Hanson

ABN: 90 009 679 734

# Wagga Wagga Quarry

## WASTE MANAGEMENT PLAN

Hanson

ABN: 90 009 679 734

| Document Control | | | |
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| **Prepared for:** | Hanson Australia Pty Ltd<br>ABN: 90 009 679 734<br>Level 18, 2-12 Macquarie Street<br>PARRAMATTA NSW 2150<br>Telephone: (02) 9354 2600<br>Fax: (02) 9354 2695<br>Email: andrew.driver@hanson.com.au | | |
| **Date** | **Issued by** | **Distributed to** | **Approved for Release by:** |
| July 2014 | Hanson | Planning and Environment | Andrew Driver |
| November 2016 | Pip Cox | Planning and Environment | Andrew Driver |
| | | | |
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| | | | |
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# 1. Subject Land

## 1.1.Site Address

The site is located on a floodplain bordering the Murrumbidgee River on the northern property boundary and privately held land on the southern property boundary. The total area of the site is 200 hectares (ha). Of this, 120ha is floodplain, 29ha is occupied by the extraction area, and 1.5ha is occupied by the plant and stockpile area. Access to the site is from Roach Road and McNickle Road off the Sturt Highway.

## 1.2. Buildings and other structures currently on site

There are a range of structures on the site including:

- Existing offices, amenities buildings and associated administration buildings;
- Existing workshop buildings;
- Existing material processing equipment, including but not limited to crushing equipment and conveyors.

The location of the site is shown in **Figure 1.**

Figure 1: Site Location

# 2. Brief Description of the Project

## 2.1. Objective

This Waste Management plan has been prepared to meet Schedule 3 condition 24 of the Project Approval. In accordance with the Project Approval, this *Waste Management Plan* will adhere to the following requirements;

1. Be prepared in consultation with OEH, and submitted the Director-General for approval by the end of June 2012;
2. Identify the various waste streams of the project;
3. Estimate the volumes of waste material that would be generated by the project;
4. Describe and justify the proposed strategy for disposing of this waste material;
5. Describe what measures would be implemented to meet the requirements set out in condition 24; and
6. Include a program to monitor the effectiveness of these measures.

This plan is the second iteration of the Waste Management Plan for the Wagga Wagga Quarry following review of the original plan and effectively updates the version prepared in July 2014. It should be noted that although the first Waste Management Plan for the Quarry was approved in July 2014, the waste management initiatives outlined in this plan have been implemented on site and have been adhered to since Project Approval was granted on 22 November 2011.

## 2.2 Project Approval and Overview

The project was approved under Section 75J of the *Environmental Planning and Assessment Act 1979* (EP&A Act), (22 November 2011). The major components of the project are summarized in **Table 1**. The project is described in full in Hanson's Environmental Assessment (EA).

**Table 1: Project Overview**

| Aspect | Description |
|---|---|
| **Project summary** | Continuation and expansion of the Wagga Wagga Quarry including:<br>• Extraction of up to 150,000 tpa of sand and gravel from four staged quarry pits;<br>• Construction of haul roads, levee banks and sediment dams;<br>• Processing and washing of raw quarried material;<br>• Loading and dispatch by road of an average of 150,000tpa of quarry products including concrete, aggregates, asphalt aggregates and road base;<br>• Stockpiling of topsoil for reuse in rehabilitation works; and |

