red gum forest/woodland will be planted (see the Project’s flora report, Geoff Cunningham, 2006/7)”; and

“The rehabilitation proposal will result in a vastly enhanced fauna habitat and in the establishment of valuable native vegetation remnant across what is now a degraded site.”

There are significant areas of natural vegetation retained along the Murrumbidgee River banks and scattered vegetative cover on the floodplain and wetland area that had not been disturbed at the date of this audit.

Any vegetation management on the Wagga Wagga Quarry Extension site area occurs in accordance with the following measures:

- Areas outside the quarry pit areas that are revegetated, including the riparian vegetation along the Murrumbidgee River, will be fenced to prevent cattle and rabbits from entering.
- The fences around the property were replaced following the 2012 flood. The fences are inspected quarterly by quarry staff and maintained in good repair.

³ Flora Study of the Lands within the Proposed Extension to the Wagga Wagga Quarry, Natural Resource Consultants Pty Ltd, Feb 2009

⁴ Terrestrial Fauna Survey and Impact Assessment Report, Ecotone Ecological Consultants, March 2009

- Revegetation will allow a natural regrowth of trees, shrubs and groundcover. River Red Gums are likely to spread from local seed. Shrubs and groundcovers may need to be planted and only species natural to the River Red Gum Forest/Woodland will be used.
- New haul roads will not be constructed in the riparian zones to avoid impact on any existing riparian habitats.

No haul roads have been constructed in the riparian zones.

4.7.3 Vegetation Management Plan for the Riverbank Reinstatement

A Vegetation Management Plan for the Riverbank Repair was prepared by Geoff Cunningham Natural Resource Consultants Pty Ltd June 2013. This Vegetation Management Plan suggested:

- The re-establishment of a native tree cover which is similar in composition and spacing, to that already present;
- Such species to be planted would comprise mainly *Eucalyptus camaldulensis* (River Red Gum) with a few trees of *Casuarina cunninghamiana* (River Oak); and
- Any introduced shrubs and trees such as Blackberry, Briar Rose, fruit trees, exotic ornamentals or Willows should be treated with herbicide to remove them from the area being revegetated as soon as they appear

As the levee remediation works are presently being completed, the Vegetation Management Plan is yet to be implemented. The works outlined in the plan will be implemented upon completion of the levee remediation works.

4.7.4 Pest and Weed Management

Management and control of feral fauna will be conducted in accordance with the Flora and Fauna Management Plan. Baiting of rabbits, foxes and cats within the quarry area will be conducted as required.

Not baiting has been conducted in site to date.

A survey of all known weed species was undertaken as part of the *Vegetation Management Plan – Riverbank Repair* by Geoff Cunningham in June 2013. Weed management had not been undertaken during 2013 to July 2014 and a further weed survey is planned for March / April 2015.

4.7.5 Conclusion

The implementation of the Flora and Fauna Management Plan with its vegetation clearance procedures, revegetation plan, and weed management provides a basis to manage the potential impact on the environment during extraction and processing activities. Any identified impacts can be mitigated through the implementation of the actions within the Flora and Fauna Management Plan.

4.7 Rehabilitation

[Project Approval Schedule 3 condition 25 to 27]

4.7.1 Rehabilitation Management Plan

[Project Approval Schedule 3 condition 25 to 27 and Schedule 5 condition 2]

A revised/updated Rehabilitation Management Plan required under Project Approval Schedule 3 condition 25 was being developed at the time of this audit for submission to the Director-General.

A Rehabilitation Plan - 2012 onwards for the Wagga Wagga Quarry was included in the Environmental Assessment Appendix C, and describes the rehabilitation of the east side of the Wagga Wagga sand and gravel extraction site, with a separate Rehabilitation Plan approved from the Wagga Wagga City Council for Lot B

DP381991. The existing Rehabilitation Plans should be reviewed and updated to address the requirements of Project Approval Schedule 3 condition 25.

The primary objective is to rehabilitate the Wagga Wagga Quarry as a wetland, grassland and revegetated riparian zone. The extractive nature of the development means that a changed landform will result. Ecological, hydrological and geomorphological constraints have determined the extent of the extraction and the plan developed here takes these into consideration. The proposed rehabilitation in the Rehabilitation Plan 2012 describes the Stages of works to be implemented and post-closure works to meet the rehabilitation principles outlined in Rehabilitation Plan section 2:

Roads and Tracks

Upon cessation of extraction and processing all redundant roads and tracks will be removed and prepared for revegetation. The main access road may remain open and sealed as an access to the site.

Bulk Earthworks

The re-shaping of the pits will include major earthworks to form the base for the final land form. Slopes above the water table will be approximately 1m vertical and 3m horizontal. Material used in the rehabilitation will be overburden won from onsite. Following overburden backfilling the levee banks will be graded over the coarsely replaced material.

Sub-Soil

Material suitable for sub-soil will be placed above the water table to a depth of 150mm below final finished surface levels.

Surface Soil

Topsoil will be recovered from stockpiles on site and placed to approximately 150mm depth.

Revegetation

It is proposed to create the revegetative cover similar to the existing vegetation in both the upper canopy and understorey species. The design density and types of trees and scrubs used in the reclamation is based on the final height.

Bushfire Control

Bush fire management procedures will reduce the likelihood of fire events at the quarry, with provision of access to strategic areas on the site, availability of water from the settlement dams, and creating suitable fire breaks.

4.7.2 Conclusion

A revised/updated Rehabilitation Management Plan, to satisfy Project Approval Schedule 3 condition 25 should be prepared for submission to the Director-General for approval in conjunction with the Water Management Improvement Program Option 1 (the recommended strategy for the Wagga Wagga Quarry water management process), as required in Project Approval Schedule 3 condition 25.

The existing Rehabilitation Plans presented in the Environmental Assessment Appendix C and rehabilitation outline in the Water Management Review 2012 are being used as the basis for the Rehabilitation Management Plan to manage effects of the flood events and addition of the information required to satisfy Project Approval Schedule 3 condition 25.

Heritage

A study undertaken by Central West Archaeological and Heritage Services showed there is no material evidence of any sites of Aboriginal cultural significance. A further study undertaken by Mills Archaeological and Heritage Services Pty Ltd concluded that the project will have no direct or indirect impact on non-indigenous heritage relics.

A field survey and AHIMS database search (2006) conducted for the Environmental Assessment indicated that no sites had been identified within a 2km radius of the quarry area. Following consultation with representatives of Wagga Wagga Local Aboriginal Land Council (LALC), no Aboriginal archaeological or anthropological constraints were identified within the development site/survey area.

The LALC was consulted with prior to, during, and on completion of the field survey and was represented during the field survey (see Section 1.2 & Appendix 1).

In the unlikely event that skeletal remains are detected during quarry activities, Hanson will ensure that the necessary actions are taken to notify the relevant authorities for consultation and appropriate directions. It is anticipated that work shall cease immediately in the area of the finding, pending investigation and clearance to proceed.

A non-Aboriginal heritage assessment to determine whether or not the proposed quarry extensions would impact non-indigenous heritage sites and relics was conducted by Mills Archaeological Heritage Services in January 2010. A model for the site type and distribution patterns for heritage items in the vicinity of the quarry area was developed from a review of the records of the Australian Heritage Database, NSW Heritage State Heritage Register and the Wagga Wagga City Council and a review of the history of the development of the Wagga Wagga district. The historical records showed that flooding of the Murrumbidgee River influenced the location of pastoral stations and their associated buildings and rural dwellings. Two heritage items that were identified during the heritage assessment were located above the flood plain on high ground to the south of the river but not within the quarry boundaries.

The report concluded that it is most unlikely that substantial European heritage items would be present in the quarry area.

4.8 Community Relations

4.8.1 Complaints

Hanson established the following procedure for receiving, recording and responding to any community complaints:

- A 24-hour, 7 day per week Hanson General Emergency Line (1800 882 478) has been established and the advertised in the local media, on signage at the Site entrance and on the Company 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; and
- Indirectly via the relevant government agencies.

All information related complaints will be recorded and registered in a database including:

- Date / time the complaint was received;
- Name of complainant;
- Contact telephone number and/or email address; and
- method by which the complaint was made
- Nature of complaint;
- As appropriate, initiate monitoring or other investigations to verify or otherwise the exceedence or non-compliance with Project Approval or EPL condition(s).
- Action taken in relation to the complaint including any follow-up contact;
- Undertake a follow-up interview with the complainant to determine their level of satisfaction with the response and the resultant outcome;
- Provide a copy of the complaint report 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 Review;and
- If no action, describe the reason why.

No community complaints were recorded during 2013 and June 2014.

4.8.2 Community Consultation

[Project Approval Schedule 5 conditions 5 and 10]

A communication, consultation and information dissemination strategy developed for the Wagga Wagga Quarry includes:

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

4.8.3 Community Consultative Committee

[Project Approval Schedule 5 condition 10]

The Wagga Wagga Quarry Community Consultative Committee (WWQCCC) was established in accordance with the NSW Government *Guidelines for Establishing and Operating a Community Consultative Committee for Mining Projects* (Department of Planning 2007). In accordance with the Guideline, an independent chair was selected by Hanson and endorsed by the Department of Planning and Infrastructure. The Independent Chair was nominated by the Wagga Wagga Rotary Club and is the current president of the Country Hope Trust. The current committee involves the following representatives:

- Chair – Independent Chair –(currently Mr John Studdert)
- Riverview Estate – 4 representatives (currently Mr Peter Delany, Mr Greg de Bruyn, Mrs Linda de Bruyn, Mrs Kim Treharne)
- Hanson – 2 representatives (currently Mr Rodney Thompson, Mr Glenn Catanzariti and Mr John Navybox)
- Wagga Wagga City Council – 1 representative (currently Mr Cameron Collins)

Community Consultation Committee Meetings were held on 21 August 2012, 26 February, 28 May and 3 December 2013 and 29 April 2014. The Minutes of the Community Consultation Committee Meetings are publically available on the Hanson website:

www.hanson.com.au/Aboutus/RegulatoryInformation/WaggaWaggaQuarryExtensionProject.aspx

5.0 Conclusions

The conclusions reached by the Independent Environmental Audit of the Wagga Wagga Quarry Extension are:

Environmental Management Strategy

The Environmental Management Strategy and the accompanying Environmental Management Plans provide a satisfactory basis for the environmental management of air quality, noise emissions, and traffic management associated with the of the quarry activities. However the Water Management Plan and sub-plans [Project Approval Schedule 3 condition 14] have not yet been developed and should be prepared as soon as possible to provide the management and mitigation measures proposed for the management of site water and the monitoring programs for surface and groundwater associated with the of the quarry activities. The Environment Management Plans should be regularly reviewed and updated as necessary to represent the current project activities.

Noise

The Noise Management Plan is satisfactory for the mitigation and monitoring of noise from the Wagga Wagga Quarry Extension Project. The unattended and attended noise monitoring conducted by DM McMahon in October 2012 indicated that the Noise Impact Assessment Criteria (NIAC) presented in Project Approval Schedule 3 condition 1 were complied with at the Kullaroo and Riverglen residences. The results of background noise monitoring exceeded the NIAC for all other privately owned lands as the measured noise received at the subject sites was dominated by extraneous noises including native wildlife and farming activities

Air Quality

The dust monitoring results have exhibited exceedances of the dust deposition rate between July 2012 and June 2014. The increased dust deposition rates can be explained by the location of the dust gauges near to active works on the quarry site. No dust gauges have been located off the quarry site near to the closest sensitive receivers. It is recommended that a dust gauge be located on the Riverview Estate to monitor dust deposition near the closest residences.

Water Management

Water Management Plan and sub-plans [Project Approval Schedule 3 condition 14 and Schedule 5 condition 2] have not yet been prepared for the site and should be developed to provide the management and mitigation measures for site surface and groundwater under the Water Management and Improvement Program to be implemented for the of the quarry operations / activities. The site water balance for the Wagga Wagga Quarry must be managed in accordance with the sources and volumes available under the NOW licenses.

Water Monitoring

The Water Monitoring Program (Project Approval Schedule 3 condition 15(a)), has not yet been developed and should be prepared to provide the site surface water and groundwater monitoring programs associated with the of the quarry activities.

Traffic Management

The traffic generated by the Wagga Wagga Quarry Extension activities and the requirements of the Truck Driver Code of Practice appear to be adequately managing any potential impacts on the public roads to and from the quarry site.

Waste Management

A draft Waste Management Plan had been prepared for the Wagga Wagga Quarry Extension to satisfy Project Approval Schedule 3 condition 24 and Schedule 5 condition 2. This draft Waste Management Plan should be finalised and submitted to the Director-General for approval.

Rehabilitation

A revised/updated draft Rehabilitation Management Plan, to satisfy Project Approval Schedule 3 condition 25 was being prepared at the time of this audit for submission to the Director-General for approval in conjunction with the Water Management Improvement Program Option 1 (the recommended strategy for the Wagga Wagga Quarry water management process), as required in Project Approval Schedule 3 condition 25.

The existing Rehabilitation Plans presented in the Environmental Assessment Appendix C and rehabilitation outline in the Water Management Review 2012 are being used as the basis for the Rehabilitation Management Plan to manage effects of the flood events and addition of the information required to satisfy Project Approval Schedule 3 condition 25.

Attachment A Project Approval 07_0069

Attachment B Statement of Commitments

Attachment C Environment Protection Licence 2433

Attachment 1 - Project Approval 07_0069


Project Approval 07_0069


Condition No.	Project Approval Condition	Verification	Comment	Compliance
	SCHEDULE 2 ADMINISTRATIVE CONDITONS			
2/1	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.			Noted
	TERMS OF APPROVAL			
2/2	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) Statement of Commitments; and (c) conditions of this approval.			Compliant Ongoing
2/3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.			Noted
2/4	The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents.		No additional requirement/s of the Director-General been received arising from the Department's assessment the strategies, plans, programs, reviews or correspondence that are submitted in accordance with this approval or the implementation of actions or measures contained in these documents.	Noted
	LIMITS ON APPROVAL			
2/5	Quarrying operations may take place at the site until 31 December 2036. <i>Note: Under this approval, the Proponent is required to rehabilitate the site to the satisfaction of the Director-Genera. Consequently, this approval will continue to apply in all respects - other than the right to conduct quarrying operations - until the site has been rehabilitated to a satisfactory standard.</i>			Noted
2/6	The Proponent shall not: (a) transport more than 150,000 tonnes of product from the site per calendar year; (b) permit more than six heavy vehicle movements per hour (total of all quarry haulage truck movements into and out of the site) between 3:00pm and 6:00pm on any weekday, unless in the case of emergency or under the direction of police or other relevant authority.	<ul style="list-style-type: none"> Weekly Production Volume and Shipments 	Extraction commenced in Cell 1 with approximately 35,000 tonnes of material extracted between July 2012 and June 2013. Between 1 July 2013 and 30 June 2014 62,316 tonnes of product were extracted from Cell m1 of the Wagga Wagga Quarry Extension pit.	Compliant Ongoing

Condition No.	Project Approval Condition	Verification	Comment	Compliance
2/7	The Proponent shall not excavate or extract any materials below a depth of 158 metres AHD without the prior written approval of the Director-General. Approval will be subject to the Director-General's satisfaction concerning the: (a) progress made against the goals and targets presented in the Water Management Improvement Program required under condition 8 of Schedule 3; (b) implementation of the Water Management Plan required under condition 16 of Schedule 3; (c) results of the Water Monitoring Program required under condition 17 of Schedule 3; (d) results shown and predictions made in the Water Management Verification Report required under condition 18 of Schedule 3; and (e) progress under the Rehabilitation Management Plan required under condition 27 of Schedule 3.		No excavation had occurred below a depth of 158 metres AHD at the date of this audit (July 2014). (a)-(e) No approval to extract material from below 158m AHD had been lodged with the Director-General at the date of this audit (July 2014).	Compliant Not activated
	INFRASTRUCTURE CONTRIBUTIONS			
2/8	The Proponent shall make annual contributions to Council for the maintenance of local roads impacted by the quarry's operations (ie Roach Road and McNickle Road), payable by 31 January each year, in respect of the preceding calendar year. The contributions shall be at a rate of three cents (2011 dollars, indexed annually to CPI) per tonne of product material hauled per kilometre of Roach Road and McNickle Road travelled by haulage vehicles associated with the project, unless an alternative contribution, works-in-kind or reimbursement arrangement is negotiated between the Proponent and Council, and agreed by the Director-General.		Annual contributions to the Council in accordance with the requirement of Schedule 2 condition 8 will be calculated from the annual tonnage and truck register. No alternative arrangements have been negotiated between Hanson and the Council.	Ongoing
2/9	Prior to the commencement of works under this approval, the Proponent shall contribute 1.0% of the capital investment value of the project (as at the time of commencement of the project) to Council for the purpose of delivering community infrastructure and services outlined in <i>City of Wagga Wagga: S94A Development Contributions Plan 2006</i> .	Letter to Wagga Wagga City Council re s94 Contribution, 3 Feb 2012	The s.94 contribution to the Wagga Wagga Council was provided on 3 February 2012 for \$5,000 (i.e. 1.0% of the capital investment value of the project).	Compliant
	STRUCTURAL ADEQUACY			
2/10	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. <i>Notes: Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.</i>		The new demountable building (Ausbuilt) was erected onsite and a new weigh-bridge installed on site following the flooding of the site in late 2013. The buildings were erected in accordance with the relevant requirements of the BCA.	Compliant

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	PROTECTION OF PUBLIC INFRASTRUCTURE			
2/11	The Proponent shall: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.			Noted
	DEMOLITION			
2/12	The Proponent shall ensure that all demolition work is carried out in accordance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i> , or its latest version.		No demolition of buildings has occurred on the site. (Building damaged during the flood events have been repaired or replaced.	Not applicable
	OPERATION OF PLANT AND EQUIPMENT			
2/13	The Proponent shall ensure that all the plant and equipment used on site, or to transport materials to and from the site, is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.			Noted
	STAGED SUBMISSION OF ANY STRATEGIES, PLANS OR PROGRAMS			
2/14	With the approval of the Director-General, the Proponent may submit any strategy, plan or program required by this approval on a progressive basis. <i>Note: The conditions of this approval require certain strategies, plans, and programs to be prepared for the project. They also require these documents to be reviewed and audited on a regular basis to ensure they remain effective. However, in some instances, it will not be necessary or practicable to prepare these documents for the whole project at any one time (eg all proposed extraction stages), particularly as these documents are intended to be dynamic and improved over time. Consequently, the documents may be prepared and implemented on a progressive basis, subject to the conditions of this approval. In so doing, the Proponent will need to demonstrate that it has suitable documents in place to manage the existing operations of the project.</i>		The Environmental Management Plan and attachments (dated May 2012) prepared for the Wagga Wagga Quarry Extension, included the strategy, plans and programs required by this approval. The flooding of the site has required reinstatement of the breached wall of Pit 1 and the management plans and monitoring programs are to be revised and/or updated to represent the Wagga Wagga Quarry Extension development following reinstatement of the wall and commencement of the approved operation of the quarry extension.	Not applicable
	SURRENDER OF DEVELOPMENT CONSENTS			
2/15	The Proponent shall surrender all existing development consents applying to the site to the relevant consent authority by 30 June 2012.		The most recent development consent granted by the City of Wagga Wagga to extract sand and gravel from the Wagga Wagga Quarry lapsed on 30 June 2010: <ul style="list-style-type: none"> • D/A No. 46/86 - Approved 08/01/1987 for extractive industry; • D/A No. 46/86 - Approved 07/12/1990 for extractive industry; • ADA04/0045 - Approved 06/07/2004 for proposed 	Administrative non-compliance (The WWCC development consents have lapsed but

Condition No.	Project Approval Condition	Verification	Comment	Compliance								
			<p>extractive industry amended application; and</p> <ul style="list-style-type: none">• ADA08/0121 - Approved 13/03/2009 for modification to areas of extraction of existing sand and gravel quarry and lapsed on 30 June 2010. <p>The Wagga Wagga Quarry now operates under the Project Approval granted for the Wagga Wagga Quarry Extension Project under section 75J of the <i>Environmental Planning and Assessment Act 1979</i> by the a delegate for the Minister of Planning and Infrastructure on 22 November 2011.</p>	were not surrendered to the WWCC)								
2	SCHEDULE 3 - ENVIRONMENTAL PERFORMANCE CONDITIONS											
	NOISE											
	Impact Assessment Criteria											
3/1	<p>The Proponent shall ensure that the noise generated by the project during operation not exceed the noise generated by the project during operation does not exceed the criteria in Table 1.</p> <p><i>Table 1: Noise Impact Assessment Criteria</i></p> <table><tr><th>Location</th><th>dB(A) LAeq (15min)</th></tr><tr><td>Kullaroo 2</td><td>39</td></tr><tr><td>Riverglen</td><td>40</td></tr><tr><td>All other privately owned lands</td><td>35</td></tr></table> <p><i>Notes:</i> <i>Receiver locations are as identified in the noise assessments presented in the EA and Addendum EA.</i> <i>Noise limits are to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.</i> <i>The noise limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</i> ^a <i>Day is defined as 6:00am to 6:00pm Mondays to Fridays, and 8:00am to 1:00pm on Saturdays, but does not include public holidays.</i></p>	Location	dB(A) LAeq (15min)	Kullaroo 2	39	Riverglen	40	All other privately owned lands	35	<ul style="list-style-type: none">• Environmental Assessment Report, section 7.10, April 2010• Environmental Assessment Report, Technical Paper 9, Operation and Traffic Noise Assessment, 18 Aug 2009• Industrial Noise Policy (INP) Intrusive Noise Assessment Criteria• Wagga Wagga Quarry Noise Monitoring Report, DM McMahon Pty Ltd, October 2012	<p>Unattended and attended noise monitoring of the Wagga Wagga Quarry Extension operations has been undertaken by DM McMahon Pty Ltd in October 2012 in accordance with the Noise Management Plan.</p> <p>The attended noise monitoring indicated that the noise at the sensitive receivers was dominated by extraneous noises including native wildlife and farming activities rather than by noise from the quarry operations. It was reported that quarry activities were not audible during the attended monitoring at the sensitive receivers and there were no noise non-compliances reported.</p>	Compliant
Location	dB(A) LAeq (15min)											
Kullaroo 2	39											
Riverglen	40											
All other privately owned lands	35											
	Operating Hours											
3/2	<p>The Proponent shall comply with operating hours in Table 2.</p> <p><i>Table 2: Operating hours</i></p> <table><tr><th>Activity</th><th>Day</th><th>Time</th></tr><tr><td>All quarrying operations</td><td>Monday – Friday (except Public</td><td>6.00 am-6.00 pm</td></tr></table>	Activity	Day	Time	All quarrying operations	Monday – Friday (except Public	6.00 am-6.00 pm		<p>The Wagga Waga Quarry only operates between Monday to Friday (except Public Holidays) 6.00am to 6.00pm and Saturday 8.00 am to 1.00 pm.</p>	Compliant Ongoing		
Activity	Day	Time										
All quarrying operations	Monday – Friday (except Public	6.00 am-6.00 pm										

Condition No.	Project Approval Condition			Verification	Comment	Compliance
		Holidays) Saturdays Sundays and Public Holidays	8.00 am-1.00 pm No activities			
	Transportation off-site	Monday – Friday (except Public Holidays) Saturdays Sundays and Public Holidays	6.00 am-6.00 pm 8.00 am-1.00 pm No activities			
	<p>However, the Proponent may, at any time, undertake maintenance activities and/or operate dewatering pumps, provided that the noise levels from the pumps remain below background noise levels at the most sensitive receiver.</p> <p><i>Note: This condition does not apply to delivery of material if that delivery is required by police or other authorities for safety reasons, and/or the operation or personnel or equipment are endangered. In such circumstances, notification is to be provided to OEH and the affected residents as soon as possible, or within a reasonable period in the case of emergency</i></p>					
	Operating Conditions					
3/3	<p>The Proponent shall:</p> <p>(a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the operational noise and traffic noise generated by the project; and</p> <p>(b) regularly assess the noise monitoring and meteorological forecasting data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval, to the satisfaction of the Director-General.</p>			 <p>Wind speed and direction monitor.</p>	<p>The Wagga Wagga Quarry operates using reasonable noise mitigation measures on its plant and equipment to minimise the operational noise and traffic noise generated by the project, and operations are managed to comply with Project Approvals conditions related to noise.</p> <p>The onsite wind speed and direction monitor is located adjacent to the site office and provides information to relocate, modify, and/or stop operations on site if weather conditions indicate potential for off site impact.</p>	Compliant Ongoing
	Noise Management Plan					
3/4	<p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with OEH, and submitted for approval to the Director-General within 6 months of this approval; and</p> <p>(b) include a:</p> <ul style="list-style-type: none"> description of the measures that would be implemented to 			<ul style="list-style-type: none"> Noise Management Plan, 14 May 2012 	<p>The Noise Management Plan prepared by PAE Holmes for the Wagga Wagga Quarry Extension Project was:</p> <p>(a) prepared and submitted to the Director-General within 6 months of this approval; and</p> <p>(b) include a:</p> <ul style="list-style-type: none"> section 3 describes measures to be implemented to minimise noise emissions from the project, including from project-related transport; 	Compliant