| | |
|---|---|
| | • Progressive rehabilitation of the site. |
| **Total Site Area** | 200ha. |
| **Extraction Areas** | 51.6ha (proposed new extraction area, including up to 22.5ha of quarry pits); 29ha (previous extraction area, including up to 16.8ha of exhausted quarry pits). |
| **Extraction Method** | 40-tonne excavator. |
| **Extraction Rate** | Up to 150,000tpa. |
| **Extraction Staging** | Four separate quarry pits, operated as five successive extraction stages, starting from the north and extending southwards. |
| **Resource** | In excess of five million tonnes of sand and gravel. |
| **Depth of Extraction** | 158 m AHD without the prior written approval of the Secretary. |
| **Processing and Facilities** | Operation of existing processing facilities including a primary feed crusher and screens, with connecting conveyor belts. The site contains an existing workshop and office amenities building. A weighbridge is located on the site access road. |
| **Water Management** | Water produced from licenced groundwater dewatering operations to be treated on-site (settled to <50 ppm suspended solids) then discharged to the Murrumbidgee as is current site practice. |
| **Main Products** | Concrete aggregates, asphalt aggregates, road base and sundry aggregates. |
| **Product Transport** | All products would be transported by road, via Roach Road and McNickle Road to the Sturt Highway and thence to market destinations.<br><br>Maximum of 6 heavy vehicle movements per hour between 3 pm and 6 pm. |
| **Project Life** | Quarrying operations may take place at the site until 31 December 2036. |
| **Rehabilitation** | Rehabilitation is proposed to be a combination of wetlands, grassland and a revegetated riparian zone. Levee banks would be removed and the material returned to pits. Pit banks would be regraded and revegetated and all pits allowed to fill with water to a standing water level of 168m AHD (except Stage 1, which would be refilled to 1m above groundwater level). The final outcome would be a large grassed area, with five water-filled pits with vegetation around the perimeters. |
| **Employment** | The project would directly employ between 10 and 15 people during operation, and would support employment of an additional 10 subcontracted truck drivers. |
| **Capital Value** | $0.5 million. |
| **Construction** | Construction of haul roads, levee banks and sediment dams, and surface water diversion banks (if required). |

| | |
|---|---|
| **Hours of Operation** | **Quarrying operations**<br>Monday – Friday: 6 am – 6 pm<br>Saturdays: 8 am – 1 pm<br>Sundays and Public Holidays: No Activities<br>**Transportation off-site**<br>Monday – Friday 6 am – 6 pm<br>Saturdays: 8 am – 1 pm<br>Sundays and Public Holidays: No activities |

## 2.3 Waste Sources and Quantities

Primary waste sources include;

- Waste water as a by-product of the operation of the processing plant;
- Waste water from showers and toilets;
- Effluent waste;
- Small amount of general waste from office and amenities;
- Small amounts of organic waste produced through the clearance of vegetation and soil removal required for the construction of haul roads, levee banks and sediment dams; and

**Table 2: Identification of Wastes and Their Quantities on Site**

| Waste Type | Volume (approx.) | Comments |
|---|---|---|
| **General Waste** | 2 general waste bins located on site. Collected approximately once a fortnight. | Bins collected on an "as required" approach, whereby the quarry manager contacts a private company to arrange to collection of general waste bins. |
| **Trees/Logs and Vegetation** | 3 000m$^2$ grasses cleared for the construction of the haul road, levee bank and sediment dams. | All grasses removed will be left to decompose naturally or will be used in rehabilitation works or as an erosion control where appropriate.<br><br>This will include use for re-vegetation activities for rehabilitation areas within the existing quarry and assisting in establishing vegetation and erosion control measures for the earth bund to be constructed around the proposed extraction area. |
| **Soils** | 600 m$^3$ | Topsoil from the site will be stripped and either used immediately for the creation of the earth bund around the extraction area or in rehabilitation works within the existing quarry site. A small amount of topsoil may be stockpiled for future rehabilitation works/processes. |

| | | |
|---|---|---|
| **Potentially Contaminated Materials (Soils)** | No soil has been identified as being contaminated at this stage. | Any contaminated soils will be treated as per the specialist contamination report to accompany the Environmental Assessment. |
| **Liquid Waste** | Minimal liquid waste produced. | All liquid waste generated is disposed of to an EPA licenced liquid waste disposal facility via an EPA licenced liquid waste disposal operator.<br><br>All waste oil is placed in an IBC and stored in the roofed and bunded hydrocarbon area.<br><br>All liquid waste storage vessels are stored in a roofed, bunded and / or graded area with a capacity to contain 110% of the volume of the largest storage vessel contained in the area.<br><br>Waste oil from vehicle and equipment maintenance is placed in an aboveground tank for collection by a waste recycling contractor. |
| **Wastewater** | | Wastewater from showers and toilets will be treated through a biosceptic system and operated in accordance with the requirements of the local Authority |
| **Effluent** | | On site effluent treatment systems are to comply with NSW Office of Environment and Heritage (OEH) and Environment Protection Authority (EPA) standards and guidelines. The discharge from this system is regularly tested and is suitable for release onto the site. The test results are retained. |

It should be noted that there will be minimal change to the type and quantity of waste produced on site. The project does not involve the upgrade or construction of a new processing plant or amenity buildings. Therefore the existing waste management system in place at Wagga Wagga quarry will be upgraded to account for the increased extraction, however will not require substantial alternation.

# 3 Relevant Policy Documents and Legislation

The following policy documents are relevant to the management of waste from the Project:

### Relevant Legislation

- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Waste Avoidance and Resource Recovery Act* 2001, (WARR Act)
- *Contaminated Land Management Act 1997,* (CLM Act).
- *Work Health and Safety Act 2011* (WH&S Act);
- *Protection of the Environment Operations (Waste) Regulation* 2005, (POEO (Waste Regulation).

The main guidelines relevant to the management of water from the Project are:

- *Waste Classification Guidelines*, The Department of Environment, Climate Change and Water (DECCW)
- *National Waste Policy: Less Waste, More Resources*; Commonwealth Government, Department of the Environment, Waste, Heritage and the Arts, 2009,
- NSW Government: *Waste Avoidance and Resource Recovery Strategy* (DECCW), 2003. Reviewed 2007, draft strategy review 2013 – 2021.
- NSW Government*: Waste Less Recycle More,* 2013.

## 3.2 Environment Protection Licence

The Environment Protection Licence condition relevant to this Waste Management Plan is:

**Table 3: EPL Licence Requirements**

| EPL Condition No. | Environment Protection Licence Requirements |
|---|---|
| **O1.1** | Licensed activities must be carried out in a competent manner. This includes:<br>1) the processing, handling, movement and storage of materials and substances used to carry out the activity; and<br>2) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity. |

## 3.3 Waste Classification Guidelines

In April 2008 DECC (now DECCW) replaced the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* with the *Waste Classification Guidelines*. This document outlines a simple step-by-step process for waste generators to follow to classify their waste for disposal.

Waste classification helps those involved in the management and treatment of waste for disposal to ensure the environmental and human health risks associated with it are managed appropriately and in accordance with the *Protection of the Environment Operations Act 1997* (the POEO Act) and its associated regulations.

Classifying wastes into groups that pose similar risks to the environment and human health facilitates their management and appropriate disposal.

Six waste classes are used:

- Special waste
- Liquid waste
- Hazardous waste
- Restricted solid waste
- General solid waste (putrescible)
- General solid waste (non-putrescible)

Each of these waste types is defined within the *Waste Classification Guidelines*.

### 3.3.1 Classification of Wastes under the Waste Classification Guidelines

**General solid wastes (non-putrescible)**

A review the *Waste Classification Guidelines* reveals that the majority of wastes from the site would be best defined as **General solid waste (non-putrescible)**.

***Attachment 1*** contains the details from the Waste Classification Guidelines as to what *comprises 'General solid waste (non-putrescible)'.*

Note that a vast proportion of the general solid waste (non-putrescible) on the site will be capable of being sorted and recycled or re-used. For example, corrugated iron sheeting from sheds and buildings, timber from various structures, and fittings/fixtures will be recycled/re-used as appropriate. Concrete and concrete products, bricks and the like can be either re-used or transported to appropriate recycling businesses. Suitable topsoil, vegetated matter, trees and other material will be utilized for re-vegetation/rehabilitation purposes either within the existing quarry or as part of the proposed bunding around the new extraction area.