Condition No.	Project Approval Condition	Verification	Comment	Compliance																							
	<p>minimise noise emissions from the project, including from project-related transport;</p> <ul style="list-style-type: none">noise monitoring program that uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project;protocol for determining exceedences of the relevant conditions of this approval and investigating, notifying and mitigating identified exceedences of the relevant noise limits; andcontinual improvement program for investigating, implementing and reporting on reasonable and feasible measures to reduce noise generated by the project.		<ul style="list-style-type: none">section 4 provides the noise monitoring program using real-time and supplementary attended monitoring to evaluate the performance of the project;section 5 outlines the protocol for determining exceedences of the relevant conditions of this approval and investigating, notifying and mitigating identified exceedences of the relevant noise limits; andsection 5.5 addresses revision procedure for continual improvement program for investigating, implementing and reporting on reasonable and feasible measures to reduce noise generated by the project.																								
	AIR QUALITY																										
	Impact Assessment Criteria																										
3/5	<p>The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not cause an exceedence of the criteria listed in Tables 3, 4 or 5 at any residence on privately-owned land.</p> <p><i>Table 3: Long Term Criteria for Particulate Matter</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr><tr><td>Total solid particulates (TSP)</td><td>Annual</td><td>90µg/m³</td></tr><tr><td>Particulate matter <10µm PM₁₀</td><td>Annual</td><td>30µg/m³</td></tr></table> <p><i>Table 4: Short Term Criteria for Particulate Matter</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr><tr><td>Particulate matter <10µm PM₁₀</td><td>24 hours</td><td>50µg/m³</td></tr></table> <p><i>Table 5: Long Term Criteria for Deposited Dust</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum Project Contribution</th><th>Maximum Total Deposited Dust</th></tr><tr><td>Deposited dust</td><td>Annual</td><td>2g/m²/mth</td><td>4g/m²/mth</td></tr></table>	Pollutant	Averaging Period	Criterion	Total solid particulates (TSP)	Annual	90µg/m ³	Particulate matter <10µm PM ₁₀	Annual	30µg/m ³	Pollutant	Averaging Period	Criterion	Particulate matter <10µm PM ₁₀	24 hours	50µg/m ³	Pollutant	Averaging Period	Maximum Project Contribution	Maximum Total Deposited Dust	Deposited dust	Annual	2g/m ² /mth	4g/m ² /mth	<ul style="list-style-type: none">Air Quality and Greenhouse Gas Management Plan, May 2012	<p>Five dust deposition gauges have been established for the Wagga Wagga Quarry activities in accordance with Approved methods for the sampling and analysis of air pollutants in NSW.</p>  <p>Plate 3/5: Dust Deposition Gauge (DDG#) locations post flooding</p> <p>A DustTrak monitor commissioned on 30 October 2012 is located adjacent to DDG1.</p>	
Pollutant	Averaging Period	Criterion																									
Total solid particulates (TSP)	Annual	90µg/m ³																									
Particulate matter <10µm PM ₁₀	Annual	30µg/m ³																									
Pollutant	Averaging Period	Criterion																									
Particulate matter <10µm PM ₁₀	24 hours	50µg/m ³																									
Pollutant	Averaging Period	Maximum Project Contribution	Maximum Total Deposited Dust																								
Deposited dust	Annual	2g/m ² /mth	4g/m ² /mth																								

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	Operating Conditions			
3/6	The Proponent shall: (a) minimise the generation of visible air pollution by the project; and (b) ensure that quarrying operations are relocated, modified, and/or stopped as required to minimise air quality impacts on privately-owned land, to the satisfaction of the Director-General			Noted
	Air Quality Management			
3/7	The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with OEH, and submitted to the Director-General for approval within 6 months of this approval; (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including consideration of a real-time air quality management system that employs both reactive and proactive mitigation measures; and (c) include an air quality monitoring program that that uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project, and includes a protocol for determining exceedences with the relevant conditions of this approval	<ul style="list-style-type: none"> Air Quality Management Plan, May 2012 	The Air Quality Management Plan for the Wagga Wagga Quarry Extension Project was prepared for Hanson by PAE Holmes to satisfy Schedule 3 condition 7 and Schedule 5 condition 2. The Air Quality Management Plan submitted to the Director-General. This plan was: (a) prepared and submitted to the Director-General for approval within 6 months of this approval; (b) section 4.5 addresses measures that would be implemented to ensure compliance with the relevant conditions with a real-time air quality management system that employs both reactive and proactive mitigation measures; and (c) section 4 describes the air quality monitoring program that that uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project, and section 5 includes a protocol for determining exceedences with the relevant conditions of this approval	Compliant
	SOIL AND WATER			
	<i>Note: The Proponent is required to obtain the necessary water licenses for the project under the Water Act 1912 and/or Water Management Act 2000.</i>			
	Comprehensive Water Audit and Water Management Improvement Program			
3/8	Within three months of the date of this approval, the Proponent shall commission independent surface and groundwater expert/s, approved by the D-G, to undertake a comprehensive audit of current and proposed water management practices and infrastructure on the site. The Comprehensive Water Audit shall: (a) fully describe and audit all current site water management practices, including with respect to surface water, groundwater, water licensing, flooding, drainage, process water usage and management, wastewater disposal practices and discharges of water from the site (whether to the surface or underground environment); (b) identify all reasonable and feasible measures to improve	<ul style="list-style-type: none"> Letter to DP&I re Martens Independent Surface and Groundwater Expert, 9 Jan 2012 Letter to DP&I re Nomination of Evan and Peck as Independent Surface and Groundwater Expert 9 May 2012 Letter from DP&I re Approval of Evans and Peck as Independent Surface and Groundwater Expert , 17 May 2012 Water Management Review, Evans 	<p>Hanson nominated Martens as the Independent Surface and Groundwater Expert on 9 January 2012 (within 3 months of the approval). DP&I responded requiring a further nomination for the comprehensive audit of current and proposed water management practices and infrastructure on the site.</p> <p>Hanson responded with Evan and Peck as Independent Surface and Groundwater Expert, dated 9 May 2012. DP&I approved Evans & Peck on 17 May 2012. A Water Management Review was prepared by Evans and Peck on 15 October 2012 to satisfy this condition and the document was finalised on 11 March 2013:</p>	Compliant

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	<p>water management and monitoring on the site, having regard to existing water management practices and the approach proposed within the EA;</p> <p>(c) identify all reasonable and feasible measures to improve the management of process water on the site, with particular reference to opportunities for improved and/or increased recycling/reuse of process water;</p> <p>(d) recommend design parameters for process water systems on the site, including with respect to water recycling/reuse systems and constructed wetland systems; and</p> <p>(e) be undertaken in consultation with OEH, NOW and the Council, and include consideration of any additional water management issues identified through this consultation.</p>	<p>and Peck, 11 Mar 2013</p> <ul style="list-style-type: none"> Letter to DP&I re Water Management Review, 9 Apr 2013 	<p>(a) Section 3 describes Site Water Management for previous and current practices with respect to surface water, groundwater, water licensing, flooding, drainage, process water usage and management, wastewater disposal practices and discharges of water from the site (whether to the surface or underground environment);</p> <p>(b) section 4 presents Water Management options to improve water management and monitoring on the site, having regard to existing water management practices and the approach proposed within the EA;</p> <p>(c) section 4.6 presents the proposed reasonable and feasible measures to improve the management of process water on the site, with particular reference to opportunities for improved and/or increased recycling/reuse of process water;</p> <p>(d) section 6 addresses design parameters for process water systems on the site, including with respect to water recycling/reuse systems and constructed wetland systems; and</p> <p>(e) section 2 describes consultation undertaken with OEH, NOW and the Wagga Wagga City Council was undertaken during the preparation of the Water Management Review.</p>	
3/9	Unless otherwise agreed with the Director-General, the Proponent shall submit a copy of the Comprehensive Water Audit report to the Director-General, OEH, NOW and the Council within six months of it commissioning the audit. The Audit report must be accompanied by a Water Management Improvement Program, based on the Audit report's recommendations, to improve water management practices on the site and to ensure continuous improvement over the life of the project, including a program of proposed timeframes for implementation. Should the Proponent propose to not implement one or more of the Audit recommendations, it must provide detailed justification to this effect.	<ul style="list-style-type: none"> Water Management Review, Evans and Peck, 11 Mar 2013 Letter to DP&I re Water Management Review, 9 Apr 2013 Letter to OEH re Water Management Review, 30 July 2014 Letter to NOW re Water Management Review, 30 July 2014 Letter to WWCC re Water Management Review, 30 July 2014 	<p>The Water Management Review (prepared by Evans and Peck to satisfy the requirement for a Comprehensive Water Audit Report), was submitted to the Director-General on 9 April 2013.</p> <p>A copy of the Water Management Review was submitted to OEH, NOW and the Wagga Wagga City Council on 30 July 2014.</p> <p>The Water Management Improvement Program formed section 8 of the Water Management Review Report.</p>	<p>Administrative non-compliance</p> <p>(submission date of the Water Audit to OEH / NOW / WWCC)</p>
3/10	The Water Management Improvement Program must be prepared and implemented to the satisfaction of the Director-General. Progress against the Program shall be considered as part of the Independent Environmental Audits for the project and reported through Annual Reviews.	<ul style="list-style-type: none"> Water Management Review, Evans and Peck, 11 Mar 2013 Letter to DP&I re Water Management Review, 9 Apr 2013 	The Water Management Improvement Program formed section 8 of the Water Management Review Report by Evans and Peck. The Water Management Improvement Program will be implemented when the river bank is reinstated. The river bank was being reinstated is required.	In progress
3/11	The Proponent shall apply a recycling target of no less than 50% of process water generated on site, to be implemented through the Water Management Improvement Program.		The recycling of process water generated on site to the processing plant from Pit 2, results in greater than 50% reuse of process water.	Ongoing

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	Compensatory Water Supply			
3/12	<p>The Proponent shall provide a compensatory water supply to any landowner of privately-owned land whose water entitlements are adversely impacted (other than an impact that is negligible) as a result of the project, in consultation with NOW, and to the satisfaction of the Director-General.</p> <p>The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified.</p> <p>If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p>If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Director-General</p>		No landowner of privately-owned land water entitlements had been adversely impacted as a result of the project at the date of this audit (i.e. July 2014).	Not Activated
	Surface Water Discharges			
3/13	The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL.		No water was discharged to the Murrumbidgee River from EPA approved discharge point 1, between 2011 and 2014.	Noted
	Water Management Plan			
3/14	The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with OEH and NOW and must be submitted to the D-G for approval in conjunction with the Water Management Improvement Program. The plan must include:		The Water Management Plan will be prepared and implemented post reinstatement of the river bank at Pit 1.	Non-compliant
	<p>(a) a Site Water Balance, which must:</p> <ul style="list-style-type: none"> include details of: <ul style="list-style-type: none"> sources, security and licensing of water supply; water use on site; water management on site; and any off-site water transfers; 		The Site Water Balance will be prepared and implemented post reinstatement of the river bank at Pit 1.	Non-compliant
	<p>(b) an Erosion and Sediment Control Plan, which must:</p> <ul style="list-style-type: none"> be consistent with the requirements of Managing Urban Stormwater: Soils and Construction, Volume 2E Mines and Quarries, (DECC), or most recent version of the relevant guidelines; identify activities that could cause soil erosion or generate sediment; describe measures to minimise soil erosion and the potential 			

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	for transport of sediment to downstream waters; <ul style="list-style-type: none"> describe the location, function and capacity of erosion and sediment control structures and flood management structures; and describe what measures would be implemented to maintain the structures over time; 			
	(c) a Surface Water Management Plan, which must include: <ul style="list-style-type: none"> detailed baseline data on surface water flows and quality in creeks and other water-bodies that could potentially be affected by the project; surface water and stream health impact assessment criteria including trigger levels for investigating any potentially adverse surface water impacts; measures to manage pit inflows, including the storage and transfer of pit water and processing water; a commitment to reduce surface water abstractions and to only operate strictly within surface water and groundwater licence entitlements; a commitment to maximising the recycling and/ or reuse of site process water; and measures to ensure that all discharges of water from the site to the Murrumbidgee River (excepting floodwater) contain less than 50mg/L TSS; 		The Surface Water Management Plan will be prepared and implemented post reinstatement of barrier between the Murrumbidgee River and Pit 1.	Non-compliant
	(d) a Flood Management Plan, including: <ul style="list-style-type: none"> surveyed heights of all existing levees and measures to manage and maintain flood management infrastructure in proper and effective service over the life of the project; details of flood mitigation and flood contingency measures; accurate plans for proposed levees, including location, height and anticipated level of AEP flood event protection; accurate plans for fuse plug design and location; a program for: <ul style="list-style-type: none"> certification of these plans by an independent hydrological specialist, prior to levee and fuse plug construction; and five-yearly inspection and certification of all extant flood mitigation infrastructure as fit for purpose by an independent hydrological specialist; and 		The Flood Management Plan had not been prepared at the date of this audit (July 2014) and is planned to be prepared post reinstatement of the barrier between the Murrumbidgee River and Pit 1.	Non-compliant
	(e) details of contingency measures to be implemented in the event that any significant impact occurs on either surface or groundwater resources.		Contingency measures to be implemented in the event that any significant impact occurs on either surface or groundwater resources had not been developed at the date of this audit.	Non-compliant

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	Water Monitoring Program			
3/15	<p>The Proponent shall prepare and implement a Water Monitoring Program for the project to the satisfaction of the Director-General. This program must be prepared in consultation with OEH and NOW and must be submitted to the Director-General for approval in conjunction with the Water Management Improvement Program. The program must include:</p> <p>(a) monitoring and recording of all key elements of the projected Site Water Balance, including:</p> <ul style="list-style-type: none"> daily pit dewatering volumes for each pit; water used in processing; water used for recycling and/or reuse; water released to the constructed wetland system; and water released to the environment, whether by evaporation, infiltration, discharge or entrained with product; 		<p>The Water Monitoring Program will be prepared and implemented post reinstatement of the barrier between the Murrumbidgee River and Pit 1.</p>	Non-compliant
	<p>(b) a Groundwater Monitoring Program, which must include:</p> <ul style="list-style-type: none"> a groundwater monitoring bore network developed following consultation with NOW, aimed at accurately identifying the groundwater impacts of the project; detailed baseline data of groundwater levels, yield and quality in the area, and privately-owned groundwater bores that could be affected by the project; groundwater impact assessment criteria including trigger levels for investigating any potentially adverse groundwater impacts; a program to monitor and assess: <ul style="list-style-type: none"> groundwater inflows to the quarry operations; impacts on regional aquifers; impacts on groundwater supply of potentially-affected landowners and the Riverina Water County Council's West Wagga Wagga Borefield; impacts on the aquifers in the Cowra and Lachlan Formations; and impacts on any groundwater dependent ecosystems and riparian vegetation 		<p>The Groundwater Monitoring Program will be prepared and implemented post reinstatement of the barrier between the Murrumbidgee River and Pit 2.</p> <p>Groundwater monitoring bores were installed in June 2012 to monitor the effectiveness of the Water Management Improvement Program when implemented. To date, no comparison of the groundwater levels has been undertaken as the Water Monitoring Program is yet to be implemented.</p> <p>Groundwater data collected from the installed bores has indicated that the groundwater levels across the quarry site have dropped between 1.0 and 3.7 meters since installation in 2012.</p> <p>(NOTE: These groundwater levels are consistent with the changes in groundwater levels at nearby government operated groundwater bores (data obtained from the NSW Government Waterinfo.nsw website).</p>	Non-compliant
	Verification of Water Management Performance			
3/16	<p>After implementing the approved Water Monitoring Program for at least two years, the Proponent shall prepare and submit to the Director-General a Water Management Performance Verification Report, to the satisfaction of the D-G. The Report shall be prepared to:</p>		<p>The Water Management Performance Verification Report is required when the Water Monitoring Program has been implemented for at least 2 years.</p> <p>The Water Monitoring Program had not been implemented at the date of this audit (July 2014) as the reinstatement of the</p>	Not activated

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	(a) demonstrate and verify the predictions made in the EA, particularly with respect to water requirements, pit inflows and recycling/ reuse opportunities; (b) demonstrate progress against the recommendations made in the Comprehensive Water Audit and the Water Management Improvement Program; (c) verify the surface water and groundwater impacts of the project, through an updated water balance and groundwater model, calibrated using groundwater monitoring data; and (d) demonstrate that the project would not have an unacceptable surface water or groundwater impact, through application of the calibrated groundwater model referred to above, if extraction was conducted on site below 158 metres AHD.		barrier between the Murrumbidgee River and Pit 2 is required to be complete before the water management, water monitoring and water management and improvement programs can be implemented.	
	TRAFFIC AND TRANSPORT			
3/17	The Proponent shall: (a) keep accurate records of the amount of product materials transported from the site, including the date, time and tare weight of each product haulage vehicle dispatched from the site; and (b) make these records available on its website on a quarterly basis and include them in the Annual Review		Hanson Wagga Wagga Quarry records transport of any product from the quarry site. Records include the date, time and tare weight of each product haulage vehicle dispatched from the site.	Compliant Ongoing
3/18	The Proponent shall consult with the RTA, Council and the CCC over appropriate reduction to the existing speed limit along Roach Road, to the satisfaction of the Director-General.		The speed limit along Roach Road has not yet been reduced, and Hanson are awaiting a response from the Wagga Wagga Council.	In progress Ongoing
	Traffic Management Plan			
3/19	The Proponent shall prepare and implement a Traffic Management Plan to the satisfaction of the Director-General. The Plan must be developed in consultation with the RTA and Council, and must be submitted for the approval of the Director-General within 6 months of the date of this approval. The plan must address: (a) adoption, implementation and enforcement of a Truck Driver Code of Practice to ensure that project-related traffic uses Roach Road and McNickle Road in a safe manner; (b) traffic management along these roads to minimise potential conflicts between project-related traffic and other road users and pedestrians, including truck driver awareness of the Wiradjuri Walking Track; (c) management of dust generated by project-related traffic on these roads; and (d) review of the standard of maintenance of these roads and their intersections.	<ul style="list-style-type: none"> • Traffic Management Plan, Feb 2013 • Truck Driver Code of Practice, Feb 2013 	A Traffic Management Plan and Truck Driver Code of Practice, was prepared for the Wagga Wagga Quarry Extension Project by Insite (Urban Planning, Town Planning and Project Management Consultants): (a) Section 2 provides the Truck Driver Code of Practice to ensure that project-related traffic uses Roach Road and McNickle Road in a safe manner; (b) traffic management along these roads to minimise potential conflicts between project-related traffic and other road users and pedestrians, including truck driver awareness of the Wiradjuri Walking Track Specifically addressed in section 2.9); (c) section 4 addresses Road Assessment, Dust Generation and Maintenance and Actions to manage of dust generated by project-related traffic; and (d) section 3 addresses Compliance Measures and Monitoring of the standard of maintenance of the roads and intersections.	Compliant

Condition No.	Project Approval Condition	Verification	Comment	Compliance
3/20	The Proponent shall use its best endeavors to meet with the Riverview Estate community on a bi-monthly basis during the development of the Traffic Management Plan to consult with and inform the community over progress in developing the plan and consultation in respect of the Roach Road speed limit.		Hanson consulted with the Riverview Estate community during the preparation of the Traffic Management Plan and there are four (4) representatives of the Riverview Estate on the Community Consultation Committee meets regularly and traffic/transport/speed limits and road behavior are am]n Agenda item at each CCC Meeting.	Compliant Ongoing
	VISUAL AMENITY			
3/21	The Proponent shall: (a) minimise the visual impacts, and particularly the off-site lighting impacts, of the project; (b) take all practicable measures to further mitigate off-site lighting impacts from the project; and (c) ensure that all external lighting associated with the project complies with <i>Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting</i> , or its latest version, to the satisfaction of the Director-General	<ul style="list-style-type: none"> Environmental Assessment Report – Sand and Gravel Quarry Extension Wagga Wagga NSW , Apr 2010 	<p>The Wagga Wagga Quarry is not visible from the residences of the Riverview Estate on Roach Road (the closest residential development). The location of the quarry is screened from the surrounding environment by the Roach Road alignment and vegetative growth along the road-side, and the established native vegetation along the Murrumbidgee River and floodplain.</p> <p>The operation of the quarry occurs Monday – Friday 6.00 am-6.00 pm and Saturdays 8.00 am-1.00 pm. No night lighting is used on the site.</p> <p>(a) Statement of Commitment - 1.8 Visual, in section 11 of the Environmental Assessment Report – Sand and Gravel Quarry Extension Wagga Wagga NSW, Apr 2010 states: <i>“To reduce change to the existing visual character of the site, Hanson will maintain the specified exclusion zone between the development and the riparian zone and take necessary measures to ensure the existing vegetation buffer is maintained and protected throughout the life of the quarry.”</i></p>	Compliant Ongoing
	WASTE			
3/22	The Proponent shall dispose of processing fines in a pit or other location agreed to by the D-G, and shall not dispose of fines on the flood plain surface after 31 December 2012		Processing fines from the screenings and washery are discharged to a formed drainage line that of fines on the flood plain surface No disposal of processing fines has occurred to the flood plain surface since 31 December 2012.	Compliant
3/23	The Proponent shall: (a) minimise the waste generated by the project; and (b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of, to the satisfaction of the Director-General.		Any waste generated by the project was observed to be appropriately stored, handled, and managed for disposal.	Compliant
3/24	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with OEHL, and submitted the	<ul style="list-style-type: none"> Waste Management Plan (draft), dated Jul 2014 	A draft Waste Management Plan had been prepared for the Wagga Wagga Quarry for submission to the Director-General. Waste generation and management is discussed in the Environmental Assessment and the principles for the	Non-compliant (In progress)