**Hazardous Wastes - Asbestos**
In addition, the age and nature of the amenities and office buildings may result in them being potential sources of Asbestos Wastes. Note that an inspection of the shed as part of the Phase 1 Contamination Assessment did not reveal any such asbestos, However, such materials may not be readily identifiable as a result of being concealed by paint or beneath other materials. For this reason, details of dealing with asbestos have been included in this Waste Management Plan as a precaution.

In accordance with the *Waste Classification Guidelines, '*asbestos waste' is defined as:

***'Asbestos*** means the fibrous form of those mineral silicates that belong to the serpentine or amphibole groups of rock-forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite.'

***'Asbestos waste*** means any waste that contains asbestos.'

Any waste containing asbestos must be dealt with as 'hazardous waste' in accordance with the DECCW *Waste Classification Guidelines.*

### 3.4 Wagga Wagga City Council Waste Management requirements

Wagga Wagga City Council does not have a Development Control Plan identifying the specific waste management practices. Therefore this waste management plan primarily considers the conditions outlined in the Project Approval.

## 4.0 Environmental Hierarchy of Waste Control

Hanson' principles of waste management are based on a hierarchy of waste management tools, with the higher options preferred over lower order controls.

The hierarchy of waste controls are;

1. **Prevent** the waste being generated initially (accurate ordering, accurate production and quality control).
2. **Reduce** the volume of waste (do not over order, order just quantity required).
3. **Reuse** the waste (typically re-use of concrete).
4. **Reprocess**, reclaim or recycle (reclaim aggregates, recycle plastic, metal, waste oil and cardboard). Find a beneficial secondary use.
5. **Treat** waste (neutralise to make it less harmful).
6. **Dispose** of Waste.

# 5.0 Waste Management Plan

## 5.1 Operational Waste Management

Ongoing quarry operations within the subject land will not produce any significant volumes of wastes. All material that is extracted from the quarry is suitable for sale to market, as such, there is no material that requires disposal.

Processing fines will be deposited into old extraction cells/pits as outlined in the Water Management Plan approved by the Secretary. No fines will be deposited onto the flood plain.

All other wastes (i.e. office waste, machinery wastes, waste oils etc.) are managed through the existing facilities located on the quarry site.

### 5.1.1 Liquid Waste

All liquid waste generated is disposed of to an EPA licenced liquid waste disposal facility via an EPA licenced liquid waste disposal operator.

All waste oil is placed in an IBC and stored in the roofed and bunded hydrocarbon storage area.

All liquid waste storage vessels are stored in a roofed, bunded and/or graded area with a capacity to contain 110% of the volume of the largest storage vessel contained in the area.

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

### 5.1.2 General Waste

A small amount of general waste produced by amenities and office buildings is managed through a waste contractor. General waste is collected in industrial waste bins and regularly despatched to the Wagga Wagga City Council (WWCC)'s Waste Management Centre.

### 5.1.3 Water Supply and Sewerage

Wastewater from showers and toilets is treated through a biosceptic system and operated in accordance with WWCC requirements.

On site effluent treatment systems are to comply with OEH and EPA standards. The discharge from this system is regularly tested and is suitable for release onto the site. The effluent monitoring test results are retained on site.

### 5.1.4 Management of Asbestos Wastes

The management of any asbestos waste encountered will be dealt with under the *Protection of the Environment Operations* Amendment (Scheduled Activities and Waste) Regulation 2008.

The handling and storage of asbestos waste at worksites is regulated solely by WorkCover NSW under the current provisions of the *Occupational Health and Safety Regulation 2001*

(OH&S Regulation).

No demolition works are required for the Project development, therefore the NSW OH&S Regulation will not be triggered for the site under the waste management plan.

## 5.2 Response to Flooding

In the event of a flood, or potential flooding event, Hanson will relocate all oil and diesel chemicals from their current location on site, to an off-site location of higher ground.

The choice of relocation site is based on several factors including but not limited to;

- Topographic height of new location.
- Projected flooding severity.
- Distance to chemical relocation site.
- Applicable requirements from Wagga Wagga City Council's Development Control Plan (Part B, section 4 – *Environmental Hazards & Management*).

# 6 Review of Waste Management Initiatives

Waste management review will include continuous monitoring of the waste produced on site. Such monitoring will involve assessing the waste treatment processes on site and waste removal practices pertaining to the project. Analysis of waste limits, quantities and removal rates are conducted on site by the Quarry Manager in accordance with this *Waste Management Plan*. In the event that the project is producing waste at elevated rates and quantities a review of this *Waste Management Plan* will occur in accordance with the Company's Environmental Management Plans.

Project Approval Schedule 3 condition 27 requirement to revise the sum of the rehabilitation bond will occur within 3 months of each Independent Environmental Audit after the initial lodgement of the rehabilitation bond with review of any changes to the total area of disturbance, the performance of the rehabilitation against the completion criteria of the Rehabilitation Management Plan (Project Approval Schedule 3 condition 25), and the effects of inflation.

# ATTACHMENT 1

## Definition of 'General Solid Waste (non-putrescible) from the DECCW Waste Classification Guidelines

# Definition of 'General Solid Waste (non putrescible) from the DECCW Waste Classification Guidelines

The following wastes have been pre-classified as 'general solid waste (non-putrescible)':

- glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal
- paper or cardboard
- household waste from municipal clean-up that does not contain food waste
- waste collected by, or on behalf of, local councils from street sweeping
- grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems that has been dewatered so that it does not contain free liquids
- grit and screenings from potable water and water reticulation plants that has been dewatered so that it does not contain free liquids
- garden waste
- wood waste
- waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions
- containers, previously containing dangerous goods, from which residues have been removed by washing or vacuuming
- drained oil filters (mechanically crushed), rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids
- drained motor oil containers that do not contain free liquids
- non-putrescible vegetative waste from agriculture, silviculture or horticulture
- building cavity dust waste removed from residential premises or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact
- synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics) being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste
- virgin excavated natural material
- building and demolition waste
- asphalt waste (including asphalt resulting from road construction and waterproofing works)
- biosolids categorised as unrestricted use, or restricted use 1, 2 or 3, in accordance with the criteria set out in the *Biosolids Guidelines* (EPA 2000)
- cured concrete waste from a batch plant
- fully cured and set thermosetting polymers and fibre-reinforcing resins,
- fully cured and dried residues of resins, glues, paints, coatings and inks
- any mixture of the wastes referred to above.

# ATTACHMENT 2

# Consultation with OEH

**Hanson Construction Materials Pty Ltd**
ABN 90 009 679 734
Level 5, 75 George Street
Parramatta NSW 2 150
Locked Bag 5260
Parramatta NSW 2 124
Tel (02) 9354 2600
Fax (02) 9354 2619
www.hanson.com.au

30th July, 2014

NSW Office of Environment and Heritage
Attention: Mr Darren Wallett
PO Box 397
Griffith NSW 2680

Dear Mr Wallett,

**RE: Wagga Wagga Quarry Extension, application No. 07_0069**

I am writing to advise you that Hanson Construction Materials PTY LTD (Hanson) is currently composing the *Waste Management Plan* required under Schedule 3, condition 24 of the Project Approval. The *Waste Management Plan* for Wagga Wagga Quarry has been delayed in its preparation due to the sites attention being diverted to the remediation of the riverbank as a result of 2010 and 2012 flooding events. Despite this, the waste management initiatives outlined in this plan have been implemented on site, and have been adhered to since Project Approval was granted on 22 November 2011. The final copy of this plan will be submitted to the Department of Planning and Environment in the coming weeks.

Yours sincerely,
**HANSON CONSTRUCTION MATERIALS PTY LTD**

**ANDREW DRIVER**
**Development Manger – Eastern Region**