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	<p>Director-General for approval by the end of June 2012;</p> <p>(b) identify the various waste streams of the project;</p> <p>(c) estimate the volumes of waste material that would be generated by the project;</p> <p>(d) describe and justify the proposed strategy for disposing of this waste material;</p> <p>(e) describe what measures would be implemented to meet the requirements set out in condition 27; and</p> <p>(f) include a program to monitor the effectiveness of these measures.</p>		<p>management of waste generated on site is shown in the Waste Hierarchy that is displayed on the wall of the Wagga Wagga Quarry Site Office:</p> <p>(a) Consultation with OEH is yet to occur;</p> <p>(b) Various waste streams are discussed in section 2.3;</p> <p>(c) Volumes of waste to be generated is discussed in section 2.3;</p> <p>(d) Disposal of waste material is addressed in section 5;</p> <p>(e) Rehabilitation Bond not yet lodged;</p> <p>(f) Section 6 addresses Review of Waste Management Initiatives.</p>	
	REHABILITATION			
	Rehabilitation Management Plan			
3/25	<p>The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with OEH, NOW and DRE and must be submitted to the D-G for approval in conjunction with the Water Management Improvement Program. The plan must:</p> <p>(a) consider the rehabilitation plans presented in the EA;</p> <p>(b) assess the quantity and availability of materials on site that can be applied to rehabilitation (including overburden, tailings, reject, existing levee banks and pit walls);</p> <p>(c) consider all options regarding the re-establishment of the pit wall and river bank in the vicinity of the breach which took place in December 2010;</p> <p>(d) consider likely flood behaviour and impacts on the landscape as proposed to be rehabilitated (including during each of the various rehabilitation stages);</p> <p>(e) consider available alternative land uses for the site, including for the exhausted quarry pits;</p> <p>(f) review what parts of the site should be refilled to a level above standing groundwater, so as to manage flood behaviour and other long term risks;</p> <p>(g) address the issue of fines disposal so as to prevent fines being eroded from the landscape during major flood events or being a source of dust emissions during dry periods;</p> <p>(h) develop clear rehabilitation objectives for the whole site, including the following:</p> <ul style="list-style-type: none"> • stabilisation of disturbed areas to prevent the emission of dust following closure; • landscaping the site with native species endemic to the 	<ul style="list-style-type: none"> • Rehabilitation Management Plan (draft), Jul 2014 • Rehabilitation Plan, 2012 • Wagga Wagga Quarry Environmental Assessment Appendix C • Wagga Wagga Quarry Levee Failure December 2010, Martens Consulting Engineers, Jul 2011 	<p>A Rehabilitation Plan - 2012 onwards for the Wagga Wagga Quarry was included in the Environmental Assessment Appendix C, and describes the rehabilitation of the east side of the Wagga Wagga sand and gravel extraction site, with a separate Rehabilitation Plan approved from the Wagga Wagga City Council for Lot B DP381991.</p> <p>A revised and updated draft Rehabilitation Management Plan to satisfy Project Approval Schedule 3 condition 25 that was being developed at the time of this audit, is based on the Rehabilitation Plan in the Environmental Assessment Appendix C, and recommendations from the government agencies received following submission of the Environmental Assessment</p> <p>Rehabilitation around Pit 2 had occurred and there were large areas of undisturbed riparian vegetation on the Wagga Wagga Quarry site along the Murrumbidgee River alignment.</p> <p>No rehabilitation of disturbed areas of the Wagga Wagga Quarry Extension site had commenced at the date of this audit as Cell 1 was still subject to active excavation.</p> <p>The draft Rehabilitation Management Plan being developed by Hanson at the time of this audit was prepared following consultation with OEH, NOW and DRE and includes the following section to address the requirements of this condition:</p>	Administrative Non-compliant (Revision in progress)

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	locality; and <ul style="list-style-type: none"> minimising the total surface area of water bodies on the site; (i) consider opportunities to enhance wildlife habitat on the rehabilitated project site, in particular in and around artificial water bodies and wetlands; (j) develop clear, progressive rehabilitation staging for the whole site, including specific milestone dates for rehabilitation works and a program for monitoring progress against these dates; (k) address potential conflicts between the rehabilitation of the existing extraction pit and its proposed use as a settling pond; (l) demonstrate that all reasonable and feasible measures have been applied to minimise the total surface area of water-filled voids on the site; (m) set completion criteria for the rehabilitation of the site; (n) describe in detail the measures that would be implemented over the next 5 years to rehabilitate and manage the landscape on the site; (o) describe how the performance of these measures would be monitored over time; and (p) provide for regular auditing of progress against rehabilitation outcomes and milestones, with reporting of progress to the Director-General and DRE.		(a) Wagga Wagga Quarry Environmental Assessment Appendix C (b) Section 3.6 – Quality and Availability of Materials; (c) Section 3.11 – Refill Level and Wagga Wagga Quarry Levee Failure December 2010 ; (d) Section 2 –Rehabilitation Objectives and Section 1.3.9 – Rehabilitation Plan Elements (2012); (e) Section 3.10 – Alternative Land Uses for the Quarry; (f) Section 3.11 – Refill Level; (g) Section 3.13 – Fines Disposal; (h) Section 2 – Rehabilitation Objectives; (i) Section 3.12 – Rehabilitation of the Extraction Pit Ecosystem Development; (j) Section 4 Rehabilitation Stage Development; (k) Section 3.14 – Use of Water Filled Voids; (l) Section 3.14 – Use of Water Filled Voids; (m) Section 5 – Completion Criteria; (n) Section 4 – Staged Rehabilitation of the site Table 2; (o) Section 6 Monitoring of Performance Measures; (p) Noted. The draft Rehabilitation Management Plan will be finalised for submission to the Director-General.	
	Rehabilitation Bond			
3/26	Within 3 months of the approval of the Rehabilitation Management Plan, the Proponent shall lodge a rehabilitation bond for the project with the Director-General. The sum of the bond shall be calculated at \$2.50/m ² for the total area both currently disturbed and proposed to be disturbed for the following 3 year period, or as otherwise directed by the Director-General. <i>Notes:</i> <ul style="list-style-type: none"> <i>If the rehabilitation is completed to the satisfaction of the Director-General, the Director-General will release the rehabilitation bond.</i> <i>If the rehabilitation is not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the rehabilitation bond, and arrange for the satisfactory completion of the relevant works.</i> 		The Rehabilitation Management Plan has not yet been fully developed and approved.	Not activated (see condition 3.25)
3/27	Within 3 months of each Independent Environmental Audit (see			Noted

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	condition 8 in Schedule 5) after the initial lodgment of the rehabilitation bond, the Proponent shall review, and if necessary revise the sum of the bond to the satisfaction of the Director-General. This review must consider: (a) the effects of inflation; (b) any changes to the total area of disturbance; and (c) the performance of the rehabilitation against the completion criteria of the Rehabilitation Management Plan.			
	SCHEDULE 4 ADDITIONAL PROCEDURES			
	NOTIFICATION OF LANDOWNERS			
4/1	Within 3 months of this approval, the Proponent shall notify, in writing, the landowners of all residences located within one kilometre of any of the project site boundaries of their right to request monitoring in accordance with condition 3 below.	<ul style="list-style-type: none"> Letters to Residents Riverview Estate, 19 February 2012 	The landowners of all residences located within one kilometre of any of the project site boundaries been notified of their rights to request monitoring.	Compliant
4/2	If the results of the monitoring required in Schedule 3 identify that the impacts generated by the project on site are greater than the relevant impact assessment criteria, and there is no negotiated agreement in place to allow the impact, then within 2 weeks of obtaining the monitoring results the Proponent shall: (a) notify the Director-General, the affected landowners and tenants (including tenants of any quarry-owned properties) accordingly, and provide monitoring results to each of these parties until the results show that the project is complying with the relevant criteria in Schedule 3; and (b) in the case of exceedences of the relevant air quality criteria, send the affected landowners and tenants (including tenants of mine-owned properties) a copy of the NSW Health fact sheet entitled " <i>Mine Dust and You</i> " (as may be updated from time to time).			Noted
	INDEPENDENT REVIEW			
4/3	If a landowner of privately-owned land considers the project to be exceeding the relevant air quality or noise impact assessment criteria in Schedule 3, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land. If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision: (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to: <ul style="list-style-type: none"> consult with the landowner to determine his/her concerns; conduct monitoring to determine whether the project is 			Noted

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	<p>complying with the relevant impact assessment criteria in Schedule 3; and</p> <ul style="list-style-type: none"> if the project is not complying with these criteria then: <ul style="list-style-type: none"> - determine if more than one source, including the project, is responsible for the exceedence, and if so the relative share of each source towards the impact on the land; - identify the measures that could be implemented to ensure compliance with the relevant criteria; and (b) give the Director-General and landowner a copy of the independent review. 			
4/4	<p>If the independent review determines that the project is complying with the relevant impact assessment criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General. If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the project complies with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedences of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p>			Noted Not activated
4/5	<p>If the independent review determines that any relevant impact assessment criteria in Schedule 3 are being exceeded, but that more than one source, including the project, is responsible for this non-compliance, then the Proponent shall, together with the relevant sources:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until there is compliance with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner and other relevant sources to allow exceedences of the relevant impact assessment criteria in schedule 3, to the satisfaction of the Director-General.</p>			Noted Not activated
SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING				
ENVIRONMENTAL MANAGEMENT				
Environmental Management Strategy				
5/1	The Proponent shall prepare and implement an Environmental	<ul style="list-style-type: none"> Environmental Management 	An Environmental Management Strategy was prepared for	Compliant

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	<p>Management Strategy for the project to the satisfaction of the Director-General. This strategy must:</p> <ul style="list-style-type: none"> (a) be submitted to the Director-General for approval within 6 months of this approval; (b) provide the strategic framework for the environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; (e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • 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 • respond to emergencies; and (f) include: <ul style="list-style-type: none"> • copies of any strategies, plans and programs approved under the conditions of this approval; and • a clear plan depicting all the monitoring required to be carried out under the conditions of this approval. 	Strategy, May 2012	<p>the Wagga Wagga Quarry Extension:</p> <ul style="list-style-type: none"> (a) The Environmental Management Strategy was submitted to the Director-General for approval within 6 months of this approval; (b) Section 1 provides the strategic framework for the environmental management of the project; (c) Section 2 identifies the statutory approvals that apply to the project; (d) Section 3.1 describes the role, responsibility, authority and accountability of key personnel involved in the environmental management of the project; (e) describe the procedures that would 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 (section 3.3); • receive, handle, respond to, and record complaints (section 3.3.3); • resolve any disputes that may arise during the course of the project (section 3.3.4); • respond to any non-compliance (section 4.2); and • respond to emergencies (section 3.4); and (f) include: <ul style="list-style-type: none"> • copies of any strategies, plans and programs approved under the conditions of this approval (Appendices A-G); and • a clear plan depicting all the monitoring required to be carried out under the conditions of this approval (section 4). 	
	Management Plan Requirements			
5/2	<p>The Proponent shall ensure that the management plans required under this approval are prepared in accordance with relevant guidelines, and include:</p> <ul style="list-style-type: none"> (a) detailed baseline data; (b) a description of: <ul style="list-style-type: none"> • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; and • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; 	<ul style="list-style-type: none"> • Air Quality Management and Monitoring Plan, May 2013 • Noise Monitoring Program, May 2012 • Flora and Fauna Management Plan, Feb 2012 • Traffic Management Plan, May 2012 • Truck Driver Code of Practice Jan 2013 • Comprehensive Water Audit including Water Improvement Program Jun 2012 	<p>The management plans required under this Project Approval have been prepared generally in accordance with the requirements of Schedule 5 condition 2:</p> <ul style="list-style-type: none"> (a) detailed baseline data (described in the Environmental Assessment Volume 1); (b) a description of: <ul style="list-style-type: none"> • relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures /criteria; and • the specific performance indicators that are proposed to be used to judge the performance of, or 	Compliant (for Management Plans prepared)

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	<p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> impacts and environmental performance of the project; and effectiveness of any management measures (see (c) above); <p>(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> incidents; complaints; non-compliances with the conditions of this approval and statutory requirements; and exceedences of the impact assessment criteria and/or performance criteria; and <p>(h) a protocol for periodic review of the plan.</p> <p><i>Note: The Director-General may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i></p>	<ul style="list-style-type: none"> Community Engagement Plan, 2012 Pollution Incident Response Management Plan, Sep 2013 	<p>guide the implementation of, the project or any management measures;</p> <p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> impacts and environmental performance of the project; and effectiveness of any management measures (see (c) above); <p>(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> incidents; complaints; non-compliances with the conditions of this approval and statutory requirements; and exceedences of the impact assessment criteria and/or performance criteria; and <p>(h) protocol for periodic review of the plan.</p>	
	Annual Review			
5/3	<p>By the end of June 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 development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next 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 the:</p> <ul style="list-style-type: none"> relevant statutory requirements, limits or performance measures/criteria; monitoring results of previous years; and relevant predictions in the documents referred to in condition 2 of Schedule 2; <p>(c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure</p>	<ul style="list-style-type: none"> Annual Environmental Review, Dec 2012 Annual Environmental Review, Nov 2013 	<p>Annual Reviews of the Wagga Wagga Quarry Extension Project was prepared and submitted to DP&I:</p> <ul style="list-style-type: none"> Annual Review 1 January 2012 to 30 June 2012; and Annual Review 1 July 2012 to 30 June 2013 <p>The Annual Reviews addressed the requirements of Schedule 5 condition 3 as follows:</p> <p>(a) Section 2 Summary of Operations During the Reporting Period</p> <p>(b) Section 3.2 Noise Monitoring; Section 4.3 Dust Deposition Monitoring and section 4.5 Results; section 6.3 Water Management Results; section 7 Flora and Fauna Management</p> <p>(c) Section 3.2 Noise Monitoring; Section 4.3 Dust Deposition Monitoring and section 4.5 Results; section 6.3 Water Management Results; section 7 Flora and Fauna Management</p>	Compliant Ongoing

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	<p>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 measure will be implemented over the next year to improve the environmental performance of the project</p>		<p>(d) Section 3.2 Noise Monitoring; Section 4.3 Dust Deposition Monitoring and section 4.5 Results; section 6.3 Water Management Results; section 7 Flora and Fauna Management</p> <p>(e) Section 9 Corrective and Preventative Actions</p> <p>(f) Section 3 Noise Management; Section 4 Air Quality Management; section 6 Water Management; section 7 Flora and Fauna Management</p>	
	Revision of Strategies, Plans & Programs			
5/4	<p>Within three months of:</p> <p>(a) the submission of an annual review under condition 3 above;</p> <p>(b) the submission of an incident report under condition 6 below;</p> <p>(c) the submission of an audit report under condition 8 below, or</p> <p>(d) any modification of the conditions of this approval (unless the conditions require otherwise), 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> <p><i>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.</i></p>			Noted
	Community Consultative Committee			
5/5	<p>The Proponent shall establish and operate a Community Consultative Committee (CCC) for the project in general accordance with the <i>Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects</i> (Department of Planning, 2007, or its latest version), or alternative consultative framework as may be agreed by the Director-General, to the satisfaction of the Director-General. This CCC or alternative framework must be operating within 6 months of this approval and have a principal but not exclusive focus on stakeholders owning or occupying properties in the Riverview Estate, to the satisfaction of the Director-General.</p> <p><i>Notes:</i> <i>The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.</i> <i>In accordance with the guideline, the Committee should comprise an independent chair and appropriate</i></p>	<ul style="list-style-type: none"> • <i>Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects, DoP 2007</i> • CCC Minutes, meeting No.1, 21 Aug 2012 • CCC Minutes, meeting No.2, 27 Nov 2012 • CCC Minutes, meeting No.3, 26 Feb 2013 • CCC Minutes, meeting No.4, 28 May 2013 • CCC Minutes, meeting No.5, 3 Dec 2013 	<p>The Wagga Wagga Quarry Community Consultative Committee (WWQCC) was established in accordance with the NSW Government <i>Guidelines for Establishing and Operating a Community Consultative Committee for Mining Projects</i> (Department of Planning 2007). The committee is made up of representatives of the following:</p> <ul style="list-style-type: none"> • Independent Chair –(currently Mr John Studdert) • Riverview Estate – 4 representatives (currently Mr Peter Delany, Mr Greg de Bruyn, Mrs Linda de Bruyn, Mrs Kim Treharne) • Hanson – 2 representatives (currently Mr Rodney Thompson, Mr Glenn Catanzariti and Mr John Navybox) • Wagga Wagga City Council – 1 representative (currently Mr Cameron Collins) <p>In accordance with the Guideline, an independent chair was selected by Hanson and endorsed by the Department</p>	Compliant

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	<i>representation from the Proponent, Council, recognised environmental groups and the local community.</i>		of Planning and Infrastructure. The Independent Chair was nominated by the Wagga Wagga Rotary Club and is the current president of the Country Hope Trust.	
	REPORTING			
	Incident Reporting			
5/6	The Proponent shall notify the Director-General and any other relevant agencies of any incident that has caused, or has the potential to cause, significant risk of material harm to the environment, at the earliest opportunity. For any other incident associated with the project, the Proponent shall notify the Director-General and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested		No reportable incidents associated with the Wagga Wagga Quarry Extension activities have occurred between November 2011 and July 2014.	Not activated
	Regular Reporting			
5/7	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any approved plans or programs of the conditions of this approval.		Hanson website (www.hanson.com.au/) has copies of publically available documents related to the Wagga Wagga Quarry Extension Project: <ul style="list-style-type: none"> • Complaints Register • Environmental Assessment Report • Wagga Wagga Quarry Community Consultation Committee Minutes • Environmental Management Plans • Annual Reviews 	Compliant Ongoing
	INDEPENDENT ENVIRONMENTAL AUDIT			
5/8	By the end of June 2014, and every three years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: <ol style="list-style-type: none"> be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General; include consultation with the relevant agencies; assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); review the adequacy of any approved strategies, plans or programs required under these approvals; and, if appropriate 		This Independent Environmental Audit was conducted in July 2014 and addressed the requirements of this condition: <ol style="list-style-type: none"> Hanson requested Director-General endorsement of the auditor on 4 June 2014. DP&E advised endorsement of the Independent Environmental Auditor on 2 July 2014. Consultation occurred with OEH (no response), NoW (telephone response re Barrier construction between Murrumbidgee River and Pit 2; DP&E and Wagga Wagga City Council comment related to wash water that may enter the river and in the event of a flood and the flood management plan (including chemicals being removed either to higher ground or from the site in the event of a flood). Attachment A Project Approval, Attachment B 	Compliant

Condition No.	Project Approval Condition	Verification	Comment	Compliance
	(e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals. <i>Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.</i>		Statement of Commitments, Attachment C Environment Protection License (d) Section 4 – Review of Environmental Management, of this Independent Environmental Audit Report (e) Section 5 –Conclusions, of this Independent Environmental Audit Report	
5/9	Within six weeks of the completing of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.			Noted
	ACCESS TO INFORMATION			
	From the end of June 2012, the Proponent shall: (a) make copies of the following publicly available on its website: <ul style="list-style-type: none"> the documents referred to in condition 2 of Schedule 2; all current statutory approvals for the project; all approved strategies, plans and programs required under the conditions of this approval; the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans or programs; a complaints register, updated on a monthly basis; the annual reviews of the project; any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; and any other matter required by the Director-General; (b) keep this information up-to-date, to the satisfaction of the Director-General.	www.hanson.com.au/Aboutus/RegulatoryInformation/WaggaWaggaQuarryExtensionProject.aspx	Hanson website (www.hanson.com.au/) has copies of publically available documents related to the Wagga Wagga Quarry Extension Project: <ul style="list-style-type: none"> Project Approval Complaints Register Environmental Assessment Report Wagga Wagga Quarry Community Consultation Committee Minutes Management Plans Annual Reviews Monitoring Results 	Compliant

Statements of Commitment

Statements of Commitment


SoC No.	Statements of Commitment	Verification	Comment	Compliant
1.1	Operational Controls			
	All activities will be undertaken generally in accordance with the Wagga Wagga Quarry Extension Environmental Assessment Report (dated April 2010) and the Wagga Wagga Quarry Extension Environment Assessment Report on Potential Impacts on Riverview Estate Subdivision (dated July 2010).	<ul style="list-style-type: none"> Wagga Wagga Quarry Extension Environmental Assessment, Apr 2010 Wagga Wagga Quarry Extension Report on Potential Impacts on Riverview Estate Subdivision, Jul 2010 		Compliant Ongoing
1.1.1	Sand and gravel extraction and processing activities will be as follows: <ul style="list-style-type: none"> Quarry pit activities 6am to 6pm Monday to Friday and 7am to 1pm Saturday. Plant processing to occur 6am to 6pm Monday to Friday and 7am to 1pm Saturday. Sales and transportation activities to occur 6am to 6pm Monday to Friday and 7am to 1pm Saturday, however this may be extended from time-to-time depending on customer's needs. Notice will be provided should this be the case. Maintenance activities will occur at any time provided that the activities are not audible at any privately owned residence. 	<ul style="list-style-type: none"> Project Approval conditions Environmental Assessment 2010 	<p><u>Refer to Project Approval Schedule 3 condition 2</u> Project Approval Schedule 3 condition 2 addresses hours of operation for the quarry and processing plant.</p> <p>The Wagga Wagga Quarry only operates during 6am to 6pm Monday to Friday and 7am to 1pm Saturday, with plant processing between 6am to 6pm Monday to Friday and 7am to 1pm Saturday.</p> <p>The quarry has operated in compliance with the prescribed Hours of Operation.</p>	Compliant
1.1.2	Annual production will be limited to 150,000 tonnes per annum.		<p><u>Refer to Project Approval Schedule 2 condition 6</u> Extraction of resource from Cell 1 of the Wagga Wagga Quarry between July 2012 and July 2013 was 35,000 tonnes. Extraction tonnage July 2013 to June 2014 was 62,316 tonnes of product.</p>	Compliant
1.1.3	The quarry will be rehabilitated and the final land form will be constructed as per Figure 5.10 of the EAR. A comprehensive Rehabilitation and Decommissioning Plan will be prepared to ensure rehabilitation objectives are achieved to a reasonable extent. The Plan will include: <ul style="list-style-type: none"> the rehabilitation program; native vegetation and fauna habitat management; feral animal control; fire management; weed management; minimisation of edge effects; stormwater control; control of public access; monitoring; and funding 			Noted Not yet activated


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1.2	Flora and Fauna			
1.2.1	<p>In order to minimise the impact of vegetation clearing the proponent will commission and commence a Vegetation Clearance Management Plan, Revegetation Plan, Feral Animal Control Management Plan, and Weed Management Plan prior to commencement of quarrying activities. These plans will be developed by a suitably qualified and experienced person and take into consideration the following:</p> <ul style="list-style-type: none"> • Implications of meta-population dynamics • Implications of transitional zone dynamics • Episodic high disturbance events • Loss of functional role of species • Clearing of native vegetation; and removal of dead wood and dead trees • Bush rock removal • Invasion of exotic perennial grasses • Predation by European Red Fox , Feral Cats, and Rabbits 	<ul style="list-style-type: none"> • Flora and Fauna Management Plan, 9 Feb 2012 • Flora Study of the Lands within the Proposed Extension to the Wagga Wagga Quarry, Natural Resource Consultants Pty Ltd, Feb 2009 • Terrestrial Fauna Survey and Impact Assessment Report, Ecotone Ecological Consultants, Mar 2009 	<p>A Flora and Fauna Management prepared in February 2012 addresses this SoC. The Flora and Fauna Management Plan identifies the Key Threatening Processes from the quarry extension ad Section 4 addresses:</p> <ul style="list-style-type: none"> ○ Section 4(a) addresses Clearing of native vegetation, hollow stumps and fallen timber ○ Section 4(b) addresses Revegetation and prevention of feral animals ○ Section 4(c) addresses Weed management control ○ Section 4(d) addresses Threatened Species <p>Hanson will implement when required, a Vegetation Clearance Management Plan, Revegetation Plan, Feral Animal Control Management Plan, and Weed Management Plan to ensure minimal impact on the environment during its extraction and processing activities. All identified impacts can be alleviated through the implementation of the actions within the above management plans.</p>	Compliant
1.3	Heritage			
1.3.1	The proponent will give the Wagga Wagga LALC seven days notice of their intention to commence stripping of overburden or any disturbance of the existing ground to allow the land council sufficient time to arrange for a Sites Officer to be present.		The Wagga Wagga LALC was consulted prior to the stripping of the area for Cell 1, and did not attend the disturbance of the existing ground for Cell 1, after having been present prior to and during the field survey conducted for the EA.	Noted
1.3.2	All Hanson employees, contractors and the employees will be bound by the provisions of the <i>National Parks and Wildlife Act 1974</i> as amended, which was in part designed to mitigate impacts to the indigenous archaeological record.		Site induction provided by Hanson to employees and contractors includes comment on responsibilities under the <i>Protection of the Environment Operations Act</i> and <i>National Parks and Wildlife Act</i> .	Noted
1.3.3	All Hanson employees, contractors and the employees will be instructed that in the event of any bone or stone artefacts, or discrete distributions of shell being unearthed during quarry activities, work should cease immediately in the area of the find, and the Wagga Wagga LALC, and officers of the National Parks and Wildlife Service informed.		Site induction provided by Hanson to employees and contractors includes comments on responsibilities under the <i>Protection of the Environment Operations Act</i> and <i>National Parks and Wildlife Act</i> .	Noted

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1.4	Traffic and Access			
	Quarry truck movements will be limited to six (6) movements per hour between the hours of 3:00pm to 6:00pm.	<ul style="list-style-type: none"> Truck Movement and Product Tonnage Logs 	<u>Refer to Project Approval Schedule 3 condition 17</u> Truck movement to and from the quarry site are recorded at the weighbridge at the entry to the site and truck numbers have not exceeded 6 movements per hour.	Compliant Ongoing
1.4.2	If there is a requirement to increase the number of truck movements between 3:00pm and 6:00pm, then the Proponent will notify the nominated representative of the Riverview Estate Community prior to the increase.			Noted
1.4.3	The Proponent will work with the Riverview Estate Community, DoP, and Wagga Wagga City Council to reduce the speed zone along Roach Road from 80km/hr to 50km/hr or as otherwise agreed on by the parties.		<u>Refer to Project Approval Schedule 3 condition 18</u> Hanson approached the Wagga Wagga City Council in relation to the speed limit on Roach Road and had not received a response at the date of this audit.	In progress
1.4.4	The proponent will in conjunction with the Wagga Wagga City Council and RTA, develop a plan that addresses the review of the standard of maintenance of the roads and intersections that service the development site.		Hanson has approached the Wagga Wagga City Council in relation to maintenance of the roads and intersections that service the development site.	Noted
1.4.5	The proponent will maintain a log book of sold extracted quantities of sand and gravel and traffic movement in and out of the subject site. This record will be made available to the Wagga Wagga City Council and RTA on request.	<ul style="list-style-type: none"> Truck Movement and Product Tonnage Logs 	<u>Refer to Project Approval Schedule 3 condition 17</u> Hanson keeps accurate records of the date, time and tare weight of each product haulage vehicle dispatched from the site amount of product materials transported from the site. Truck numbers have not exceeded 6 movements per hour.	Compliant Ongoing
1.4.6	On-site parking will be provided to accommodate at least 10 car spaces (6 staff, 4 visitors).		On-site parking adjacent to the site office is provided for at least 10 vehicles.	Compliant
1.4.7	The proponent will submit a Driver Code of Practice for approval to ensure that truck drivers are made aware of the obligations of safety and environmental compliance when accessing the site, driving on the quarry property, and in particular along Roach Road. All Hanson employee truck drivers and sub-contractors will be conditioned to adhere to the approved Driver Code of Practice.		<u>Refer to Project Approval Schedule 3 condition 19(a)</u> A Truck Driver Code of Practice is included in the Traffic Management Plan prepared to satisfy Schedule 3 condition 19, prepared by Insite (Urban Planning, Town Planning and Project Management Consultants) for Hanson in February 2013. The Truck Driver Code of Practice presents the rules for project-related traffic using Roach Road and McNickle Road to minimise potential conflicts between project-related traffic and other road users and pedestrians, including truck driver awareness of the Wiradjuri Walking Track	Compliant
1.4.8	The Proponent will make it a condition of the quarry site rules that truck drivers must commit to a Truck Driver Code of Practice in writing prior to receiving any quarry product at the quarry.		<u>Refer to Project Approval Schedule 3 condition 19(a)</u> All truck drivers are required to sign the Declaration on the Truck Drivers Code of Practice Page 1 prior to receiving any quarry product at the quarry.	Compliant Ongoing

SoC No.	Statements of Commitment	Verification	Comment	Compliant
1.4.9	The Proponent will on receipt of development consent meet with members of the Riverview Estate Community on a monthly basis for the purpose of informing the progress on Environmental Management Plans, updates on truck movements between the hours of 3:00pm and 6:00pm, progress on changing the speed zone for Roach Road, and the roll out of the Driver Code of Practice. These meetings will be held each month for a period of six (6) months unless agreed otherwise by the parties		<u>Refer to Project Approval Schedule 3 condition 20</u> Regular meetings are held with the Riverview Estate Community as required or when requested. Monthly meetings have not been requested by the Riverview Estate Community.	Compliant Ongoing
1.4.10	The proponent will enter an agreement with the Lands and Property Management Authority and Wagga Wagga City Council on the installation of suitable road signage to increase awareness of the location of the Wirdajuri Walking Track along Roach Road.		Road signage at the entry to the quarry indicates the use of Roach Road and the Wirdajuri Walking Track by the public and limited access areas within the quarry.	Compliant
1.5	Noise			
1.5.1	An Operational Noise Management Plan will be developed for the proposal and be implemented prior to extraction commencing. The plan will incorporate a noise monitoring program to monitor noise emissions and determine compliance with the project specific noise goals. The Plan will include: <ul style="list-style-type: none"> Noise monitoring on site and within the community Prompt response procedures to any community issues of concern Refinement of on-site noise mitigation measures and quarry operating procedures where practical Mechanism for discussion and negotiation with relevant property holders to assess concerns 	<ul style="list-style-type: none"> Noise Management Plan, May 2012 	<u>Refer to Project Approval Schedule 3 condition 4</u> The Noise Management Plan prepared by PAE Holmes for the Wagga Wagga Quarry Extension Project was: (c) prepared and submitted to the Director-General within 6 months of this approval; and (d) include a: <ul style="list-style-type: none"> section 4 provides the noise monitoring program using real-time and supplementary attended monitoring to evaluate the performance of the project; section 3.2 addresses noise control practises; section 5.1 addresses noise incidents response and complaint handling; section 5.5 addresses revision procedure for continual improvement and investigating, implementing and reporting on reasonable and feasible measures to reduce noise generated by the project. 	Compliant
1.5.2	Traffic Noise Management Plan will be developed and implemented for truck movements on and accessing /exiting the site.	<ul style="list-style-type: none"> Traffic Noise Management Plan, May 2012 	<u>Refer to Project Approval Schedule 3 condition 19</u> Traffic noise management for Hauling Vehicles is addressed in section 3.1.1 of the Noise Management Plan.	Compliant
1.6	Air Quality			
1.6.1	Dust suppression activities, such as spraying a suitable dust suppressant, will be undertaken on all unsealed quarry roads so that dust generation is minimised.	<ul style="list-style-type: none"> Air Quality Management Plan – section 3, May 2012 	Use of a water cart to reduce dust generation on site occurs as required.	Compliant Ongoing

SoC No.	Statements of Commitment	Verification	Comment	Compliant
1.6.2	A weather station monitor will be installed on-site to continuously monitor weather conditions so that quarry operations can be modified to reduce dust emitting activities and appropriate mitigations taken in response to adverse weather.	<ul style="list-style-type: none"> Air Quality Management Plan- section 4.3, May 2012 	A wind speed and direction monitor has been installed on site near the site office and process plant.	Compliant
1.6.3	An Air Quality Management Plan will be developed for the proposal and be implemented prior to extraction commencing. This Plan will include air quality monitoring during initial operation at the sensitive receptors as nominated in the Heggies Pty Ltd, Air Quality Impact Assessment Report of the EAR.	<ul style="list-style-type: none"> Air Quality Management Plan, May 2012 	<u>Refer to Project Approval Schedule 3 condition 7</u> An Air Quality Management Plan has been prepared for the Wagga Wagga Quarry Extension Project by PAE Holmes to satisfy Project Approval Schedule 3 condition 7 and Schedule 5 condition 2. The Air Quality Management Plan submitted to the Director-General.	Compliant
1.7	Groundwater and Surface Water			
1.7.1	<p>An Integrated Site Water Cycle Management Plan (ISWCMP) will be developed, as per the recommendations of Section 9 of the Martens and Associates, Surface Water and Groundwater Assessment in the EAR, prior to any extraction activities to the satisfaction of the Department in consultation with NOW. The Plan will include a groundwater monitoring program that will include:</p> <ul style="list-style-type: none"> A commencement date to groundwater monitoring will be once the water table has been intercepted on the first cell. Initially groundwater level gauging will occur fortnightly (for 3 months), then monthly gauging of onsite groundwater wells (WG 0701 to WG 0707, windmill and well) once quarrying has commenced for the first 2 years. Data loggers are recommended to be placed in the immediate surrounding wells. During gauging events, field chemical parameters should be measured to investigate any flux in hydrochemistry. Initial annual review of information collected. The program will be reviewed once the drawdown has stabilised, and the frequency of monitoring events designed accordingly. <p>Should the drawdown levels exceed that from within the report, the regulatory authorities need to be notified and a contingency plan developed in conjunction.</p>		<p><u>Refer to Project Approval Schedule 3 condition 8</u></p> <p>A Water Management Review was conducted by Evans and Peck for the Wagga Wagga Quarry Extension in March 2013.</p> <p>The flooding of the quarry site in December 2010 and December 2012 and the groundwater monitoring program using data loggers in the existing groundwater monitoring bores have recorded water levels post flooding, but not addressed each of the commitments in 1.7.1.</p> <p>The groundwater monitoring program required under Project Approval Schedule 3 condition 15(b) had not commenced at the date of this audit, with the documentation and implementation of the program planned to commence when the reinstatement of the barrier between the Murrumbidgee River and Pit 2 is completed.</p>	Not Compliant

SoC No.	Statements of Commitment	Verification	Comment	Compliant
1.7.2	To prevent soil erosion problems, only limited areas will be stripped ahead of the quarry pit development and heavy quarry traffic will be confined to constructed roads and quarry areas. Drainage channels will be constructed for all access roads and any crossings will be designed for the expected flows from upslope areas. All channels will be stabilised to prevent scouring. Rehabilitation will be carried out progressively following extractive operations to ensure a stable landform and to control soil erosion.		Surface disturbance at the Wagga Wagga Quarry Extension area has only occurred for Cell 1 and the access roads constructed to the quarry area. Surface runoff drainage occurs into the sandy strata that forms the roads. No crossings of natural waterways have occurred on site. Ongoing maintenance of the access roads will occur to prevent scouring/channels.	Compliant Ongoing
1.7.3	A licensed discharged point will be established in consultation with OEH.	<ul style="list-style-type: none"> Environment Protection Licence 2433 condition P1.2 	EPL 2433 condition P1.2 Point 1: 250mm discharging to the Murrumbidgee River labelled as 'Discharge Point' on drawing titled 'Pioneer Wagga Wagga Quarry' faxed to the EPA 21 February 2001.	Compliant
1.7.4	Used oils and greases will be collected and removed by a licensed contractor for disposal off site or on an approved disposal area. Diesel will be stored on site in an above ground fuel storage tank located in a bunded area. All fuel storage will be conducted in accordance with Australian Standards for storage of fuels (AS 1940- 2004 5.8.2, AS 3780-1994 5.7.2, AS 4452-1997.	 <p>Waste oil aboveground collection tank</p>	<p>Used oils and greases are placed in a waste oil aboveground tank and collected by a licensed contractor for removal and recycling/disposal off site.</p> <p>Diesel is stored on site in an above ground fuel storage tank located in a bunded area.</p>	Compliant Ongoing
1.8	Visual			
1.8.1	In order to prevent a change to the existing visual character of the site, Hanson will maintain the specified exclusion zone between the development and the riparian zone and take all necessary measures to ensure the existing vegetation buffer is maintained and protected throughout the life of the quarry.	 <p>North views of quarry extension are dominated by riverside vegetation</p>  <p>South views of the quarry extension are generally shielded by a ridge that rises to the south west.</p>	<p>North views of the quarry extension are dominated by the riverside vegetation. There are currently two Kullaroo homesteads on the north side of the Murrumbidgee River. The alluvial flats to the river are open and flat but the banks of the Murrumbidgee River have large trees that shield the site from the Hanson land.</p> <p>South views of the quarry extension are generally shielded by a ridge under the control of Hanson. The land is flat on the north side of Roach Road but rises to the south west. The Globine house is on an elevated part of the land but does not have a direct line of sight to the quarry as it is shielded by a ridge and vegetation between the site and the residence.</p> <p>East views of the quarry extension are dominated by the riverside vegetation. There are currently two Homesteads (Sweetwater and Riverglen) on the east side of the Murrumbidgee River.</p>	Compliant

SoC No.	Statements of Commitment	Verification	Comment	Compliant
	 <p>West views of the quarry extension to the Pomingalarna homestead, is shielded by a bend in the Murrumbidgee River that is vegetated by large trees.</p>		West views of the quarry extension are partly shielded by the north-west – south-east trending ridge. The homestead on this side is. The view of the Hanson site from the Pomingalarna homestead is shielded by the ridge and by a bend in the Murrumbidgee River that is heavily vegetated by large trees.	
1.8.2	<p>To manage the site lines into the site the following measures will be undertaken:</p> <ul style="list-style-type: none"> Develop the extraction stages as shown on the works plan (Figures 5.5 to 5.93 of the EAR). The development of cells 1 and 2 are designed to allow early rehabilitation of the eastern part of the site. Establish embankments on the north boundary. These are established both to act as acoustic barriers as well as sight barriers. They are 3 to 4 metres in height and moulded to blend in with the natural alluvial planes of the site. 		<p>Environmental Assessment Report – Sand and Gravel Quarry Extension Wagga Wagga NSW, Section 9, April 2010 states:</p> <p><i>“There would be minor air quality, noise and visual impacts on adjacent rural areas. These would be minimised by on-site controls including acoustic shielding and landscaping.”</i></p> <p>Barriers on the north boundary of Cell 1 blend into the natural alluvial floodplain off site because of the riparian vegetation retained along the river banks.</p>	Ongoing
1.9	Greenhouse Gases			
1.9.1	The proponent will continue to report annually the quarry operation's Greenhouse Gas emissions.		Greenhouse Gas reporting of the Wagga Wagga Quarry operations is prepared as part of the Hanson Company reporting for NGER.	Compliant
1.10	Environmental Management, Monitoring and Auditing			
1.10.1	In conjunction with the high standard of safeguards to be incorporated in the design of the project, the Company will carry out regular monitoring of air quality, water quality, and noise. The results will be made available to Authorities for inspection and auditing.		Water monitoring will be implemented under the Water Management Improvement Program when the barrier between the Murrumbidgee River and Pit 2 has been reinstated.	Noted
1.10.2	<p>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 OEHL and any relevant agency. The report will:</p> <ul style="list-style-type: none"> describe date, time and nature of the exceedance; identify the cause (or likely cause) of the exceedance / incident; describe what action has been taken to date; and describe the proposed measures to address the exceedance/incident. 		<p>There have not been any reportable incidents causing (or threatening to cause) material harm to the environment resulting from the operation of the Wagga Wagga Quarry Extension.</p> <p>The major impacts on the Wagga Wagga Quarry have occurred from flooding of the site by the Murrumbidgee River in December 2010 and March 2012.</p>	Noted

SoC No.	Statements of Commitment	Verification	Comment	Compliant
1.10.3	Prior to the commencement of any operations, the 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 OEH as required.			Compliant

Environment Protection Licence No. 2433

Environment Protection Licence No. 2433

Condition No.	EPL Condition	Verification	Comment	Compliance						
1	Administrative Conditions									
A1	What the licence authorises and regulates									
A1.1	<div>This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.</div> <table><tr><th>Scheduled Activity</th><th>Fee Based Activity</th><th>Scale</th></tr><tr><td>Extractive Activities</td><td>Land Based Extractive Activity</td><td>>100000-500000T extracted, processed or stored</td></tr></table>	Scheduled Activity	Fee Based Activity	Scale	Extractive Activities	Land Based Extractive Activity	>100000-500000T extracted, processed or stored		<div>The Wagga Wagga Quarry Extension Project has not exceeded the authorised scale of operation:</div> <ul style="list-style-type: none">January 2012 to 30 June 2012 extraction was approximately 35,000 tonnes1July 2013 to 30 June 2014 extraction was 62,316 tonnes	Compliant
Scheduled Activity	Fee Based Activity	Scale								
Extractive Activities	Land Based Extractive Activity	>100000-500000T extracted, processed or stored								
A2	Premises or plant to which this licence applies									
A2.1	The licence applies to the following premises: Hanson Construction Material Pty Ltd Roach Road Wagga Wagga NSW 2650 Lot B DP 381991, Lot 2 DP 610795		The Wagga Wagga Quarry Extension is being developed on Lot B DP 381991 and Lot 2 DP 610795.	Compliant						
A3	Information supplied to the EPA									
A3.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.			Noted						
2	Discharges to Air and Water and Applications to Land									
P1	Location of monitoring/discharge points and areas									
P1.1	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.			Noted						

Condition No.	EPL Condition	Verification	Comment	Compliance								
P1.2	<div>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</div> <div>Water and land</div> <table><tr><th>EPA ID No.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>1</td><td>Discharge to waters</td><td>Discharge to waters</td><td>150mm pipe from 250mm discharging to the Murrumbidgee River labelled as 'Discharge Point' on drawing titled 'Pioneer Wagga Wagga Quarry' faxed to the EPA 21 Feb 2001.</td></tr></table>	EPA ID No.	Type of Monitoring Point	Type of Discharge Point	Location Description	1	Discharge to waters	Discharge to waters	150mm pipe from 250mm discharging to the Murrumbidgee River labelled as 'Discharge Point' on drawing titled 'Pioneer Wagga Wagga Quarry' faxed to the EPA 21 Feb 2001.		No discharge of water from EPA approved point 1 has occurred between November 2010 and July 2014.	Noted
EPA ID No.	Type of Monitoring Point	Type of Discharge Point	Location Description									
1	Discharge to waters	Discharge to waters	150mm pipe from 250mm discharging to the Murrumbidgee River labelled as 'Discharge Point' on drawing titled 'Pioneer Wagga Wagga Quarry' faxed to the EPA 21 Feb 2001.									
3	Limit Conditions											
L1	Pollution of Waters											
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> .	Protection of the Environment Operations Act 1997 section 120		Noted								
L2	Concentration Limits											
L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.			Noted								
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.			Noted								
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table/s.			Noted								
L2.4	<div>Water and/or Land Concentration Limits</div> <div>Point 1</div> <table><tr><th>Pollutant</th><th>Unit of Measure</th><th>100%ile Concentration Limit</th></tr><tr><td>Total Suspended Solids (TSS)</td><td>mg/L</td><td>50</td></tr></table>	Pollutant	Unit of Measure	100%ile Concentration Limit	Total Suspended Solids (TSS)	mg/L	50		No water has been discharged from the Wagga Wagga Quarry between November 2011 and July 2014.	Compliant Ongoing		
Pollutant	Unit of Measure	100%ile Concentration Limit										
Total Suspended Solids (TSS)	mg/L	50										
L3	Volume and mass limits											
L3.1	For each discharge point or utilisation area specified below (by a point number), the volume/mass of: a) liquids discharged to water; or;		No discharge of water from EPA approved point 1 has occurred between November 2010 and July 2014.	Noted Not activated								

Condition No.	EPL Condition	Verification	Comment	Compliance						
	b) solids or liquids applied to the area; must not exceed the volume/mass limit specified for that discharge point or area. <table><tr><th>Point</th><th>Unit of Measure</th><th>Volume/Mass Limit</th></tr><tr><td>1</td><td>Kilolitres/hour</td><td>350</td></tr></table>	Point	Unit of Measure	Volume/Mass Limit	1	Kilolitres/hour	350			
Point	Unit of Measure	Volume/Mass Limit								
1	Kilolitres/hour	350								
4	Operating Conditions									
O1	Activities must be carried out in a competent manner									
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste from the activity.			Noted						
O2	Maintenance of plant and equipment									
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; b) must be operated in a proper and efficient manner.		Plant and equipment installed at the premises is maintained and operated in an efficient manner for the handling and management of product from the quarry.	Noted						
O3	Dust									
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.		No dust was noted during the site audit. The nature of the material excavated and processed at the Wagga Wagga Quarry is coarse and does not generate fines that result in dust generation.	Compliance Ongoing						
5	Monitoring and Recording Conditions									
M1	Monitoring records									
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.			Noted						
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.			Noted						
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.		Samples collected for to satisfy the requirements of this licence will have the date and time on which the sample was taken; location point at which the sample was taken; and name of the person who collected the sample.	Noted						

Condition No.	EPL Condition	Verification	Comment	Compliance
M2	Recording of pollution complaints			
M2.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.			Not activated
M2.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.		No complaints had been recorded between June 2012 and July 2014.	Not activated
M2.3	The record of a complaint must be kept for at least 4 years after the complaint was made.			Noted
M2.4	The record must be produced to any authorised officer of the EPA who asks to see them.			Noted
M3	Telephone complaints line			
M3.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	<ul style="list-style-type: none"> www.hanson.com.au; 	Hanson has established the following mechanism for receiving complaints: <ul style="list-style-type: none"> Directly via the 24-hour, 7 day per week Hanson General Emergency Line (1800 882 478). This number has been advertised in the local media, on signage at the Site entrance and on the Company 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; and Indirectly via the relevant government agencies. 	Compliant Ongoing
M3.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	<ul style="list-style-type: none"> www.hanson.com.au; 		
M3.3	The preceding two conditions do not apply until 3 months after: a) the date of the issue of this licence or b) if this licence is a replacement licence within the meaning of the <i>Protection of the Environment Operations (Savings and Transitional) Regulation 1998</i> , the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.			Noted
M4	Requirement to monitor volume or mass			

Condition No.	EPL Condition	Verification	Comment	Compliance						
M4.1	<p>For each discharge point or utilisation area specified below, the licensee must monitor:</p> <p>a) the volume of liquids discharged to water or applied to the area;</p> <p>b) the mass of solids applied to the area;</p> <p>c) the mass of pollutants emitted to the air;</p> <p>at the frequency and using the method and units of measure, specified below.</p> <p>Point 1</p> <table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Monthly</td><td>Kilolitres /day</td><td>By Calculation (volume flow rate or pump capacity multiplied by operating time)</td></tr></table>	Frequency	Unit of Measure	Sampling Method	Monthly	Kilolitres /day	By Calculation (volume flow rate or pump capacity multiplied by operating time)		No water has been discharged from the Wagga Wagga Quarry between November 2011 and July 2014.	Compliance Ongoing
Frequency	Unit of Measure	Sampling Method								
Monthly	Kilolitres /day	By Calculation (volume flow rate or pump capacity multiplied by operating time)								
6	Reporting Conditions									
R1	Annual Return Documents									
R1.1	<p>The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:</p> <p>a) a Statement of Compliance; and</p> <p>b) a Monitoring and Complaints Summary.</p> <p>At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.</p>	<ul style="list-style-type: none">Annual Return 15 Nov 2011 to 14 Nov 2012Annual Return 15 Nov 2012 to Nov 2013	The Annual Returns have been prepared on the approved forms provided by the EPA.	Compliant Ongoing						
R1.2	<p>An Annual Return must be prepared in respect of each reporting period, except as provided below.</p> <p><i>Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.</i></p>	<ul style="list-style-type: none">		Noted						
R1.3	<p>Where this licence is transferred from the licensee to a new licensee:</p> <p>a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and</p> <p>b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.</p> <p><i>Note: An application to transfer a licence must be made in the approved form for this purpose.</i></p>			Not Applicable						
R1.4	<p>Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:</p>			Not Applicable						

Condition No.	EPL Condition	Verification	Comment	Compliance
	a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.			
R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	<ul style="list-style-type: none"> Annual Return 15 Nov 2011 to 14 Nov 2012 Annual Return 15 Nov 2012 to Nov 2013 	The Annual Returns were submitted to the EPA within 60 days of the end of the reporting period,	Compliant Ongoing
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	<ul style="list-style-type: none"> Annual Return 15 Nov 2011 to 14 Nov 2012 Annual Return 15 Nov 2012 to 14 Nov 2013 	A copy of the Annual Returns are retained by Hanson for the Wagga Wagga Quarry Extension Project.	Compliant Ongoing
R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	<ul style="list-style-type: none"> Annual Return 15 Nov 2011 to 14 Nov 2012 Annual Return 15 Nov 2012 to 14 Nov 2013 	The Annual Returns Statement, Monitoring and Complaints Summary was signed by Hanson Risk Manager.	Compliant Ongoing
R1.8	A person who has been given written approval to certify a certificate of compliance under a licence issued under the <i>Pollution Control Act 1970</i> is taken to be approved for the purpose of this condition until the date of first review of this licence.			Noted
R2	Notification of environmental harm			
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555. <i>Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.</i>			Noted
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.			Noted
2	Written report			
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material		No reports have been requested by an Authorised Officer of the EPA between November 2011 and July 2014.	Noted

Condition No.	EPL Condition	Verification	Comment	Compliance
	harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.			
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.			Noted
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.			Noted
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.			Noted
7	General Conditions			
G1	Copy of licence kept at the premises or plant			
G1.1	A copy of this licence must be kept at the premises to which the licence applies.		A copy of the EPL 2433 is kept at the Wagga Wagga Quarry premises in the Environmental Management File.	Compliant
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.			Noted
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.			Noted